

FORTRA

Sequel Web Interface

User Guide

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Welcome to Sequel Web Interface

Sequel Web Interface (SWI) is the easiest and most cost-effective way to access, and work with Viewpoint objects-dashboards, views, reports, tables, scripts and applications-using just a Web browser. With SWI, you can run your view and table objects (static and prompted) to display results, store as local files or System i files, or send as an email attachment. All Viewpoint objects can be run and output directed with a few mouse clicks.

You can perform drill-down and graph drawing facilities for advanced EIS or data warehousing/mining applications.

Host reports, client reports, and client tabling views can be displayed, sent to print, and saved in different PC formats. You can also submit host reports to run in batch on the System i. Scripts and Drill-down applications are run simply by double-clicking them in the Explorer.

If you are familiar with the Windows-based version of Viewpoint, you will see that SWI has a very similar and easy-to-use interface. If you are new to SWI, you will see a very intuitive interface that provides easy access to your Viewpoint objects, and single-click results.

The online help documentation focuses on the three Modes of SWI: SWI Classic, SWI Host , and SWI Repository.

The Three Modes of Sequel Web Interface

Sequel Web Interface (SWI) has evolved, and grown in scope and functionality since its initial introduction in 1999.

The release of version R10M07 marks a big step in the evolution of SWI from a single, host-based, web front-end interface, to a multi host/repository open structure product that provides a centralized location to manage objects, automate processes and share results along with authentication services, and user access and management. SWI can now be said to come in three modes:

SWI Repository Mode

The latest version of SWI now includes the new Repository Mode. Two of the many new features set this mode apart from the others: Multiple repositories (non IBM i in the future), and authentication. This mode is a more open, non-IBM i-centric structure of folders (directories), and files—both Viewpoint objects and results files. Third party authentication is supported using Active Directory, IBMi, JDE E1, JDE World, SQL Server, and locally defined users.

SWI Host Mode

Host Mode was built on classic mode, and introduced a number of new features and enhanced the Explorer interface with the ability to access more than one host at a time. This mode, defined by the use of a configured Sequel Web Server, and services on the host IBM i, provides improved performance, multi-system access in the Explorer, multi-system object support in Dashboards, and interactive client tables. In addition, access to the IFS file system creates a repository for use as a centralized location to manage objects, automate processes and share results.

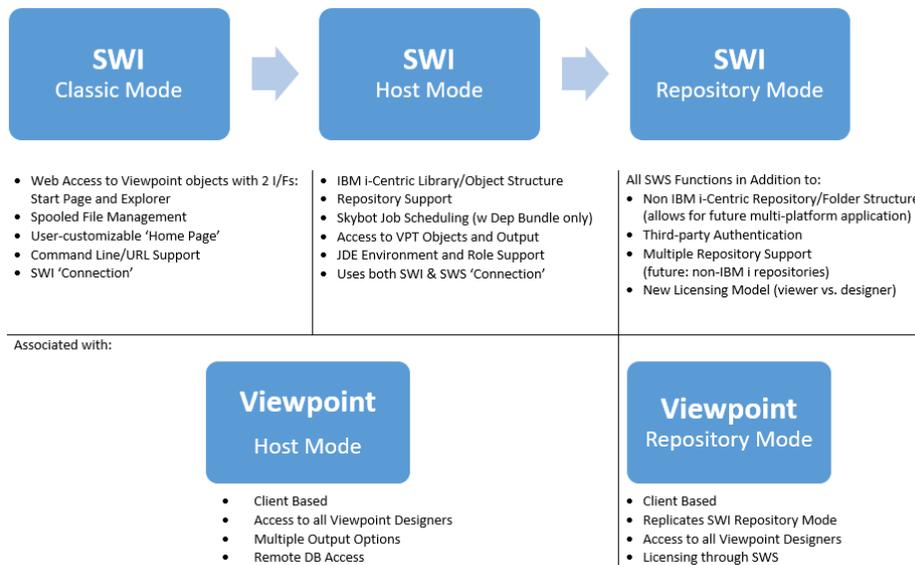
This mode is more IBM i-centric in a structure centered around host connections, libraries, and objects.

SWI Classic Mode

The Classic mode has been in use by many companies since its introduction in 1999. It was intended to give Sequel clients a way to share System i data with users (internal and external) using only a Web browser. Both query objects and Viewpoint objects (views, tables, reports, and so on) can be accessed with just a browser. Starting as a simple 'start page' type interface, SWI classic soon evolved into an explorer-like, tri-pane style interface—the SWI Explorer.

A configured Apache server on the IBM i is all that is required for classic mode.

Here is a breakdown of the three modes and the major features that differentiate each:



Contacting Us

Please contact Fortra for questions or to receive information about Sequel Web Interface. You can contact us to receive technical bulletins, updates, program fixes, and other information via electronic mail, Internet, or fax.

Fortra Portal

For additional resources, or to contact Technical Support, visit the [Fortra Community Portal](https://community.fortra.com) at <https://community.fortra.com>.

For support issues, please provide the following:

- Check this guide's table of contents and index for information that addresses your concern.
- Gather and organize as much information as possible about the problem including job/error logs, screen shots or anything else to document the issue.

Sequel Web Interface Requirements

IBM Power Systems (System i, iSeries, AS/400)

The operating system must be:

- `[[[Undefined variable hsvariables.ibm_os_long]]]` 7.2 or higher
- Sequel Java Server requires Java 8 with 5770JV1 options 16 or 17 for `[[[Undefined variable hsvariables.ibm_os_long]]]` 7.2, 7.3 or 7.4. The Sequel Java Server is used to run Client Reports using the SQJCRO command and also in views using *SERVER syntax with variables using the null value of *ALL or *OMIT.

Sequel Host Software

For SWI to run Sequel requests, the `[[[Undefined variable hsvariables.ibm_hardware]]]` server must also have Sequel version 10.0 or higher installed. Sequel is a separately licensed product, and not part of SWI.

In order to run Sequel requests, the HTTP server job must have the SEQUEL product library in the job's library list (see the section [Adjust HTTP Server Job Environment](#)).

Viewpoint Server (using Viewpoint Listener Manager)

A Viewpoint Server may, or may not be required depending on the SWI mode ([Classic](#), [Host](#), or [Repository](#)), and the types of objects run. Refer to the following for requirements:

	Client Report	Client Table
Classic Mode (Apache)	VP server required	VP server required
Host Mode (SWS)	VP server required	VP server NOT required
Repository Mode (SWS) ¹	VP server NOT required	VP server NOT required

¹ Sequel version R11M13 or higher is required

The following is required:

- A server-class PC with at least 16GB of RAM, and a 2GHZ+ processor with 4 or more cores.
- 64-bit Windows 8/8.1 Professional with Service Pack 3 or higher or Windows Server 2012/2012 R2/2016/2019
- Viewpoint Client software and Viewpoint Listener Manager.
- IBM i Access for Windows or IBM i Client Access Solutions (for Windows 10) is required to define the Power i Host Systems on the server.

The computer should be fast enough to run Viewpoint requests quickly, and have access to the local network so that it can receive requests and route Viewpoint output to its desired location.

If necessary, see the Help/FACTS titled *Viewpoint Server Setup Checklist* for instructions.

Sequel Web Server (SWS)

This server is optional and should be configured if you intend to use the Sequel Web Interface to take advantage of multiple system access, interactive (pivot) Client Tables via a browser, the Viewpoint Repository, or job scheduling. The following is required:

- A server-class PC with at least 16GB of RAM, and a 2GHZ+ processor with 4 or more cores..
- 64-bit Windows 8/8.1 Professional with Service Pack 3 or higher or Windows Server 2012/2012 R2/2016/2019.

See [Install a Sequel Web Server on page 247](#) for information on installing the Sequel Web Server.

Automate Schedule Server

This server is optional and should be configured if you intend to use job scheduling in conjunction with Viewpoint host and repository objects. The following is required:

- A server-class PC with at least 16GB of RAM, and a 2GHZ+ processor with 4 or more cores.
- 64-bit Windows 8/8.1 Professional with Service Pack 3 or higher or Windows Server 2012/2012 R2/2016/2019.

Automate Schedule works in conjunction with (requires) SWS, and can be configured on the same hardware. If you choose to do so, follow the OS requirement for the SWS Server above.

Unified Server

You can install the Viewpoint, SWS and Automate Schedule servers on the same physical PC. If you choose to do so, the following is required:

- A server-class PC with at least 16GB of RAM, and a 2GHZ+ processor with 4 or more cores.

- 64-bit Windows 8/8.1 Professional with Service Pack 3 or higher or Windows Server 2012/2012 R2/2016/2019.

NOTE:
If the Unified Server is going to be installed on a PC running other mission critical services, consideration must be given to workloads and resource contention between the various services. Our recommendation is to allocate a dedicated server for Sequel [Showcase].

- IBM i Access for Windows or IBM i Client Access Solutions (for Windows 10) is required to define the Power i Host Systems on the server. See the Viewpoint Client requirements for more on this.

Personal Computer (browsing)

The following browsers are tested for compatibility and are officially supported:

Browser	Version
Edge	91.0 or higher
Chrome	50 or higher
Firefox	50 or higher
Safari	10 or higher

Other browsers and earlier versions of the above browsers may work, however they are not officially supported and we do not test for compatibility.

Graphics resolution needs to be 1024 x 768 or higher. A current version of the Adobe Reader browser plug-in is recommend to properly view Client Reports.

SWI Repository Mode

Repository Mode uses a very different authentication scheme in comparison to Host Mode. Whereas Host Mode requires the user to have an IBM i credential (i.e. User profile and password), this is not essential in Repository mode.

A user authenticates and gains access to the Web Server interface by one of the following methods:

- An Active Directory credential
- An IBM i credential
- A SQL Server credential
- A JDE Edwards E1 credential
- A Locally defined credential

The Administrator also defines specific credentials used to access repositories and data sources, and then allow or restrict access to these credentials by user. This results in a highly flexible security mechanism which allows very strict control over who can access Repositories and the databases that are accessed by Views and reports etc., without each individual necessarily needing to know the passwords to each of these databases.

The Explorer Interface

The main User Interface displayed when a user signs on to SWI via the browser is called the Explorer Interface.

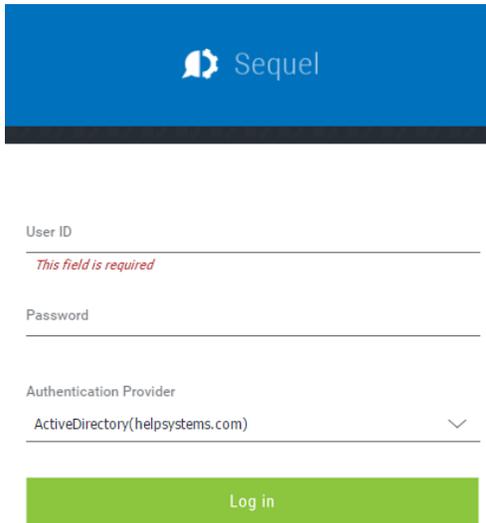
Start the Explorer Interface

The URL to access the Repository mode Explorer references a configured Sequel Web Server like so:

```
http://SWS_SERVER/sequel/sws/ui/index.html
```

Authentication

Whenever you attempt to access SWI in repository mode, you will be prompted to authenticate yourself with a screen similar to the following:



Sequel

User ID
This field is required

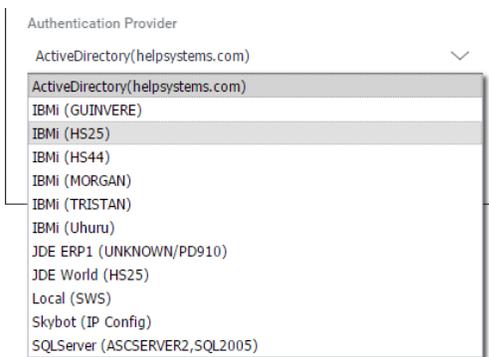
Password

Authentication Provider
ActiveDirectory(helpsystems.com) ▾

Log in

This process uses a third-party Authentication Provider that authenticates the credentials, usually account names and passwords, of users, and controls access to a network, its applications, and services. Supported Authentication servers include: Active Directory, IBM i, JDE E1, SQL Server, and locally defined users. In most environments, you will only see one authentication server listed in addition to the Local (SWS) server.

Enter a User ID and Password, elect an Authentication Provider (authentication server) from the drop-down list, and press **Login**. An Administrator will have set the preferred Authentication method as the default, therefore in most cases this will not need to be changed.



Authentication Provider

ActiveDirectory(helpsystems.com) ▾

- ActiveDirectory(helpsystems.com)
- IBMi (GUINVERE)
- IBMi (HS25)
- IBMi (HS44)
- IBMi (MORGAN)
- IBMi (TRISTAN)
- IBMi (Uhuru)
- JDE ERP1 (UNKNOWN/PD910)
- JDE World (HS25)
- Local (SWS)
- Skybot (IP Config)
- SQLServer (ASCSEVER2,SQL2005)

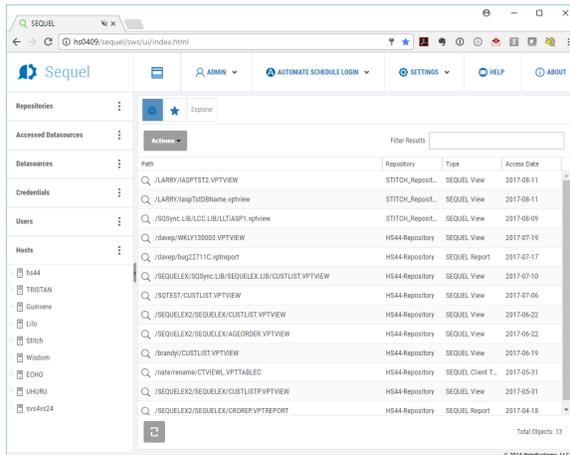
The SWI Explorer will open and display all the repositories you have access to.

Overview

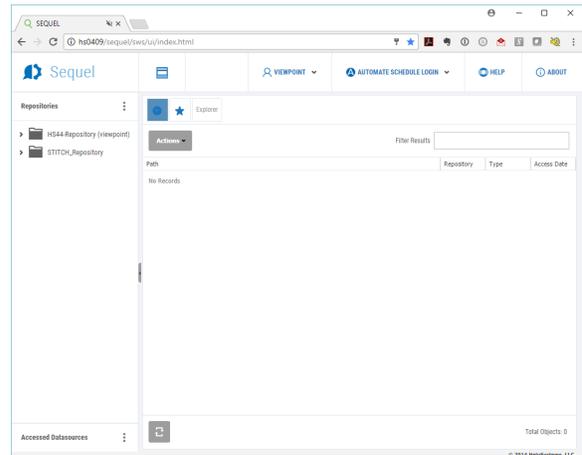
The layout of the Explorer consists of the Navigation panel on the left and the Object List panel on the right. There is an Actions Menu button to direct output, a filter for fine

tuning the object list, and access to Automate Schedule login, user preferences, on-line help, and version information.

The Explorer interface allows you to navigate through a repository to access Viewpoint objects, output files, and Automate Schedule jobs. The results of your views, tabling views, and reports are displayed in separate tabbed windows, and can be printed, emailed, or saved locally in many PC formats.



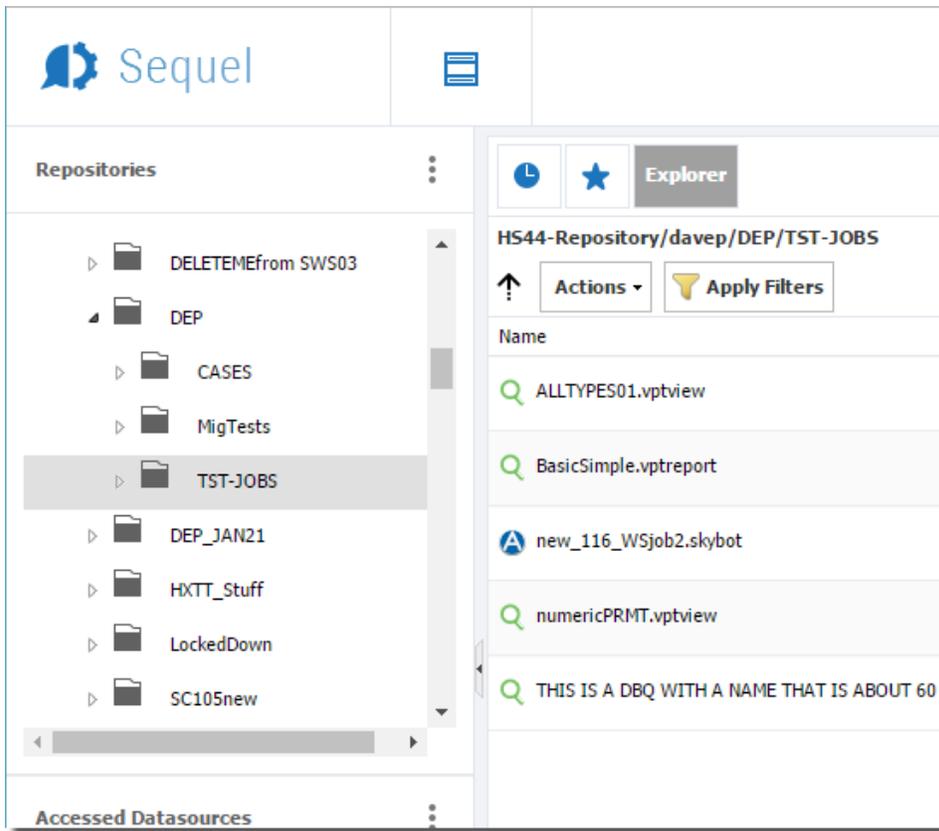
As Administrator



As a User

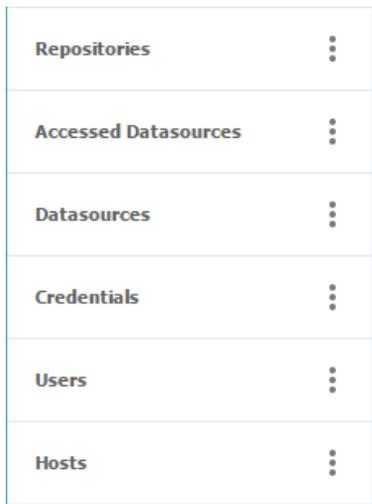
The Navigation Panel

In the Navigation panel a collapsible set of options/tabs (called an accordion) is displayed. A normal user will only see Repositories and Accessed Data Sources in the accordion.



NOTE:

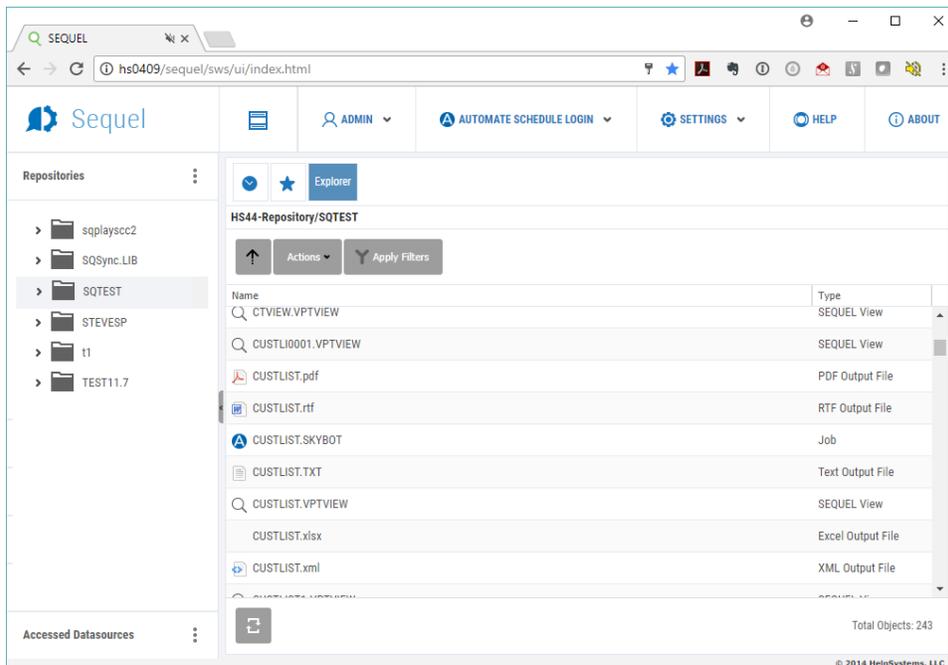
Datasources, Credentials, Users and Hosts are only visible to Admin users.



The Object List Panel

The Object List Panel displays Viewpoint objects (views, reports, dashboards, and so on) contained in [Viewpoint Repository](#) folders, or referenced by Automate Schedule job definitions in the repository.

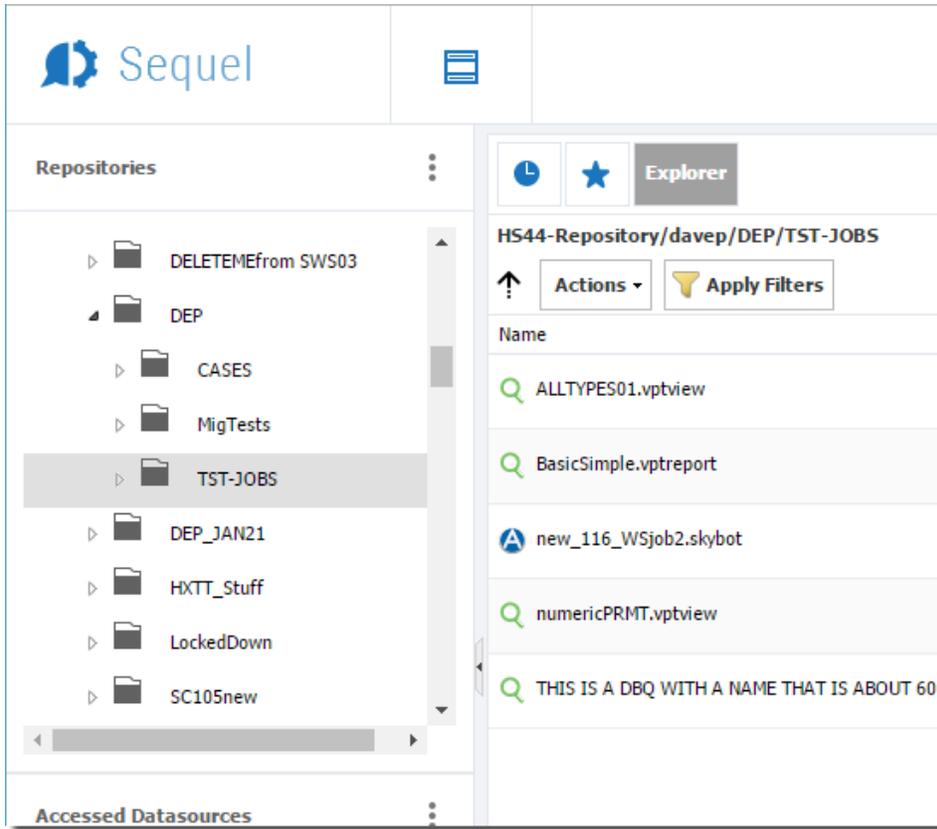
The Object List Panel is where you will work with your Viewpoint objects and use one of the two [Actions menus](#) to [direct output](#) for display, print, download, and email.



There are many options available to [control the look and arrangement of the list](#). You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can resize the width of each column and add or remove columns from the display.

Repository Overview

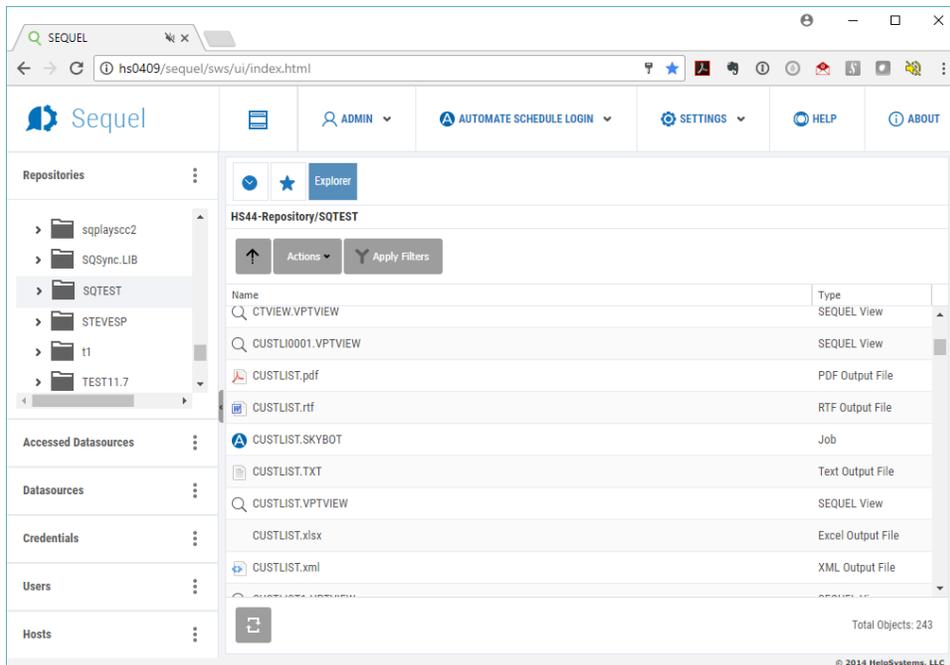
The repository is a folder, or set of folders and sub-folders on a server in your network where Viewpoint objects, results files and jobs are stored. Repositories are displayed in the Navigator panel on the left side of the interface. You navigate through it like you would using Windows Explorer.



Depending on your environment, you may see multiple repositories listed. For many environments each repository is associated with an IBM i server on the network. In the future these can be located on any server, not just IBM i. This multiple repository feature is one of the key features of Repository mode.

Working with Repository Objects

A repository or multiple repositories appear in the left Navigation panel of SWI. Double-click on a folder to expand and reveal any sub-folders. Single-click to select the folder displays its contents in the object list panel on the right of the interface.



When selecting a repository, you may be prompted to provide a Credential for access. Credentials allow users to access a Datasource or Repository without needing to have their own user profile on the applicable system, or to know the password for a shared user profile.

The Administrator may have defined a default Credential to be used for the Repository, in which case it will be initially selected. You may also have been granted access to other Credentials, which could (for example) provide an elevated level of access to folders and Viewpoint files in the Repository. Additional Credentials (if any) are available via the drop down list.

You may also know a specific user profile and password that you wish to use that is not available in the Credentials list. In this case, you can select Custom from the list. This will enable the Username and Password fields.

The screenshot shows a dialog box titled "ACCESS TO HS44-REPOSITORY". It features a close button (X) in the top right corner. The main content area includes a "Credentials" dropdown menu currently set to "Custom", a "Username" text input field, and a "Password" text input field. Below these fields is a checkbox labeled "Keep Using This Credential" which is checked. At the bottom of the dialog are two buttons: "OK" and "Cancel".

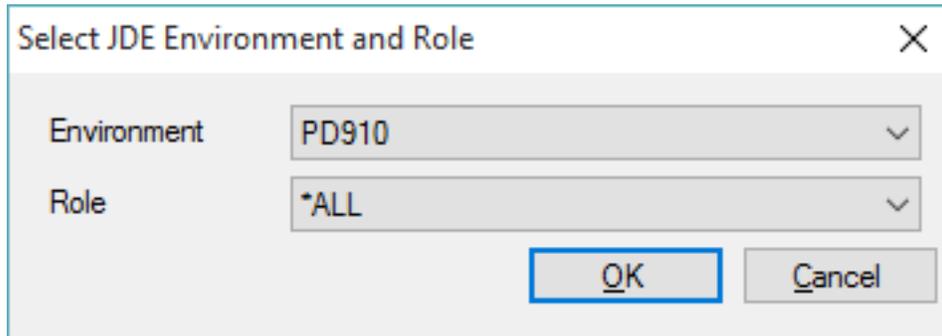
Once the credential is entered, the Repository folder(s) to which the user is authorized displays.

NOTE:

If you authenticate against an IBM i server, access to that servers repository will be available without prompting. See [IBM i Authentication: Extra Configuration Steps on page 106](#) for more information on this specific authenticator configuration.

NOTE:

JDE E1 users will now be prompted for Environment and Role information when using Viewpoint in Repository mode to run or design views, reports, scripts and so on.



Select JDE Environment and Role

Environment PD910

Role *ALL

OK Cancel

The folders may contain any or all of the following:

Other Folders or Sub-folders

Click on a sub-folder to see its contents.

NOTE:

When copying folders or sub-folders, restrictions on the folder are also copied if it is an explicit restriction directly on the folder or sub-folder. If you copy a sub-folder the restriction from just that sub-folder will be copied. Inherent restriction from the parent folder will not be copied.

Viewpoint Object Definitions

You may see objects (ending in .vpt*) representing query, report, script objects, and more. Double-click to run the Viewpoint object. A separate tab displays the results.

Output Files

Output from your Viewpoint queries and reports, saved as different PC file types (such as pdf and xls) are displayed. Click on an output PC file, and it opens in a separate tab, prompts you to save locally, or opens with an associated program like Word or Excel.

In Repository mode, the following output options are available:

	<u>D</u> isplay or <u>L</u> aunch	PC FFile	Repository FFile	PC Print	Email As...
View Host Table Script View	D	.pdf, .txt .rtf, .xls .xml	.pdf, .txt .rtf, .xls .xml	Y	.pdf, .txt .xls, .xml .html
Report	D	.pdf, .txt, .html	.pdf, .txt, .html	Y	.pdf, .txt, .html
Client Report¹	D	.pdf, .rtf, .xls, MSWORD ²	.pdf, .txt	Y	.pdf, txt
Client Table	D	.xls, .html	N	Y	.html
Script	L	n/a	n/a	n/a	n/a
Application	D	n/a	n/a	n/a	n/a

Automate Schedule Job Definitions

These job definitions (both native IBM i and local Web Service) schedule the creation of output from Viewpoint objects (views, reports, scripts) using the Fortra Automate Schedule job scheduler. These files have a .job extension. Double-click to run the job, or right-click to access a list of job related functions.

Filter (search for) Objects

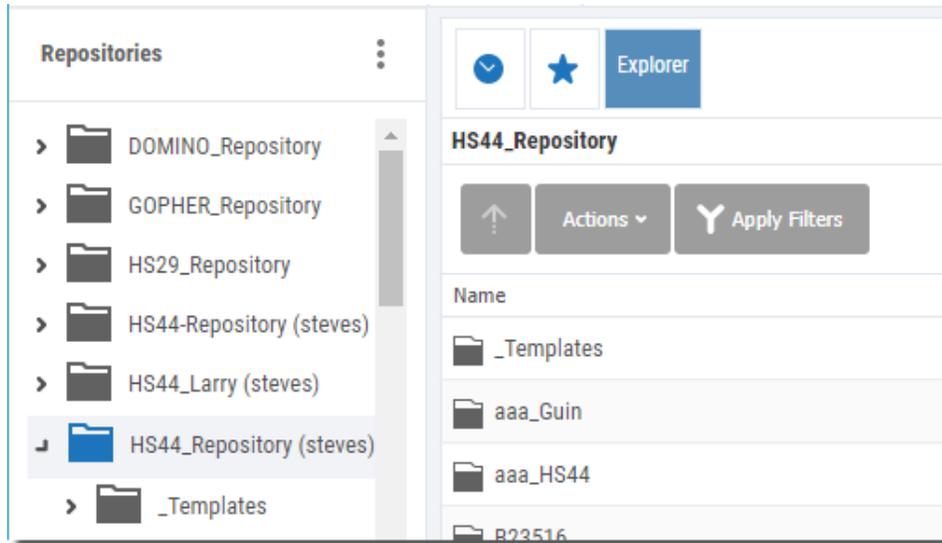
You can apply a filter to the list of object displayed so you can focus on specific object or output types. Use the following steps to apply a filter:

Steps

1. First select the root of the repository, or any folder within the repository.

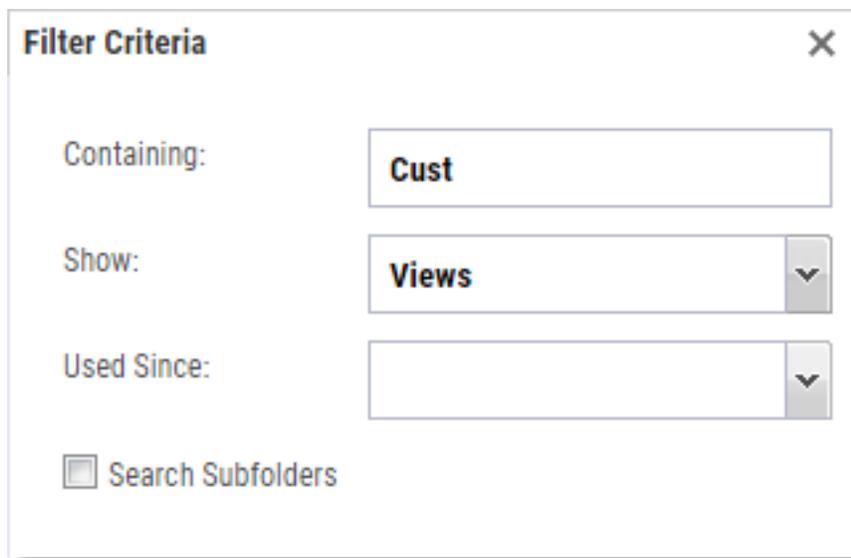
¹Only Client Reports created with the external Crystal Reports 2011 designer can be used in Repository Mode.

²When scheduling a Client Report, it is recommended that PDF is selected as the output type.

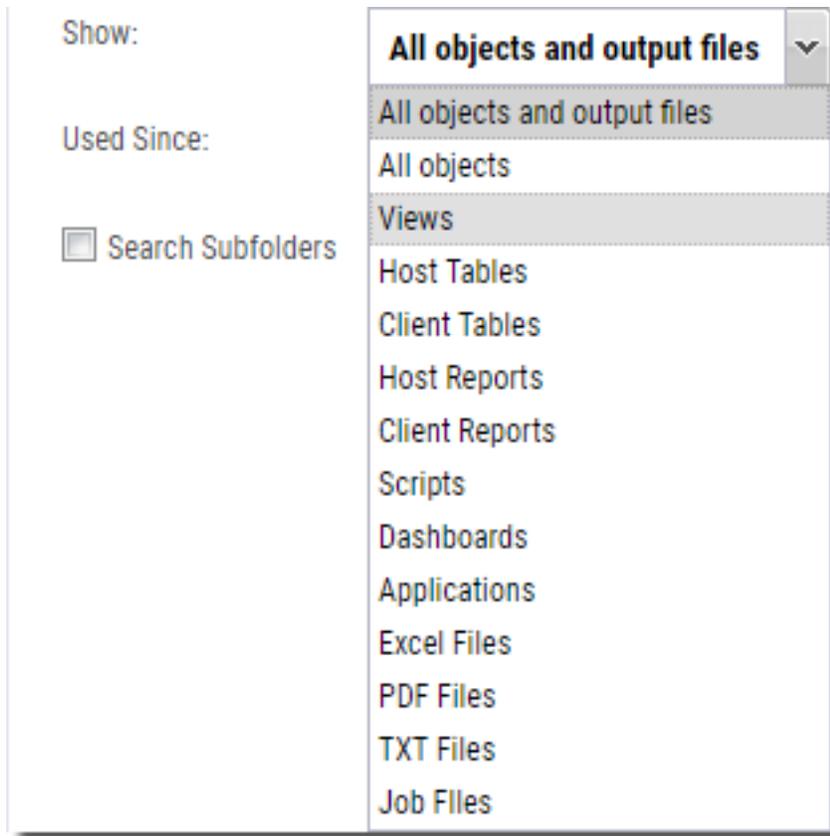


2. Press the **Apply Filters**  button.

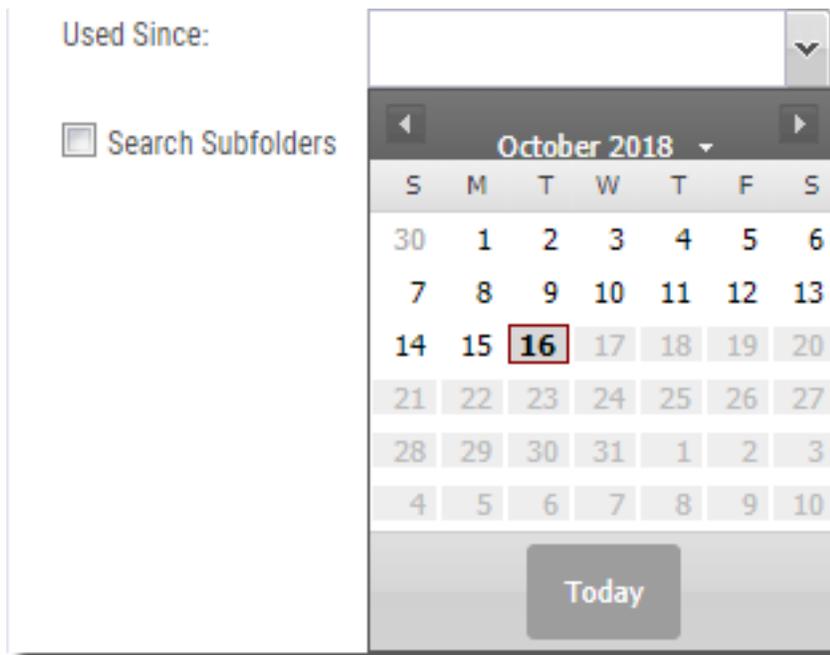
This opens the Filter Criteria panel on the right side of the browser.



3. Enter a **Containing** value. Viewpoint objects and output file names will be scanned for this value.
4. Use the **Show** drop-down to select object or output types to filter.



5. You can also specify a date in the **Used Since** box.

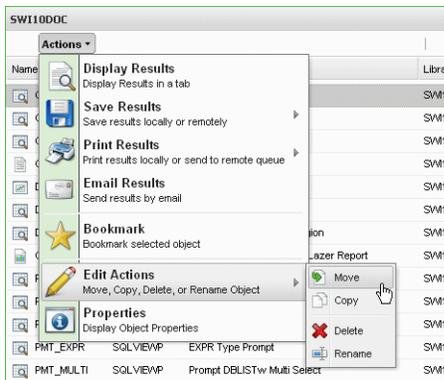


6. Place a check in the **Search Subfolders** box to include them in the request.
7. Press the **Apply**  button to run the filter.

Edit Actions

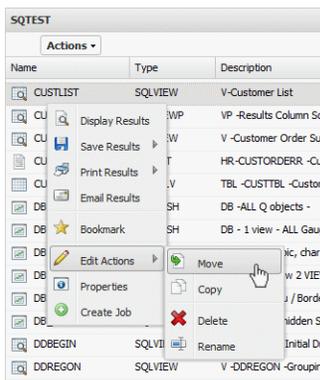
Basic object related maintenance functions are available in SWI to authenticated (logged in) users-anonymous users cannot access these functions.

From the Explorer object list press the [Actions button](#) and select Edit Actions,



Actions Button

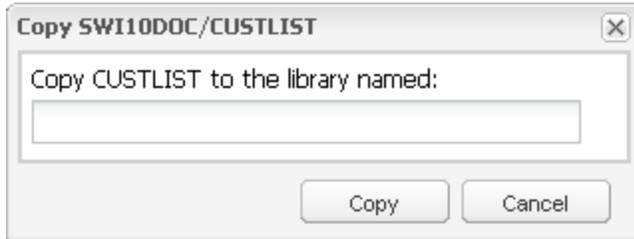
or right-click any object and select Edit Actions to copy, move, delete, or rename an object.



Actions Drop-down Menu

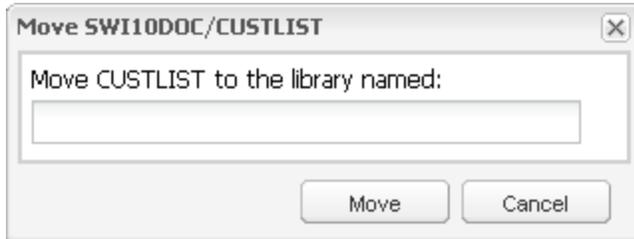
Copy

In the Copy window, enter the name of the library to copy the selected object to. Press Copy to complete the action.



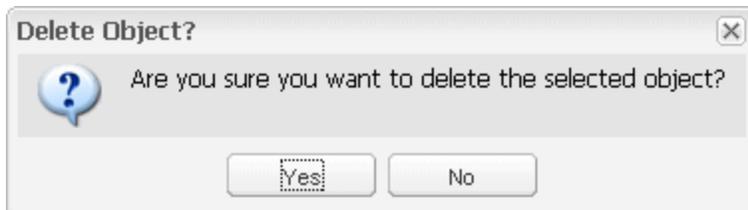
Move

In the Move window, enter the name of the library to move the selected object to. Press Move to complete the action.



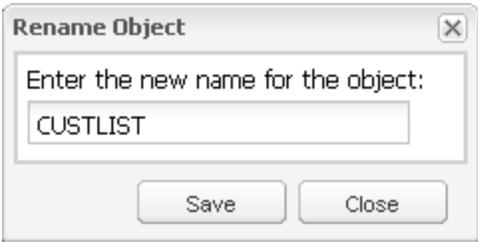
Delete

Selecting delete for an object will open a confirmation screen. Press Yes to delete the selected object.



Rename

In the Rename window enter a new name for the selected object. Press Save to complete the action.

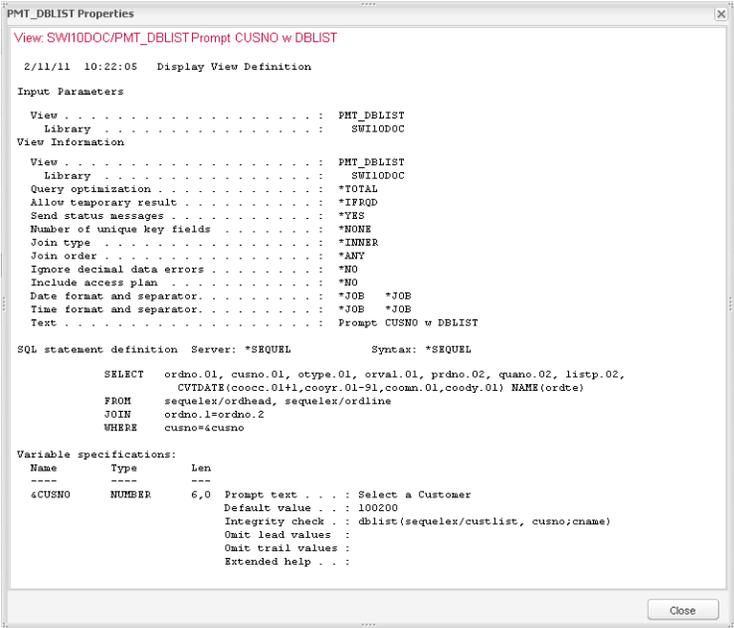


Properties

You can access the properties of your Viewpoint objects using the [Actions menu](#). Press the Actions button, or right-click an object and select Properties from the menu.

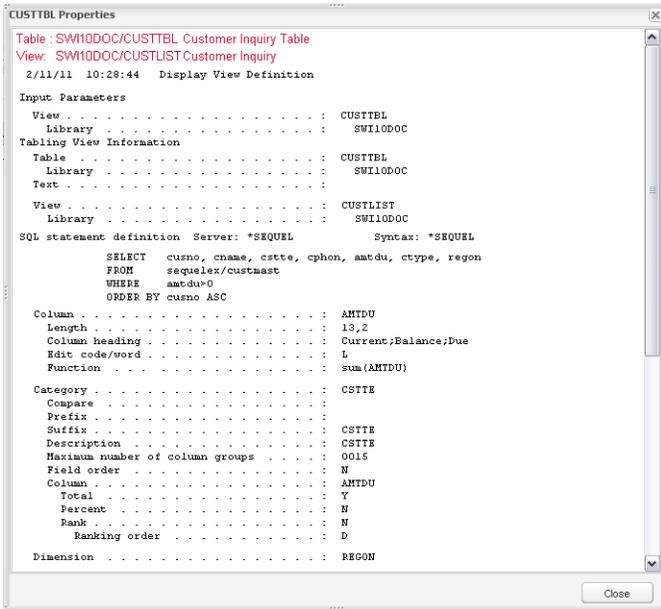
Views

The View Properties report will show everything about the view. You can see the full SQL statement and any run-time prompt definitions.



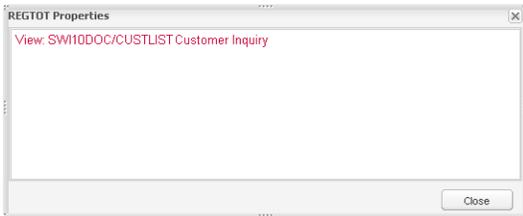
Tabling Views

The Table Properties report includes all table definition elements-Dimension, Category, and Field. Because a table is built over a view to extract the data, basic view information is included as well.



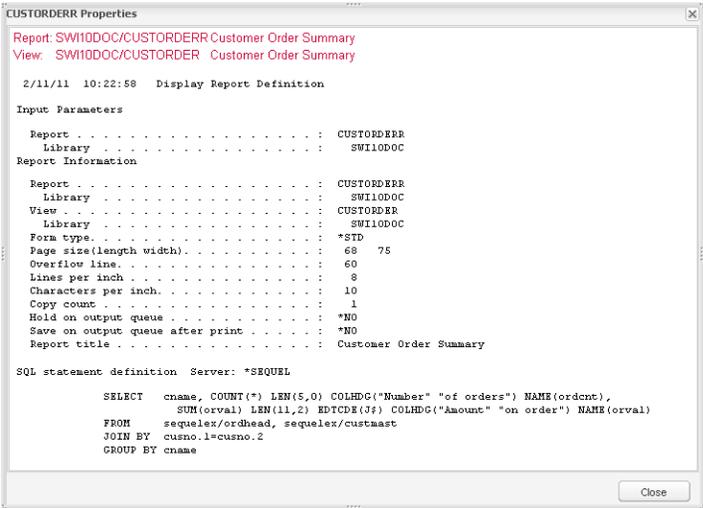
Client Tables

The Client Table Properties report displays the name of the view used by the client table.



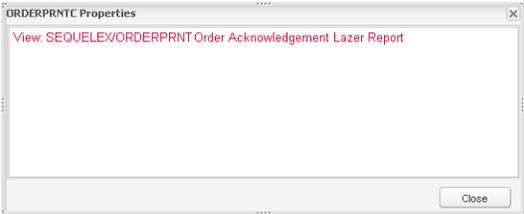
Host Reports

The Host Report Properties report contains information about the view the report uses to extract data as well as basic information about the report itself.



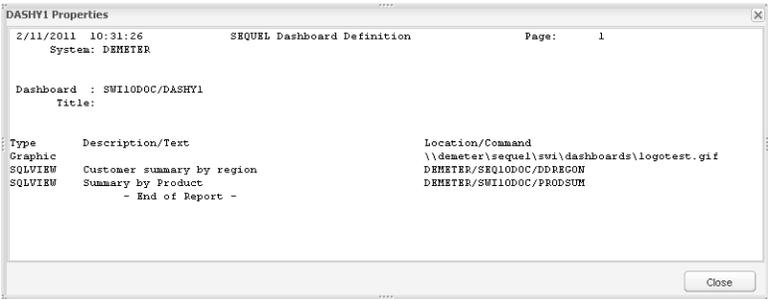
Client Reports

The Client Report Properties report displays the name of the view used by the client report.



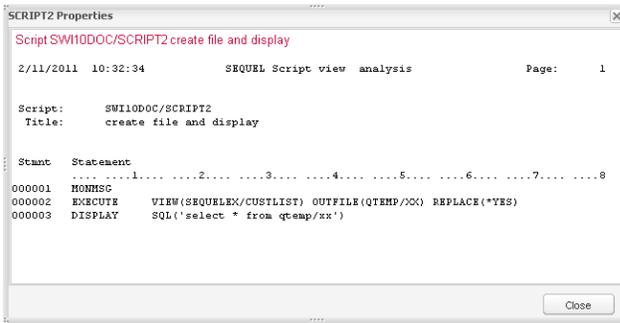
Dashboards

The Dashboard Properties report lists the name and location of all elements contained in the dashboard.



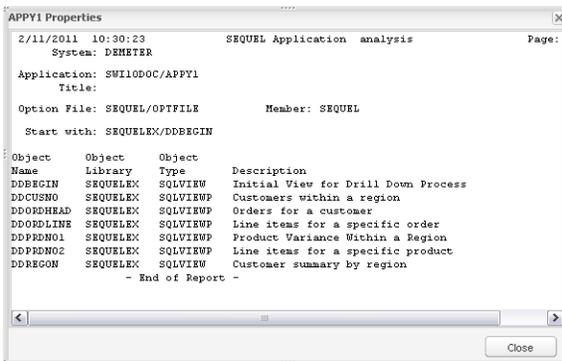
Scripts

The Script Properties report list the full definition and all commands in the script.



Drill-Down Applications

The Drill-Down Application Properties report lists all the name and location of all objects contained in the application.



Automate Schedule Jobs

When using SWI in Host mode, all Automate Schedule jobs are executed on the host, via the Automate Schedule IBM i Agent.

In Repository mode, both Native **IBM i Jobs** and **Web Service Jobs** are supported, based on the Viewpoint object type.

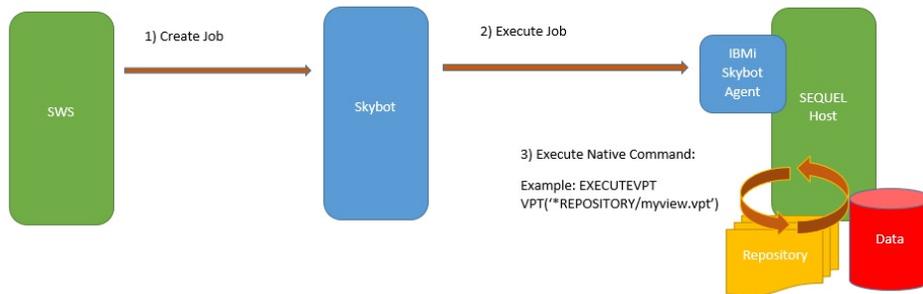
WARNING:

If any IBM i jobs were previously created in host mode for views and reports, they must be changed to web service jobs. Attempting to modify a host job when in repository mode will result in the job becoming corrupted. Be sure to [migrate](#) all host jobs to web service jobs before editing.

Native IBM i jobs are sent to the Automate Schedule Agent running on the IBM i host, resulting in a native SEQUEL Host command being executed (EXECUTEVPT, REPORTVPT, etc.). Only Scripts, Script Views and Host Reports use Native IBM i jobs.

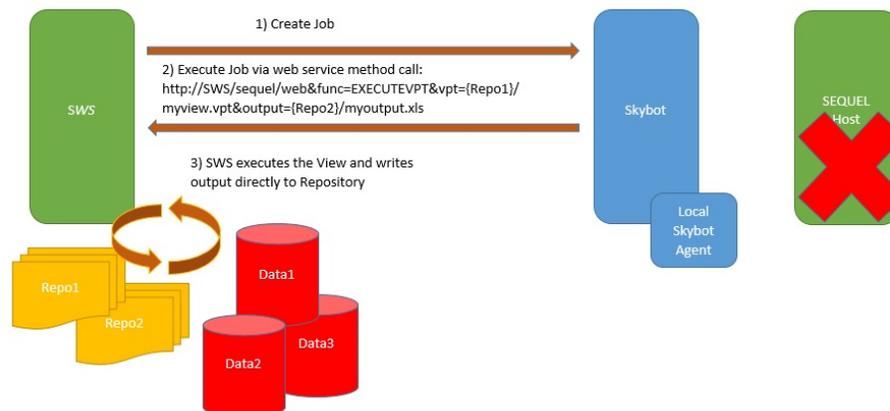
Because of the nature of these object types they must be executed on the Host and as with previous releases, these jobs run against Host definitions in the SEQUEL Host file on the IBM i. They will not use default Data Source Credentials or honor any restrictions set up in the SWS Server. They also do not provide for JDE E1 Environment and Role support.

Note that this also applies to any Views and Reports executed by a script or script view. Because of this potential security loophole, you may wish to limit the use of these object types.



Alternatively, a SWS Web Service job will send a request directly to the SWS Server, causing the View to be run with the Datasources and Credentials that are defined inside of SWS. A SWS Web Service job is effectively a multi-platform job.

Web Service jobs are executed via the Sequel Web Server (SWS), rather than being sent to an IBM i host to execute. All other Viewpoint object types use Web Service jobs, and are executed using the Repository and Data Source Credentials stored with the job definition and will honor any restrictions defined in the SWS server and provide full JDE E1 Environment and Role support.



NOTE:

- SWS jobs require a configured web service job on the Automate Schedule server. This is created and defined in the Automate Schedule interface. See [Configure SWS Web Service in Automate Schedule on page 132](#) for more information.

Why use a Web Service Job?

Use a web service job if you want to:

- Move your environment away from the IBM i host
- Run jobs using JDE E1 environment and role credentials or some other specific credential

Known Issues with Web Service Jobs in Repository Mode

- Creating archives (versioning) of output files is not supported for Web Service jobs.
- Some jobs complete run successfully but show as failed, even though the output file for the job was created OK.
- Jobs that should fail have a status of Complete--this is for jobs that run a view that has a source file deleted, so running the view will fail with an error like this: SQL0204 DELFILE in DAVEP type *FILE not found.
- Some jobs may send an extra email not listed as running, completed, failed or results--it simply has a joblog attached.

Create an Automate Schedule Job

Right-click on the Viewpoint object you want to schedule, and select **Create Job**.

IBM i (native) Job

If you attempt to create a job from a host report, host table, or script object this (IBM i Native) New Job Definition panel displays:

NEW JOB DEFINITION ✕

Job Name*

File Name*

Job Description*

Agent* ▼

Agent Environment* ▼

Object to Run*

Output File:* ▼

Subscribers

Create as Advanced Job

Options

Job Name - Enter a unique name for the job. Do not use spaces.

File Name - This will auto-fill based on the Automate Schedule Job name entered in the first field. You can overwrite this value or use the **Browse** button to navigate to an existing Automate Schedule file.

Job Description - Enter a useful description of the job.

Agent - Use the drop-down menu to choose the Agent the job should use. This should default to the IBM Agent defined in Automate Schedule and SWS.

Agent Environment - IBM i agent environments are named groups of IBM i job control defaults that contain attributes to run your jobs. These attributes are stored in one place and shared across multiple jobs and if something changes, you change it in one place, not every job. Use the drop-down menu to choose the Agent Environment the job should use.

Object to Run - This value will fill in with the name of the object you selected to create a job. If you started with host object in a library you wont be able to alter this value. If you started with a repository object (.vpt*), you can change the object by over typing or search the repository for a different object using the **Browse** button.

Output File - This value will auto fill the name and path based on the Object to Run value above. Change the name if you like or leave as is. Use the drop-down menu to choose a PC format.

Output will be saved by default to the same location as the Object to Run. Objects that save in the top-level repository folder (called repository) appear as '/filename.ext'. To save to a sub folder, use the syntax '/subfolder/filename.ext'.

Subscribers - Enter a list of email recipients, separated by a comma, to receive the specified output file. Subscribers will also receive completion and fail notifications. These subscribers will appear in the job properties [Notification](#) tab as 'Run'.

Create as Advanced Job - Check this box to create the job as an Advanced Job. An advanced job definition can be used as the starting job for a Automate Schedule Job Suite. See below for more information.

About Advanced Jobs and Automate Schedule Job Suites

Job Suites are a grouping of jobs created in Automate Schedule that are connected by a common starting point (the Advanced Job above). Jobs that are assigned to a Job Suite are called Member Jobs. Job Suites contain the schedule, schedule exceptions, missed run time options, job history purge options, and prerequisites for all Member Jobs assigned to the Job Suite.

The job flow in a Job Suite may be set up in multiple ways: serial, parallel, complex. Regardless of flow, all Member Jobs are tied directly or indirectly to the initiation of the Job Suite. Member Jobs can run immediately when the Job Suite is initiated or react to the completion of one or more other Job Members. This differentiates Job Suites from a grouping of jobs that are initiated independently, but referred to by one name.

Web Service Job

Jobs from a Viewpoint view object will always be created as a Web Service Job. The New Job Definition panel is slightly different. Web Service Jobs do not store a user ID and password for security reasons. Instead, jobs use a Credential. This [Credential must be defined](#) and manually [assigned to the datasource](#) used by a job. Be sure this is done before creating a job.

Options

Job Name - Enter a unique name for the job. Do not use spaces.

File Name - This will auto-fill based on the Automate Schedule job name entered in the first field. You can overwrite this value or use the **Browse** button to navigate to an existing Automate Schedule file.

Job Description - Enter a useful description of the job.

Agent - Use the drop-down menu to choose the Agent the job should use. This should default to the Local Agent defined in Automate Schedule.

Object to Run - This value will fill in with the name of the object you selected to create a job. If you started with host object in a library you won't be able to alter this value. If you started with a repository object (.vpt*), you can change the object by over typing or search the repository for a different object using the **Browse** button.

Output File - This value will auto fill the name and path based on the **Object to Run** value above. Change the name if you like or leave as is. Use the drop-down menu to choose a PC format.

Output will be saved by default to the same location as the Object to Run. Objects that save in the top-level repository folder (called repository) appear as '/filename.ext'. To save to a sub folder, use the syntax '/subfolder/filename.ext'.

NOTE:

The default credential for the repository becomes the owner of the file. This credential must have write authority to the network repository, therefore you can use Restrictions to make that credential invisible to the user community at large and only available to people who create jobs

Create as Advanced Job - Check this box to create the job as an Advanced Job. An advanced job definition can be used as the starting job for a Automate Schedule Job Suite. See below for more information.

[About Advanced Jobs and Automate Schedule Job Suites](#)

Job Suites are a grouping of jobs created in Automate Schedule that are connected by a common starting point (the Advanced Job above). Jobs that are assigned to a Job Suite are called Member Jobs. Job Suites contain the schedule, schedule exceptions, missed run time options, job history purge options, and prerequisites for all Member Jobs assigned to the Job Suite.

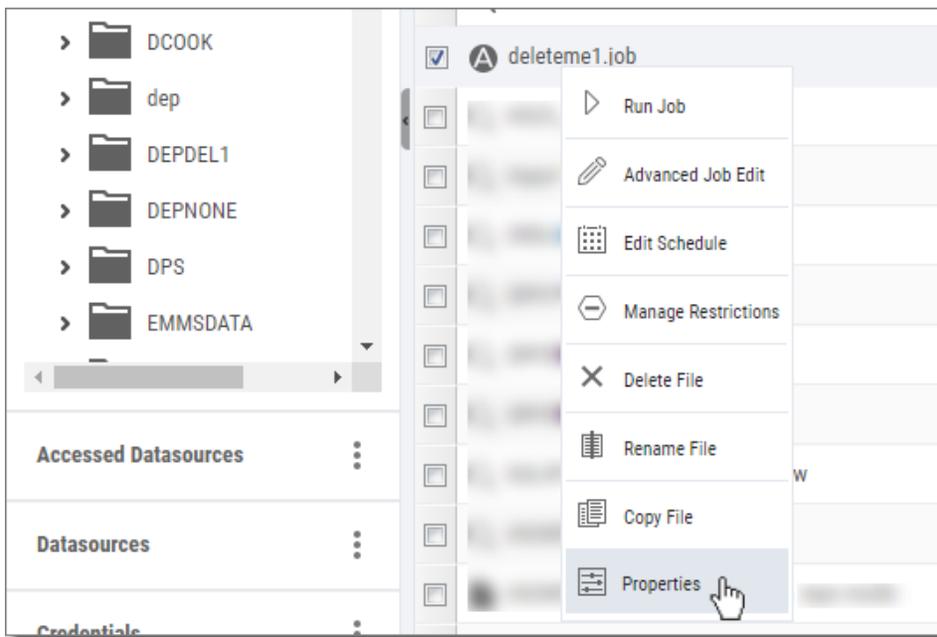
The job flow in a Job Suite may be set up in multiple ways: serial, parallel, complex. Regardless of flow, all Member Jobs are tied directly or indirectly to the initiation of the Job Suite. Member Jobs can run immediately when the Job Suite is initiated or react to the completion of one or more other Job Members. This differentiates Job Suites from a grouping of jobs that are initiated independently, but referred to by one name.

Once the job is created, you can review and modify by opening the job's properties. See [Job Properties on page 36](#) for more information.

Job Properties

The Job Properties option is used to review the general job properties and history, specify recipients for a job's notifications, and review or modify the job's commands and variable run-time values.

Right-click the job, and select **Properties** from the menu.



A new tab opens with five sub-tabs: General Information, Job History, Notifications, Commands, Variables, and Authentication.

General Information

This tab does as described—shows general information about the job and its schedule.

The **Schedule** item at the bottom will show 'Unscheduled' if the job was not defined with a time to run. Use the Edit Schedule option to set a time.

The screenshot shows the 'General Information' tab for a job named 'xxx'. The interface includes a top navigation bar with 'Explorer' and 'xxx' tabs, and a secondary navigation bar with tabs for 'General Information', 'Job History', 'Notifications', 'Commands', 'Variables', and 'Authentication'. Below the navigation is a toolbar with buttons for 'Convert To', 'Run Job', 'Advanced Job Edit', 'Edit Schedule', and 'Refresh'. The main content area displays the following job details:

Type	Job
Agent	HS0409_DEFAULT
Agent Environment	-
IFS path	/xxx.job
Job Name	xxx
Description	xxx
Scheduled / Unscheduled	Scheduled
Schedule	Run Once at 3:40 PM on 04 Jun 2019

Job History

The Job History tab lists every time the job runs. Each line can be expanded (as shown) using the plus sign to the left of the entry. A joblog is available from Automate Schedule using the **Download Joblog** button next to each entry.

The screenshot shows the 'Job History' tab for the same job 'xxx'. The interface is similar to the previous screenshot, but the 'Job History' tab is active. The main content area displays a table of job runs:

Run ID	Status	Started	Ended	Job	
1888	Submitted	2019-06-03 15:41:44 -05:00	Unknown	xxx	Download Joblog

The entry for Run ID 1888 is expanded, showing the following details:

Job details Agent: HS0409_DEFAULT	Run details Start: 2019-06-03 15:41:44 -05:00 End: Unknown Running time: Unknown Manually started: true Start at command sequence: 1	Run results Run status: Submitted
---	--	---

Pressing the **Download Joblog** button for an Advanced job (or Job Suite), opens the Member Job Joblogs dialog. Each member job has its own joblog button so you can review how each member job ran.

Run ID	Member Job Name	Status	
2393	SteveSuite_member1	Completed	 Download Joblog
2392	SteveSuite_member2	Completed	 Download Joblog
2391	SteveSuite_member3	Failed	 Download Joblog

Notifications

This tab displays a list of recipients for job completion or failure, and the users (subscribers) designated to receive the output specified in a given job.

General Information Job History Notifications Commands Variables Authentication				
+ Add Email X Remove Email Advanced Notifications Settings Save Convert To v Run Job Advanced Job Edit Edit Schedule Refresh				
Email Address	Run	Complete	Failure	Results
user1@helpsystems.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
user2@helpsystems.com	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

If a job was defined with a list of subscribers (to the output), they will appear here with all options checked when you open the tab.

Use the green plus icon to add a recipient's email address and check the following:

Run - Send the recipient a notice that the job was added to the scheduler. If a job was defined with a list of subscribers (to the output), they will be already listed here when you open the tab.

Complete - Send the recipient a notice that the job completed as scheduled.

Failure - Send the recipient a notice that the job failed to run.

Results - Send the results of the query or report as an attachment with the email.

Make sure to press the **Save** button to apply changes.

Commands

The Commands tab lists the commands that will be executed by the job. The command display changes based on the type of job created: Native IBM i or Web Service.

Native IBM i Jobs

Any job using a host report, host table or script object is created as a Native Automate Schedule Jobs to execute Native IBM i commands, and these commands are editable in the Commands tab for the job. The end user can use this interface to change the View that will be run by the job, the output file, etc.

The command lines can be deleted, resequenced, modified and new commands can be added.

	Command	Fail Job?	
1	ADDLIBLE SEQUEL	false	X
2	REPORTVPT VPT(*REPOSITORY/SQTEST/CUSTORDERR.VPTREPORH') T...	true	X

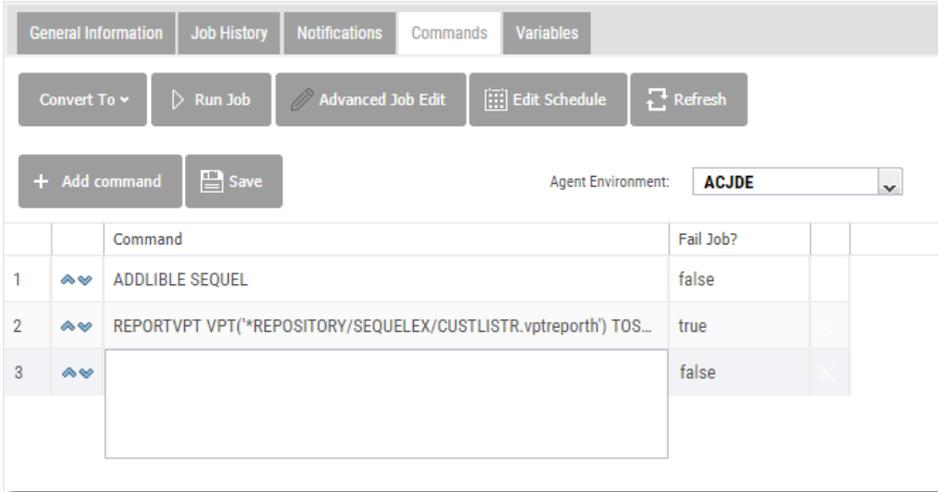
Use the X button to the right of each line to delete. Use the blue up-down arrows to the left of each line to re-sequence.

To modify, simply click the command to expand the in-line edit box like so:

	Command	Fail Job?	
1	ADDLIBLE SEQUEL	false	
2	REPORTVPT VPT(*REPOSITORY/SEOELEX/CUSTLISTR.vptreporh') TOSTMF(*REPOSITORY/SEOELEX/CUSTLISTR.txt) replace(*VER) PCFMT(*TXT)	true	X

Insert, or over type to make changes. Be sure to press the **Save** button to apply changes.

To add a new command, press the **Add Command** button. After the new line is added to the display, click the blank command to open the in-line edit box.



Enter the new command and press the **Save** button to apply changes.

Web Service Jobs

Any job using a view or client report object is created as a web service job and these commands are editable in the Commands tab for the job. The screen is slightly different than the one use for Native IBM i jobs (above). Any value, except the Datasource, can be modified.

General Information		Job History	Notifications	Commands	Variables	Authentication
<div style="display: flex; justify-content: space-between; align-items: center;"> Convert To ▾ ▶ Run Job ✎ Advanced Job Edit ⌘ Edit Schedule ↻ Refresh </div>						
<div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> Save </div>						
Name	Value					
Object to Run	/SEQUELEX/DDCUSNO.vptview					
Output file	/SEQUELEX/DDCUSNO.txt					
Datasource Credential	steves					
Repository of Object to Run	HS44-Repository					
Output Format	TXT					
Repository for Output File	HS44-Repository					
Datasource	hs44					

To modify, simply click the value to expand the in-line edit box like so:

Name	Value	
Object to Run	/SEQUELEX/DDCUSNO.vptview	
Output file		
Datasource Credential	steves	
Repository of Object to Run	HS44-Repository	
Output Format	TXT	
Repository for Output File	HS44-Repository	
Datasource	hs44	

Press the **Save** button to apply changes.

WARNING:

Modifying and creating commands using these dialogs is an advanced feature as there is no prompting or syntax checking. This should only be performed if you are absolutely comfortable with command syntax.

Advanced Jobs / Job Suites

For Advanced Jobs, commands are shown for each member job that makes up the advanced job definition.

The screenshot displays the configuration interface for an advanced job. At the top, there is a breadcrumb trail: Explorer > DEP-JOB2_1_8aa608b8. Below this is a tabbed menu with 'Commands' selected. A toolbar contains buttons for 'Run Job', 'Advanced Job Edit', 'Edit Schedule', and 'Refresh'. The main configuration area is divided into two sections:

Job Configuration (DEP-JOB2_1_8aa608b8):

Repository of Object to Run	HS44_Repository
Output Format	HTML
Datasource Credential	dep
Datasource	HS44_LOCALSYS

Member Job Configuration (StateList_1_7f5d3eeh):

A 'Save' button is present above the member job configuration table.

Name	Value
Output file	/davep/davep11-13/larqo2-Jobs/DAVEP/DEP-JO...
Repository for Output File	HS44_Repository
Object to Run	/davep/davep11-13/larqo2-Jobs/DAVEP/StateLis...
Repository of Object to Run	HS44_Repository
Output Format	HTML
Datasource Credential	dep
Datasource	HS44_LOCALSYS

About Advanced Jobs and Automate Schedule Job Suites

Job Suites are a grouping of jobs created in Automate Schedule that are connected by a common starting point. Jobs that are assigned to a Job Suite are called Member Jobs. Job Suites contain the schedule, schedule exceptions, missed run time options, job history purge options, and prerequisites for all Member Jobs assigned to the Job Suite.

The job flow in a Job Suite may be set up in multiple ways: serial, parallel, complex. Regardless of flow, all Member Jobs are tied directly or indirectly to the initiation of the Job Suite. Member Jobs can run immediately when the Job Suite is initiated or react to the completion of one or more other Job Members. This differentiates Job Suites from a grouping of jobs that are initiated independently, but referred to by one name.

Variables

If the job uses a prompted view, any variables and their corresponding run-time values are displayed here. The run-time values can be modified from this screen.

Variable Name	Variable Value
REGON	10

To modify, simply click the current value to expand the in-line edit box like so:

Variable Name	Variable Value
REGON	10

Insert, or over-type to make changes. Be sure to press the **Save** button to apply changes.

Authentication

SWS Web Service jobs must authenticate with the Sequel Web Server when they run. The username, password, and authentication type are also stored as parameters in the Automate Schedule job. By default, the credentials of the SWS user that created the job will be saved and used by Automate Schedule.

This can be changed after the fact on the Authentication tab.

Convert IBM i Jobs

Automate Schedule jobs that existed prior to the implementation of Repository mode are Native (IBM i) jobs. These jobs will continue to run as they did previously. However, they will not take advantage of the new authentication mechanisms provided by Repository mode. It is recommended that these jobs are converted to Web Service (SWS) jobs, to conform to Repository and Data Source authentication rules. This is especially important in a JDE E1 environment.

NOTE:

Existing jobs executing Scripts, Script Views and Host Reports cannot be converted.

To perform this step, view the General Information tab on the Job's properties and select **Convert To\Web Service Job**.

Job ID	Job Name	Fail Job?
1	ADOLBLE SEQUEL	False
2	REPORTUPT UPT('REPOSITORY/SQSEST/CUSTOMER UPTREPORTU') T...	True

The conversion process requires that the user selects a local Automate Schedule agent. (The IBM i Agent can no longer be used). The user will be shown a prompt to select the Agent to use.

After conversion, the job will gain the new Commands tab and the Authentication tab, like any other SWS job.

Type	Job
Agent	LARGO_DEFAULT
Agent Environment	-
IFS path	/NewJob-native.job
Job Name	NewJob-native
Description	this is a new native job
Scheduled / Unscheduled	Unscheduled

Output Options

Using one of two [Actions menus](#), you can work with and direct your results in many ways. With SWI Host mode you can:

- Display Viewpoint [views](#), [host tables](#) and [client tables](#), [host reports](#) and [client reports](#), and dashboards directly in separate tabbed windows.

- Save view and table results as [PCFiles](#), and repository documents.
- Save report results as PC files or repository documents.
- Print view and report results [locally](#).
- [Email](#) results as PC file attachments.
- Launch Viewpoint [dashboards](#), [scripts](#), and [drill down applications](#).

This table shows the various output options available for each Viewpoint object. Each of the output options is explained in the sections that follow.

	<u>Display or Launch</u>	<u>PC File</u>	<u>Repository File</u>	<u>PC Print</u>	<u>Email As...</u>
View Host Table Script View	D	.pdf, .txt .rtf, .xls .xml	.pdf, .txt .rtf, .xls .xml	Y	.pdf, .txt .xls, .xml .html
Report	D	.pdf, .txt, .html	.pdf, .txt, .html	Y	.pdf, .txt, .html
Client Report¹	D	.pdf, .rtf, .xls, MSWORD ²	.pdf, .txt	Y	.pdf, txt
Client Table	D	.xls, .html	N	Y	.html
Script	L	n/a	n/a	n/a	n/a
Application	D	n/a	n/a	n/a	n/a

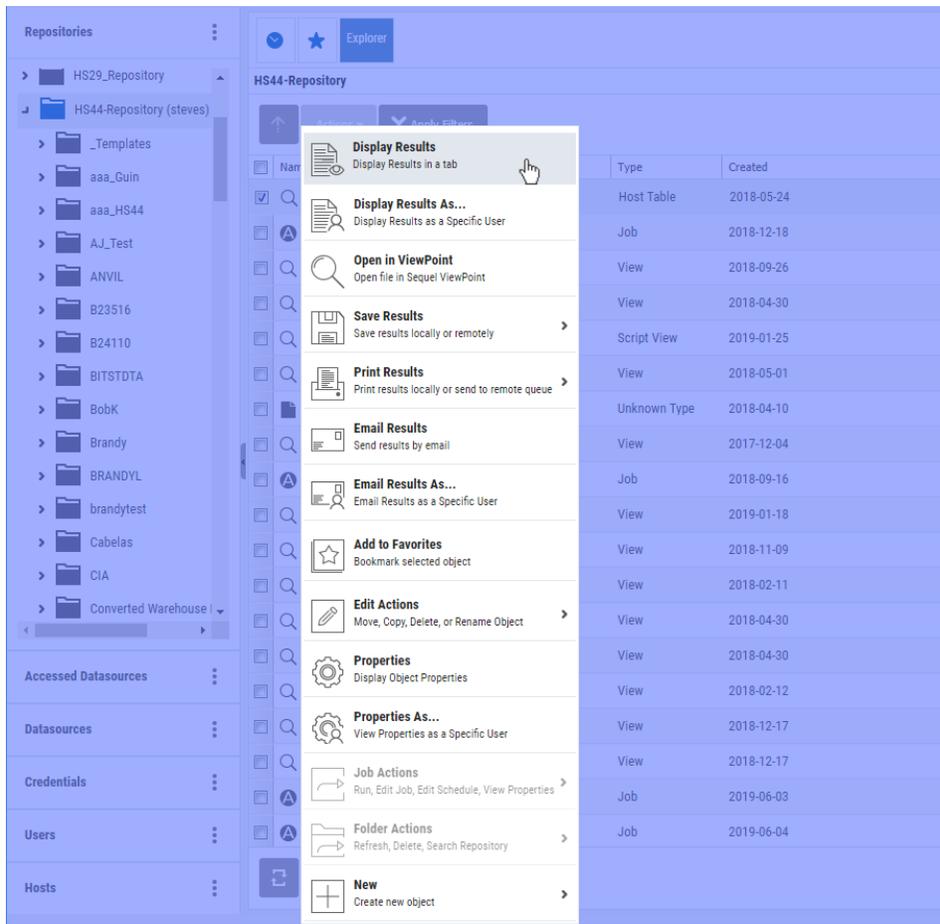
1 - Only Client Reports created with the external Crystal Reports 2011 designer can be used in Repository Mode.

2 - When scheduling a Client Report, it is recommended that PDF is selected as the output type.

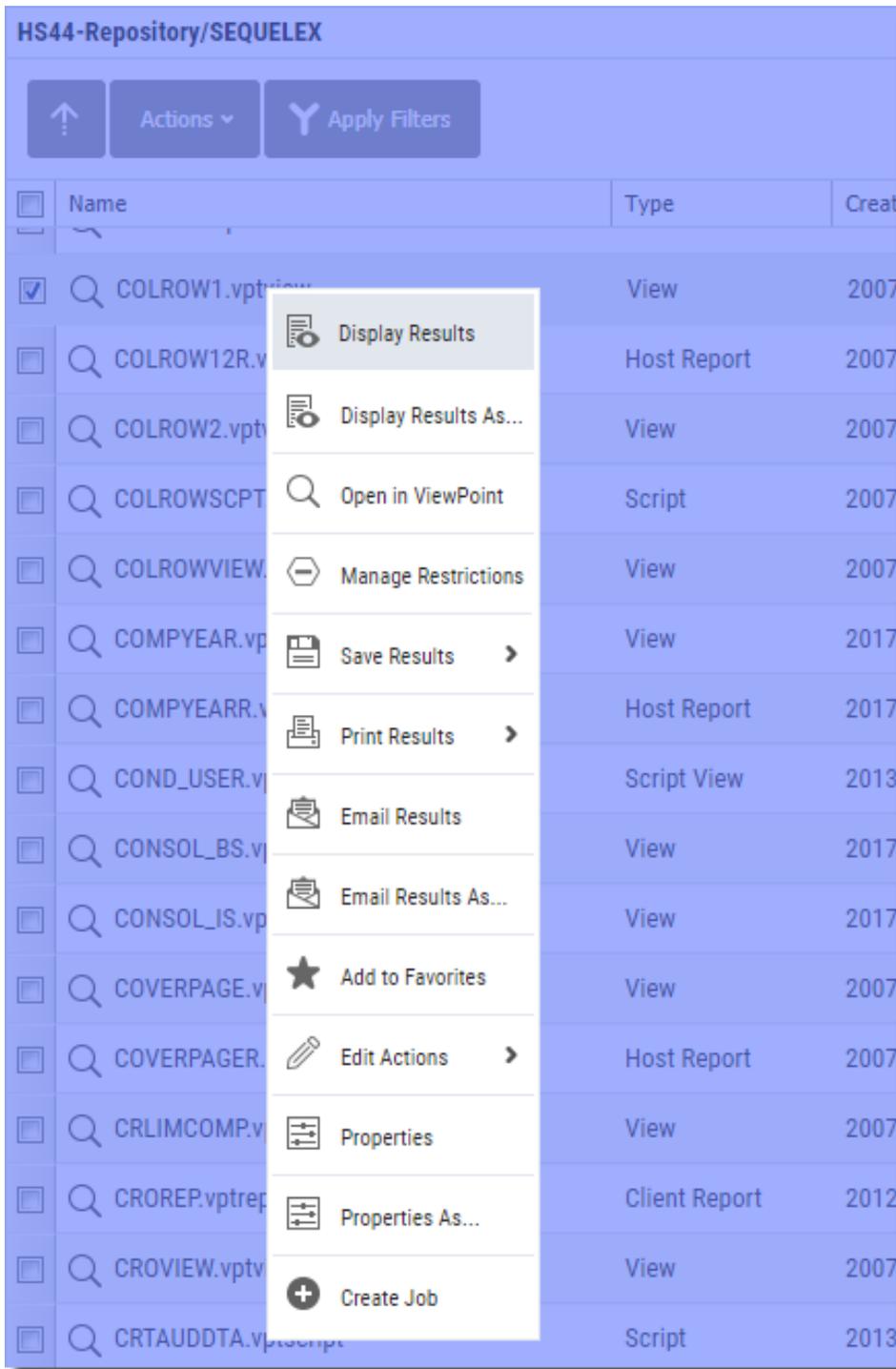
The Actions Menu

There are two Actions menus available in the [object list](#). One is shown at the top of the object list as a button and the other is a right-click contextual menu. Each provide options to [direct output](#), [edit objects](#), and view [object properties](#).

To use the Actions button, first select an object—it will highlight in grey—then click the Actions button to see the menu of options. If you press the Actions button before you select an object, all the options will be disabled.



You can access a similar list of actions by right-clicking any object in the list as show below.



Options will be available or grayed out depending on the object selected either in the Object Panel or the Navigation Panel. Some options are object sensitive—meaning the same option, like Properties, will show different information based on the object or item selected such as system node, folder, shortcut, host object, and so on.

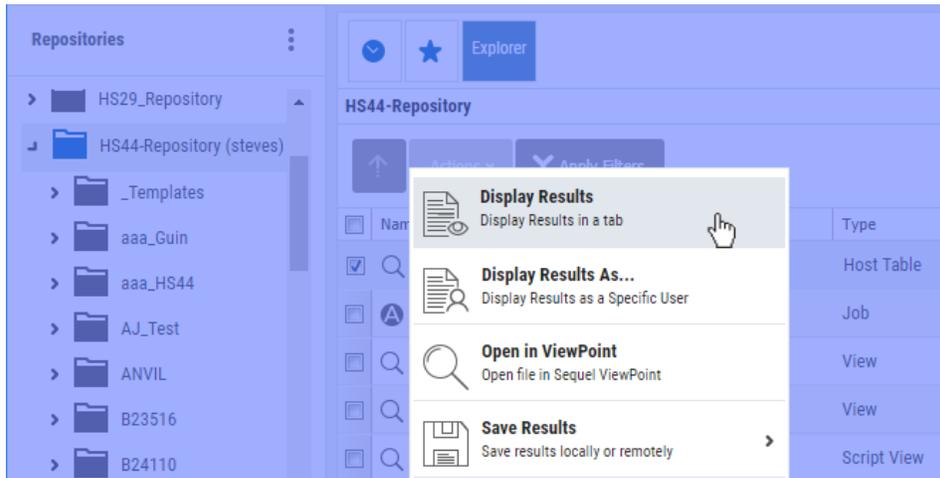
Many of the actions shown above are available in the tabbed results windows for the [displayed](#) Viewpoint objects.

Display Results

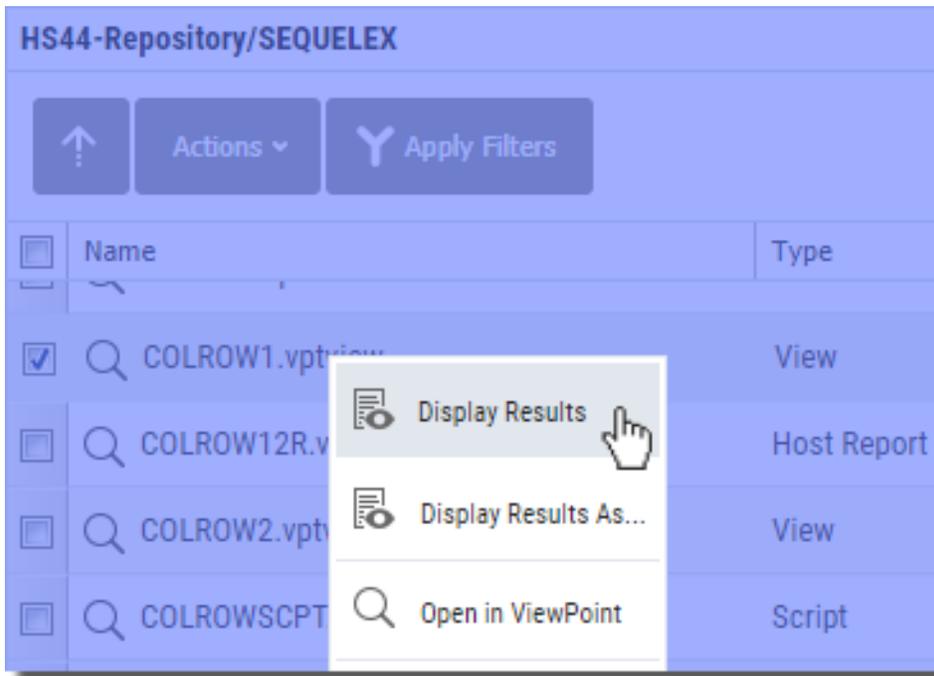
Quick and easy access to your System i data is what Sequel Web Interface is all about. All of your pre-built Viewpoint objects will display directly in the browser and launch a separate tab next to the Explorer tab. You can jump between each tab to review the results, drill-down and regroup (where applicable), create graphs and more. Let's look at how each Viewpoint object displays or launches in SWI.

Views,Script Views, and Host Table Views

There are three ways to display a view, script view, or host table view: Double-click the object (vptview, vptscriptv, vpttableh) in the Explorer object list, select **Display Results** from the [Actions menu](#), or right-click and select **Display Results** from the menu.



Actions Button



Actions Drop-down Menu

The results open in a new tabbed display similar to the main Explorer [object list](#) display. The body of the display shows the data selected by the view with the column order and the row sorting based on the view definition.

hs44 (steves): CTVIEW.vptview "Sales Detail for Client Table"

Year	Qtr	Month	Amount Sales	Unit Sales	Product Line	Product Family	Product Category	Region	Territory	COUNTRY
2001	Q1	1	2708.90	246	Books	Health Mind and Body	Diet	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	10197.50	246	Books	Computers and Internet	Certification	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	3846.54	246	Music	Alternative	Indie	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	6799.97	246	Books	Health Mind and Body	Self Help	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	11333.30	308	Books	Biographies and Memoirs	Artists	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	4164.98	185	Books	Business and Investing	Investing	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	4073.21	246	Music	Blues	Modern Electric	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	2830.24	308	Videos	Kids and Family	Family Adventures	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	1691.37	185	Books	Entertainment	Games	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	2885.06	185	Music	Jazz	Avant-Garde	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	3398.14	185	Books	Health Mind and Body	Fitness	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	1695.06	185	Music	International	Tejano	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	3958.03	308	Music	Classical	Forms	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	2541.36	185	Videos	Drama	Crime	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	7083.31	308	Books	Home and Garden	How To	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	2266.65	308	Books	Biographies and Memoirs	Philosophers	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	4524.69	308	Music	International	Cajun and Zydeco	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	3846.54	246	Music	International	Reggae	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	2482.23	246	Books	Biographies and Memoirs	Philosophers	Asia Pacific	Pacific Rim	Australia
2001	Q1	1	6117.51	246	Videos	Kids and Family	Animation	Asia Pacific	Pacific Rim	Australia

Use the buttons along the top of the result columns to direct results to the following output formats:

[Create Local Results](#)

[Create a Physical file on the System i](#)

[Create an IFS Document on the System](#)

[Create a Remote Database Table](#)

[Print Locally](#)

[Submit to a System i output queue](#)

[Email as an attachment](#)

[Graph Results](#)

[Group and Sum](#)

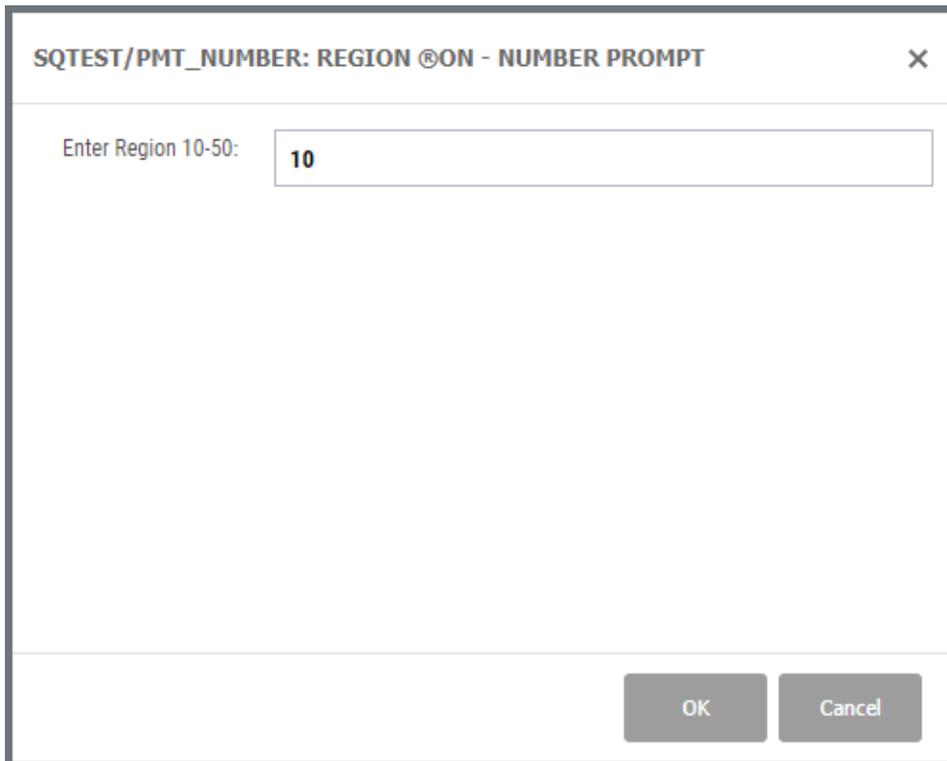
There are many options available to control the look and arrangement of the results display. These features are similar to those in the Explore object list. You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can resize the width of each column and add or remove columns from the display.

Prompted Views

Prompted views (vptview) run just like regular views, but contain substitution variables that require user input prior to displaying results.

Prompts (or variables) are typically added to views in the WHERE clause for record selection purposes, but they can be used anywhere in the SQL statement that substitution is needed. Any other process or object (Report, Table, Report, Script) that uses a prompted view will prompt for input.

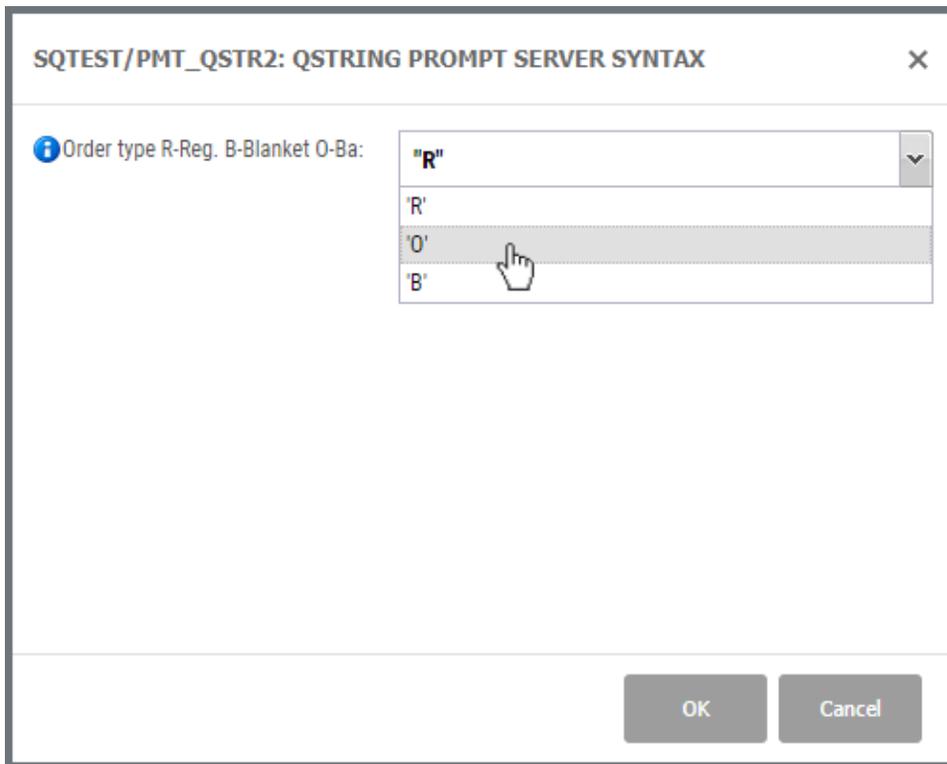
When a prompted view is run you will be presented with a screen similar to the following.



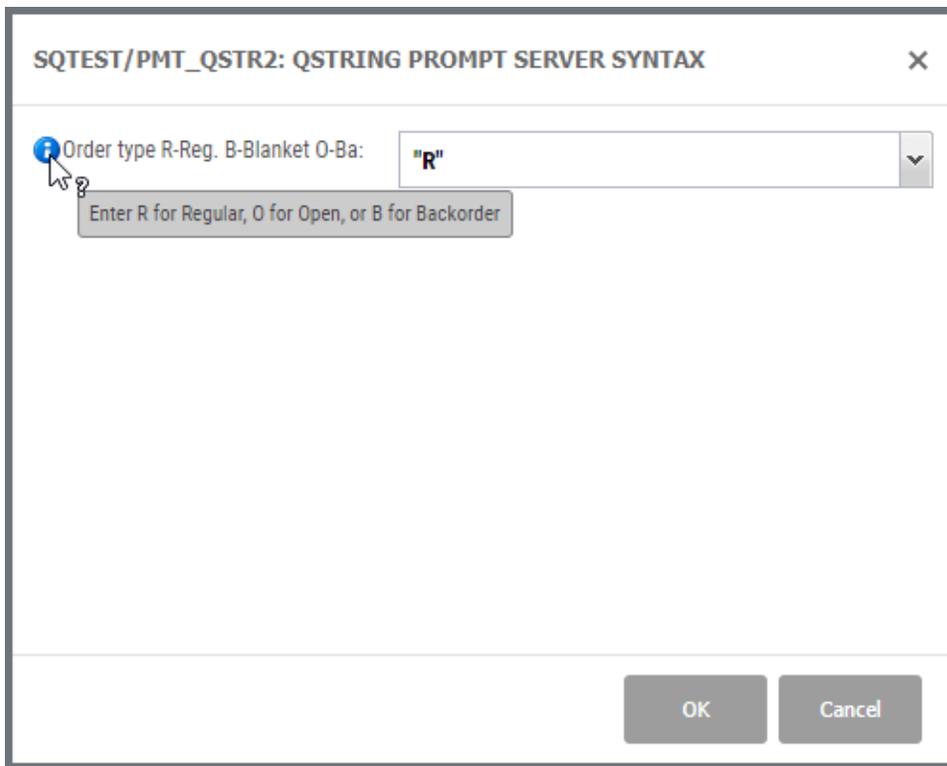
The image shows a dialog box with the title "SQTEST/PMT_NUMBER: REGION @ON - NUMBER PROMPT". Inside the dialog, there is a text input field with the label "Enter Region 10-50:" and the value "10". At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

Depending on how the prompt is defined and the type of information required, you may see any of the following:

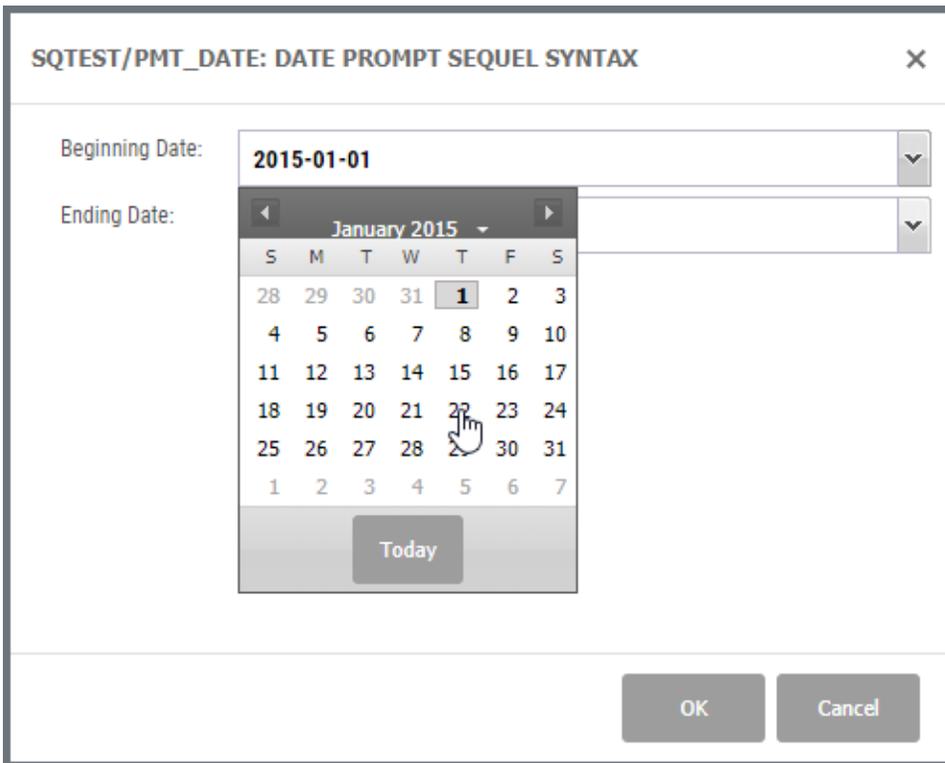
Drop-down Lists.



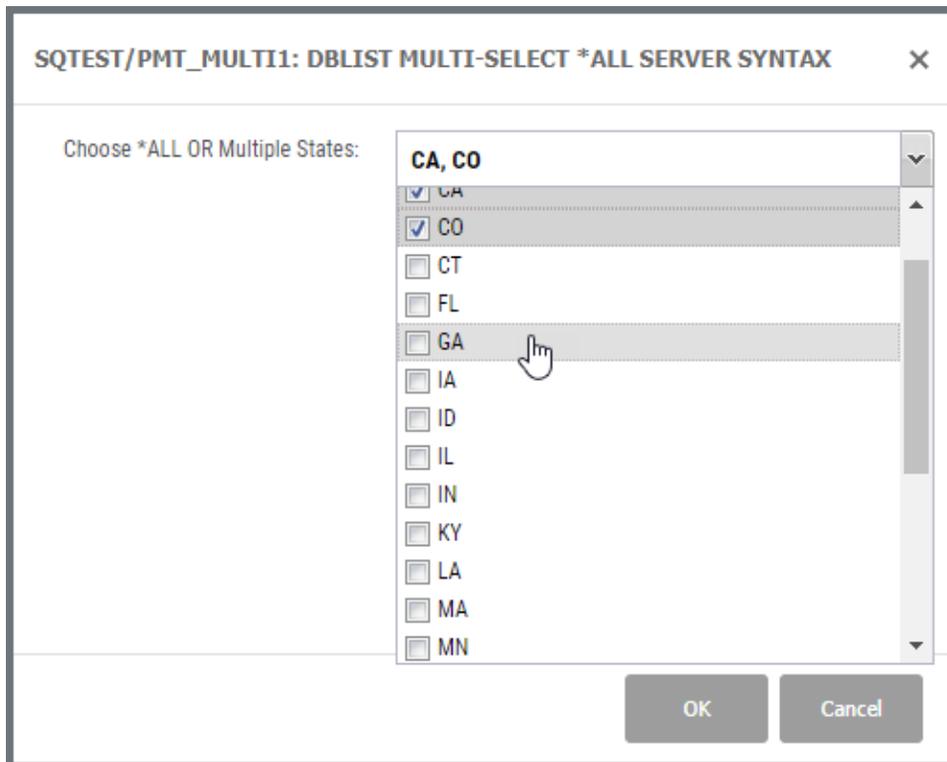
Informational Prompt-related Help.



Drop-down Calendars.



Multi-Select Lists.



Fill in the required information and press OK to display the results.

For more information about prompted views-designing, defining, and different uses-see Adding Prompts to a View in the [Viewpoint User Guide](#).

Dynamic Drill-Down and Regrouping Views

Any grouping view, once displayed, can be regrouped using any of the fields from the file(s) in the view plus any derived fields. In addition to regrouping, you can 'drill into' the supporting detail (show details) for any grouped record. This is a powerful feature for end users. Data can be analyzed and re-displayed in endless ways-all without redesigning the view, or pre-building drill-down paths.

Regroup and Show Details are two options available by clicking on a summary (grouped) record. Grouping views will display a grey arrow on the left of each record.

hs44 (steves): PRODSUM.VPTVIEW "V -Summary by Customer"

Select Range Save Results Print Results Email Results Properties

	Name	Quantity Ordered	Extended Price
▼	K. Redford's Inc.	140	900.00
▼	Kelly's Corp.	110	1180.00
▼	L.M. Corp.	20	.00
▼	Lawrence Design	110	1045.00
▼	Lickton's City Corp.		
▼	Lim-Equipment Co.	200	.00
▼	LBC Supplies	440	5900.00
▼	Maple Leaf Cemetery	110	.00

Arrow indicates a summary or grouping result.

Regroup

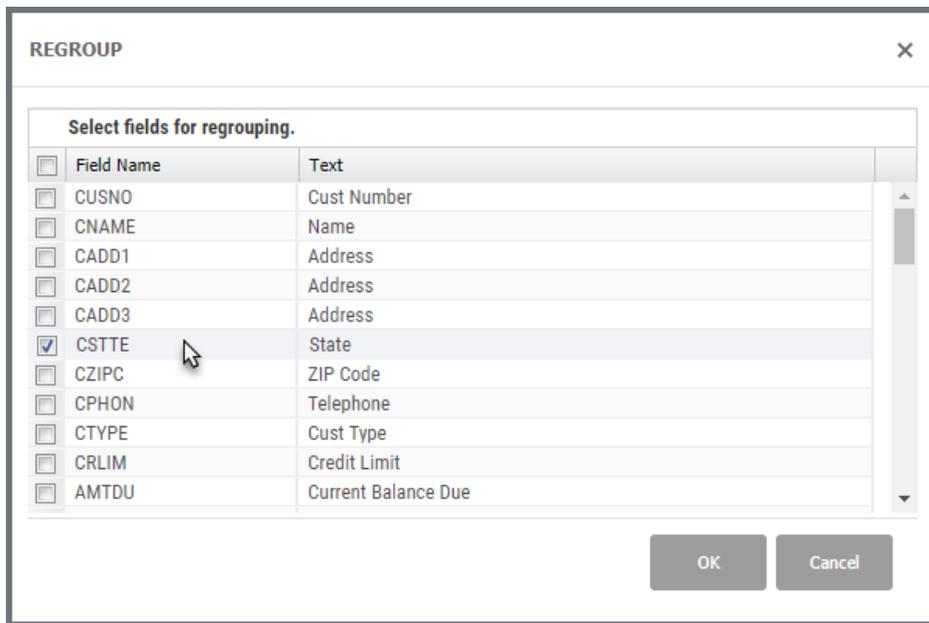
Regrouping starts by displaying a summary or grouping view. In the results display, click on any record (BMXCARTON in the example below) and select Regroup from the menu.

Select Range Save Results Print Results Email Results Properties

	Name	Quantity Ordered	Extended Price
▼	K. Redford's Inc.		00.00
▼	Kelly's Corp.		00.00
▼	Regroup...		.00
▼	Show Details...		05.00
▼	Lickton's City Corp.	110	2950.00
▼	Lim-Equipment Co.	200	.00
▼	LBC Supplies	440	5900.00
▼	Maple Leaf Cemetery	110	.00

The Regroup window lists either all fields available from all files used in the view, or fields that have been added to the [Dynamic Drill Down Field List](#)¹. This field list is used to limit the number of available regrouping and detail fields.

Place a check next to any field(s) you want to use to regroup the data. Our example regroups using the state field.



Press OK to open a new tab with the regrouped results.

¹The Dynamic Drill Down Field list is a file (SEQUEL/VPTDYNFLTR) that is easily maintained using ViewPoint Administrator, or from a command line using UPDATE, INSERT, or DFU.

hs44 (steves): QPRODSUM "V -Summary by Customer"

Select Range Save Results Print Results Email Results Properties

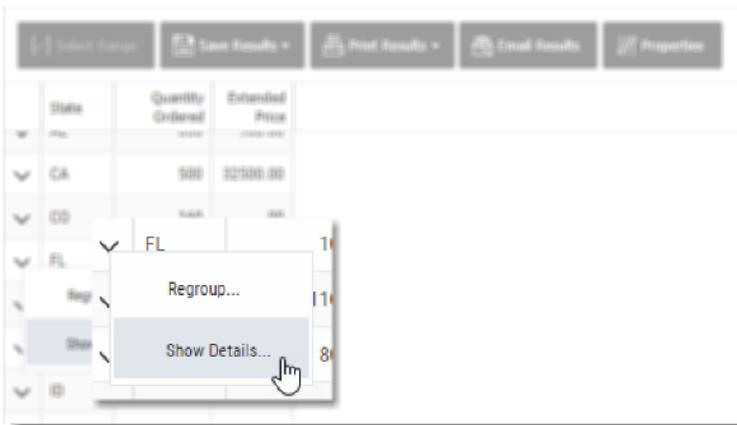
	State	Quantity Ordered	Extended Price
▼		60	.00
▼	AZ	330	900.00
▼	CA	500	32500.00
▼	CO	160	.00
▼	FL	10	.00
▼	GA	110	.00
▼	IA	80	.00

The result of a regrouping will be another summary or grouping view-notice the arrows on each record. From here, or the starting view, you can continue to launch as many regrouping views as you like.

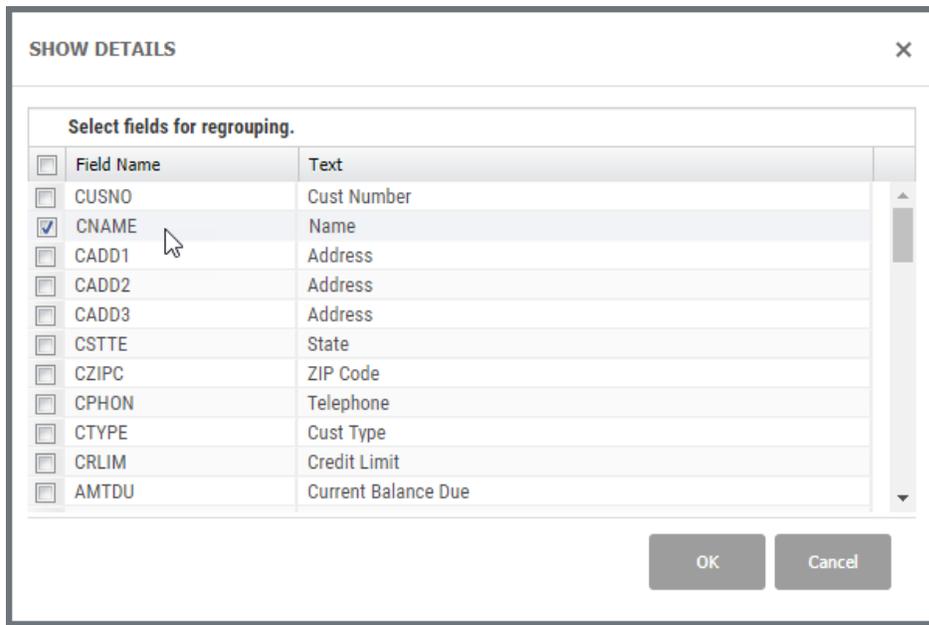
Show Detail

The Show Detail option displays the supporting detail for a selected grouped record; in effect allowing you to 'drill-into' the data that created the summary information.

Click on a record (Illinois) and select Show Details from the menu.



In the Show Details window, select any field you want to display. As with the Regroup feature, the field list will contain either all fields available from all files used in the view, or be limited to fields that have been added to the Dynamic Drill Down Fields List.



The original summary columns (quantity ordered and extended price in our example) will automatically be added to the new display. The original data set is filtered based on the starting grouped record- customers in IL.

hs44 (steves): QQPROD0000 "V -Summary by Customer"

{...} Select Range Save Results Print Results Email Results Properties

	Name	Quantity Ordered	Extended Price
∨	Lickton's City Corp.	110	2950.00
∨	NBCO Corporation Inc.	830	31600.00
∨	Sauganash Inc.	200	.00
∨	Taehnrich Corp	430	4950.00
∨	Town & Country Sports	80	.00

Remote Database View Considerations

Although you can link and drill to views that retrieve data from a non-DB2 database (MySQL, Oracle, SQL Server, and so on), there are some limitations to keep in mind when designing these views for use in Dynamic Drill-down.

- **Field names** are limited to 30 characters. If the field is defined longer than 30 characters, you can use 'AS xxx' (where xxx is the new name) to rename the field.
- All **file names** must be upper case or quoted like: "installed_products" (this causes problems in MySQL at it uses non-standard quoting syntax. see item four below).
- All ***SERVER** views must be able to translate to *SEQUEL syntax. This should not be a problem with most view.
- **MySQL Note:** MySQL allows lower case file names and will not recognize a quoted file name—they use a non-standard back-tick or grave accent character (`) to quote a file name--`file_name` instead of the ANSI-standard "file_name". You can override this behavior by altering the JDBC connection string. Use the MNTHOSTF (Maintain SEQUELHost File) command, or the Viewpoint Administrator's 'SEQUEL Host File' option and modify the connection to include the `?sessionVariables=sql_mode=ANSI_QUOTES'` string as show below:

```
jdbc:mysql://hostname:portnumber/databasename?sessionVariables=sql_mode=ANSI_QUOTES
```

Group and Sum

This feature allows for quick summing in the results window. The concept is similar to the host and client report designers where you 'break' the data on a logical group (like state, customer type, or region-usually based on how you sort the data), perform an aggregate function on a specified field (like SUM on amount due), and display the result at the break level.

In the results display, subtotals can be displayed before and/or after a break level and a Grand total (on the selected field) can be displayed at the top and/or the bottom of the results window.

To access the feature, run any view and press the Subtotals button on the result display toolbar to access the Subtotals [properties dialog](#).

Explorer CUSTLIST.vptview

hs44 (steves): CUSTLIST.vptview "SQTEST version of Customer Inquiry"

Select Range Save Results Print Results Email Results Properties Create Chart Subtotals

Sales Region	Name	Address	Address	Address	State	Current Balance Due	Cust Type
Grand Total						327811.36	
10 Total						73177.02	
10	K. Redford's Inc.	318 Wall Road		Smithville	AZ	16135.65	DS
10	Sports Shop	8335 Ogden		Flagst	AZ	3025.14	RT
10	L.M. Corp.	85 N. Palm Street			CA	3000.00	CS
10	Maxwell House Repairs	4500 West Vine .			CA	3883.67	DS
10	Rudy's Corp.	5711 West Irving Park		rape	CA	366.09	MI
10	Walmart	Billing Office	50 south Chris Way	San Francisco	CA	26250.00	NA
10	MNB Corp.	150 N. Clark			NV	323.51	CS
10	Mister C's	3109 South Wallace			NV	7711.00	DS
10	Maple Leaf Cemetery	2329 West Belmont			OR	2016.96	DS
10	Silk and Gravy Gifts	3000 North Wallace		Portland	OR	10465.00	DS
10 Total						73177.02	
20 Total						60570.33	
20	Reay Corp	6322 N. Broadway	Toronto	Ontario,CAN...		1801.90	DS
20	Maple Syrup, Inc.	145 East Montgomery		Hartford	CT	4770.96	DS
20	Rider Corp.	4119 N. Lincoln		Boston	MA	9185.82	DS
50	Sports and More	1500 Thomas Street	P.O. Box 313	Russell	MT	2834.40	DS
50	TBA Corp.	1001 Alphanum Road		Kahoka	NM	1784.08	CS
50	Urus Corp.	7121 West Grand		Waterville	WY	9299.57	DS
50 Total						19612.77	
Grand Total						327811.36	

Refresh

Subtotals Dialog

Use the Subtotals dialog to show or hide grand totals, select the break field, and apply an aggregate function (SUM, Average, Count, MIN or MAX) to an available field. Also, you can select to display subtotals above and/or below the break group.

SUBTOTALS ✕

Show Grand Totals

Show subtotals at change in:

Sales Region ▼

<input type="checkbox"/> Field	Function
<input type="checkbox"/> Sales Region	Sum
<input type="checkbox"/> Name	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> State	Sum
<input checked="" type="checkbox"/> Current Balance Due	Sum
<input type="checkbox"/> Cust Type	Sum

Show totals: Above data
 Below data

Clear Subtotals
OK
Cancel

Screen Options

Show Grand Totals - Check to display grand totals for the select field(s).

Show Subtotals at Change in - Select to show Subtotals and use the drop-down to select 'when' to show the subtotal (the break level).

SUBTOTALS ✕

Show Grand Totals

Show subtotals at change in:

Sales Region ▼

(None)

Sales Region ☞

Name

Address

Address

Address

State

Current Balance Due

Cust Type

Cust type Sum

Show totals: Above data
 Below data

Clear Subtotals
OK
Cancel

Field and Functions - Select the field from the list and the Function (SUM, Average, Count, MIN and MAX) to apply using the drop-down list.

<input type="checkbox"/>	Address	Sum
<input type="checkbox"/>	State	Sum
<input checked="" type="checkbox"/>	Current Balance Due	Sum
<input type="checkbox"/>	Cust Type	Sum

Show totals: Above data
 Below data

Clear Subtotals
OK
Cancel

Show Totals: Above Data - Select to display subtotals above the break group. This also displays the Grand total at the top of the results if the Show Grand Totals option is selected.

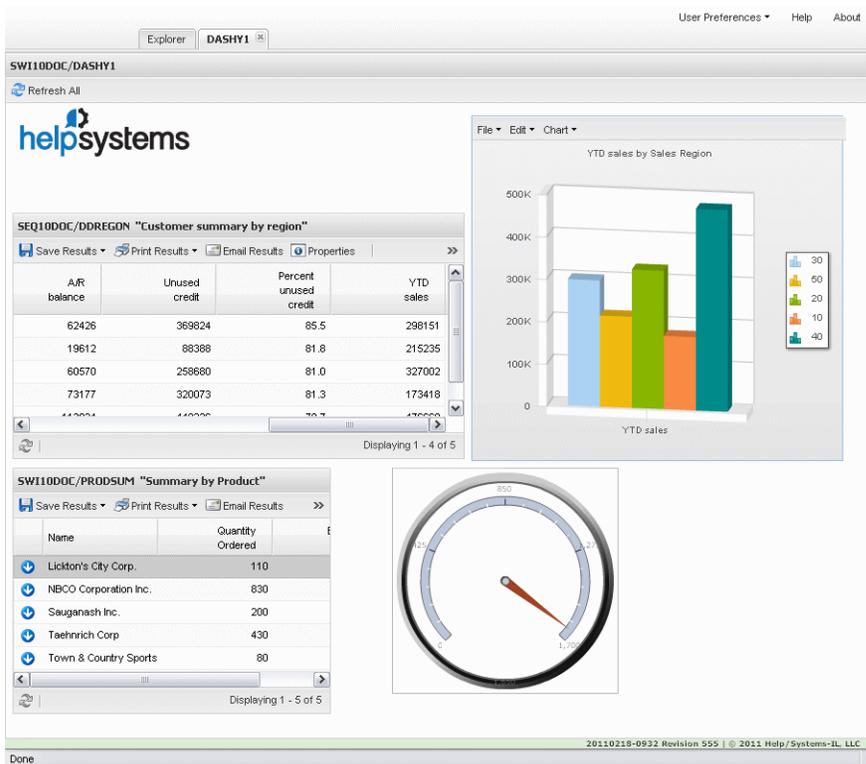
Below Data - Select to display subtotals below the break group. This also displays the Grand total at the bottom of the results if the Show Grand Totals option is selected.

Save with View Definition - This option is only available when displaying results from the view designer (open a view, display results, set subtotals, and save the view). Use this option to save any subtotal settings with the view definition.

Clear Subtotals - Press to remove all subtotal settings from the results display.

Dashboards

Dashboards can contain a collection of Viewpoint, Web, and Windows objects and act as a single point of access to common, or often-used inquiries, reports, charts, and more. Double click a dashboard (vptdash), or select Display Results from the [Actions menu](#) to open it in a separate SWI results tab. All the elements in the dashboard are 'turned on' and run.



All dashboard objects are supported in SWI, but some have minor limitations. Review the [Compatibility Chart](#) for more information.

Dashboard Web Compatibility

Dashboards can be displayed two ways: natively on your PC using Viewpoint (Explorer screen or Viewpoint shortcut), or using a web browser in conjunction with Sequel Software's Sequel Web Interface (SWI) product.

Dashboards must be saved as user space objects (USRSPC) to display them in SWI.

All dashboard objects are supported in SWI-some with limitations. Special consideration is required when designing dashboards for use in SWI.

Dashboard Object:	Support:
Views	
Tables	
Host Reports	
Client Reports (CRO)	
Client Tables	
Scripts	 <i>Via an Action Button.</i>
Drill-down Application	
Charts	
Excel Files	 <i>Only in IE.</i> <i>See note about file location.</i>
Graphics	 <i>See note about file location.</i>
Text	
Web Pages	

Windows Objects	 Not executables. See note about file location.
Action Buttons	 To launch views and tables, or to refresh and reprompt. (will not launch .exe files)
Gauges	

File Location

Files used in dashboards designed for web access (using SWI) must be stored on the IFS of the System i. This includes:

- Excel files
- Graphics .png, JPG)

When creating your dashboards for the web, copy these files to the IFS - **\\systemi\root\sequel\swi\dashboards** - and add them to your dashboard from this location.

Host Reports

Double-click a host report (vptreporth), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

6/06/19 7:23:18
CUSTLISTR

Sequel Software
Customer A/R Amounts

Customer #	Customer Name	State	Phone	Amount Due
100112	MNB Corp.	NV	823/640-1258	323.61
100200	NBCO Corporation Inc.	IL	312/457-1822	1129.67
100300	Obell Group Sales	NY	315/472-6442	543.21
100500	FCE Corp.	IA	319/753-0303	95.60
100600	UCE Corp.	IL	312/437-6112	1815.00
100800	State Corp.	IL	815/514-6252	808.80
101100	Que Company Inc.	LA	807/264-2463	1848.88
101200	Maple Leaf Cemetery	OR	503/248-0050	2016.96
101616	Sports Shop	AZ	520/442-5200	3025.14
102000	Optimum Corp	FL	407/525-9660	20.10
102100	Lim-Equipment Co.	ID	208/299-2960	3587.62
102311	Lawrence Design	TX	817/654-3221	8019.24
102600	Reay Corp		101/743-4446	1801.90
102800	Rider Corp.	MA	617/549-1240	9185.82
102900	Taehnrich Corp	IL	312/366-3231	9748.62
103100	Urus Corp.	WY	307/622-2914	9299.57
103506	Kegewisch Corp.	GA	912/646-2584	5892.87
103800	Kelly's Corp.	NY	718/523-8554	3832.22
104000	V&B Sporting Goods	MT	406/472-2138	80.40
104100	Lickton's City Corp.	IL	312/383-2130	341.12
104400	Mister C's	NV	702/225-2556	7711.00
105300	Quick Corp.	CO	980/871-3110	2026.70
105400	Rudy's Corp.	CA	805/736-4395	366.09
105500	Sauganash Inc.	IL	312/685-3236	8205.28
105700	Town & Country Sports	IL	312/375-2818	1089.83
108300	Toys R'Us	TX	512/641-5900	10916.80
109600	K. Redford's Inc.	AZ	832/118-0900	16135.65
111333	TBA Corp.	NM	505/456-8574	1784.08
111444	LBC Supplies	KY	205/487-5325	4854.14
123321	Penn Sports	MN	612/831-6900	16227.46
123456	Xoba Inc.	TX	800/555-1212	467.94

Use the buttons along the top of the result page to direct results to the following output formats:

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Client Reports

Double-click a client report (vptreport), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

2/11/2011 2:18:47PM Order Acknowledgements

Customer MNB Corp.
150 N. Clark
100112
Las Vegas NV 54511-4411 **Phone** 823/640-1258

Order 110010 **Date** 4/8/1999 **Cust. P.O.** S-T5-506 **Ship Via** OVERTON **Terms** N1 2% 10 NET 30

Line	Product	Quantity Ordered	List Price	Selling Price	Extended Amount	Unit Weight	Extended Weight
1	BMX BMX Model 1833-F/O	30	110.600	110.600	\$3,317.97	23.250	697.50
2	BMX100 BMX Formula 3 Power	30	85.000	84.000	\$2,520.00	27.000	810.00
3	BMX101 BMX Formula 3 Delux	30	99.000	99.000	\$2,970.00	30.000	900.00
4	BMX400 BMX Tandem Cycle	15	200.000	200.000	\$3,000.00	45.000	675.00
5	BMX800 BMX Silver Plated E	5	1000.000	1000.000	\$5,000.00	37.000	185.00

20110210-1553 Revision 531

Use the buttons along the top of the result page to direct report results to the following output formats:

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Client Tables

Double-click a client table (vpttablec), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

Once a Client Table is displayed, users can perform as much interactive analysis as they need locally including [data filtering](#), [drill-down](#), [data pivoting](#), print/preview, and graphing.

hs44 (steves): STATETOT.VPPTABLEC "CTO STATETOT built over CUSTLIST"

Export to XLS | Export to HTML | Save to Repository File | Print | Email Results | Properties | Create Chart | Actions

Address - | Address - | Address - | State - | Name -

Available Fields

Rows	Columns					
Sales Region -	Cust Type -					
	All Cust Type	CS	DS	MI	MM	NA
	Current Balance Due					
All Sales Region	327811.36	52093.59	180098.86	23356.89	467.94	60100.00
10	73177.02	3323.51	40212.28	366.09		26250.00
20	60570.33	10418.44	15758.68	543.21		33850.00
30	62426.63	16436.18	24237.47	15485.80	467.94	
40	112024.61	20131.38	84088.44	4935.09		
50	19612.77	1784.08	15801.99	2026.70		

The Client Table is very similar to its Viewpoint counterpart. In the example above, you can see how Row fields create groups on the left-side of the display, Column fields spread the data across the screen, and Data Fields show the aggregate value (sum, max, min, and so on).

Available fields from the view are displayed above the table and can be dragged to the column or row sections to change the level of grouping. See the sections that follow to learn more about these features.

Filter Results

Filtering is easily applied to the Row and Column groups as well as the View fields in the table results display. Simply click the down arrow for any field, and select or de-select the desired values. The table will instantly change to show the new filtered results.

At the bottom of each drop-down filter list is a row of functions.

Address - | Address - | Address - | State - | Name -

Available Fields

Rows	Columns					
Sales Region -	Cust Type -					
	All Cust Type	CS	DS	MI	MM	NA
	Current Balance Due					
All Sales Region	327811.36	52093.59	180098.86	23356.89	467.94	60100.00
10	73177.02	3323.51	40212.28	366.09		26250.00
20	60570.33	10418.44	15758.68	543.21		33850.00
30	62426.63	16436.18	24237.47	15485.80	467.94	
40	112024.61	20131.38	84088.44	4935.09		
50	19612.77	1784.08	15801.99	2026.70		

Filter dropdown for CS: +, -, *, x

Select the appropriate function to (from left to right):

- Check all
- Check none
- Toggle checked items
- OK
- Cancel

Row Fields

Filter any of the Row fields to control the table groups. Click the arrow next to the field name to access the list of values.

The screenshot shows a software interface with a table. At the top, there are five filter buttons: 'Address', 'Address', 'Address', 'State', and 'Name'. Below these is a 'Rows' section with a 'Sales Region' dropdown menu. The dropdown menu is open, showing a list of values: 10 (checked), 20 (unchecked, highlighted by a hand cursor), 30 (checked), 40 (checked), and 50 (checked). Below the list are five buttons: '+', '-', '*', '✓', and '✗'. The table below has columns for 'Sales Region', 'Cust Type', 'Current Balance Due', and 'Current Balance'. The table data is as follows:

Sales Region	Cust Type	Current Balance Due	Current Balance
10	CS	7811.36	52093.59
20	CS	3177.02	3323.51
30	CS	10570.33	10418.44
40	CS	2426.63	16436.18
40	CS	112024.61	20131.38
50	CS	19612.77	1784.08

Column Fields

Filter any of the current Column fields to control the number of columns across the display.

Rows	Columns	Balance Due	Current Balance
Sales Region	Cust Type		DS
All Sales Region		52093.59	1800
10		3323.51	402
20		10418.44	153
30		16436.18	242
40		20131.38	840
50		19612.77	1784.08

View Fields

Even View fields that are not in the Row or Column sections, can be used to filter the data that is displayed in the table.

Rows	Columns	Current Balance D
Sales Region	Cust Type	
All Sales Region		32781
10		7317
20		6057
30		6242
40		11202
50		19612

Data Pivots

One of the most powerful features of the Client Table is the ability to 'pivot' the displayed data. By moving the Row and Column fields, or swapping Row with Column fields, and vice versa, the data can be analyzed and displayed in a multitude of ways.

This, in conjunction with the ability to add and remove Row and Column fields, allows the table to be completely and instantly reconfigured - from high-level summary down to the most detail data point.

Simply click and drag any field from the View, Row, or Column sections, and drop anywhere. A green insertion bar will indicate where the field will be placed. Some examples follow:

Row to Column

In the example below, the State field is moved to the Column section next to the Cust Type field. Notice the green insertion point.

The screenshot shows a data table interface with a 'Rows' section on the left and a 'Columns' section on the right. The 'Rows' section contains 'Sales Region' and 'State'. The 'Columns' section contains 'Cust Type' and 'State'. A mouse cursor is dragging the 'State' field from the 'Rows' section to the 'Columns' section, positioned next to 'Cust Type'. A green bar indicates the insertion point. Below the interface, a table displays data for 'All Sales Region' and 'All State'.

		Current Balance Due	Current Balance
☑ All Sales Region	☑ All State	327811.36	CS
10	☑ All State	79177.62	
20	☑ All State	60576.33	
30	☑ All State	62426.42	
40	☑ All State	112024.61	
50	☑ All State	19612.77	

When the field is dropped in place, the data is instantly rearranged and we see states within customer type.

Rows		Columns			
Sales Region ▾		Cust Type ▾		State ▾	
		DS			
		ID	IL	LA	
		Current Balance Due	Current Balance Due	Current Balance Due	C
☑ All Sales Region	7	3587.62	77702.80	13788.70	
10					
20					
30	7			13788.70	
40			77702.80		
50		3587.62			

Column to Row

Here the State is moved back to the Row section next to the Sales Region field. Again, the green insertion bar indicates the placement of the field.

Rows		Columns			
Sales Region ▾		Cust Type ▾		State ▾	
		DS			
		ID	IL	LA	
		Current Balance Due	Current Balance Due	Current Balance Due	C
☑ All Sales Region	7	3587.62	77702.80	13788.70	
10					
20					
30	7			13788.70	
40			77702.80		
50		3587.62			

Now we see again states within sales region.

Rows		Columns		
Sales Region	State	Cust Type		
		All Cust Type	CS	DS
		Current Balance Due	Current Balance Due	Current Balance Due
10	All State	73177.02	3323.51	
	AZ	19160.79		
	CA	33499.76	3000.00	
	NV	8034.51	323.51	
	OR	12481.96		
20	All State	60570.33	10418.44	

Add or Remove Row and Column Groups

Another useful way to change and analyze the table data is by adding or removing fields in the display.

To add a field, click and drag a View field (in the Available Fields section) to place it in either the Row or Column section. A green insertion bar will indicate where the field will be placed.

To remove, click and drag a Row or Column field to drop it onto the Available Fields section.

Drill to Detail Data

Most table results are displayed as summary data-many detail records added up and grouped together based on Row and Column fields. The underlying records that support the summary values can easily be displayed ('drilled into') in a separate result window.

Simply choose the summary value at the intersection of a given Row and Column and double click, or right-click and select Show Detail on the menu. A separate view result window will display the underlying detail data.

In the example below, the detail for all customers outstanding balance due in region 10 of California with customer type DS, is displayed by double clicking on the

summary value at the intersection of the column and row-in this case \$3,883.67. A second window opens to show the five detail records that support this summary amount.

Rows	Columns					
Sales Region	Cust Type					
	All Cust Type	CS	DS	MI	MM	NA
	Current Balance Due					
All Sales Region	327811.36	52093.59	180098.86	23356.89	467.94	60100.00
10	73177.02	3323.51	40212.28	366.09		26250.00
20	60570.33	10418.44	15758.68	543.21		33850.00
30						
40						
50						

Sales Region	Name	Address	State	Current Balance Due	Cust Type
10	K. Redford's Inc.	Smithville	AZ	16135.65	DS
10	Maxwell House Rep...	Orlando	CA	3883.67	DS
10	Mister C's	Carson City	NV	7711.00	DS
10	Maple Leaf Cemetery	Eugene	OR	2016.96	DS
10	Silk and Gravy Gifts	Portland	OR	10465.00	DS

Show and Hide Detail Levels

By default all client tables are displayed fully collapsed based on their column and row definition. The different levels for both rows and columns can easily be expanded or collapsed to show more or less data using the plus control displayed to the left of the row or column field,

Rows	Columns	
Sales Region	Cust Type	
	All Cust Type	
	Current Balance Due	
+ All Sales Region	327811.36	

or by right-clicking grey area just above the row fields, or to the right of the column fields to access a menu of options like so:

Address		Address		Address		Name		State	
Rows				Columns					
Sales Region				Cust Type					
				All Cust Type					
				Current Balance Due					
All Sales Region				327811.36					

- Expand All
- Collapse All
- Expand All Rows
- Expand All Columns

Here we chose to expand all rows.

Address		Address		Address		Name		State	
Rows				Columns					
Sales Region				Cust Type					
				All Cust Type					
				Current Balance Due					
All Sales Region				327811.36					
10				73177.02					
20				60570.33					
30				62426.63					
40				112024.61					
50				19612.77					

Use the buttons along the top of the result page to direct report results to the following output formats:

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Scripts

Viewpoint Scripts are used to combine multiple steps or processes together in a simple-to-execute 'program'. Many times, data needs to be massaged, or work files must be built before achieving a final result. With Viewpoint Scripts you avoid the technical requirements of writing CL programs.

In SWI, scripts are simply launched. Either double-click a script (SQLSCRIPT), or select Run Script from the [Actions menu](#). Scripts designed to display views, tables, or reports will open these results in a separate SWI results tab. Otherwise, a blank tab will open displaying just the name of the script.

Script Views

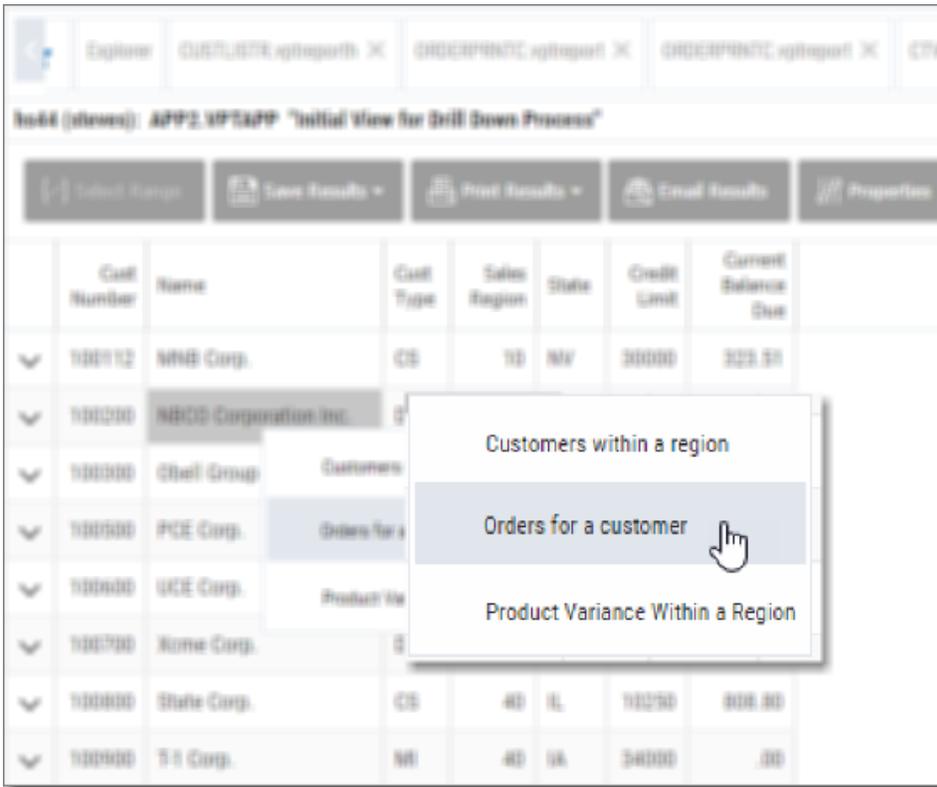
A script view is processed and displayed just like a standard view. See the [View section](#) above to review how to display and work with script view results.

Drill-Down Applications

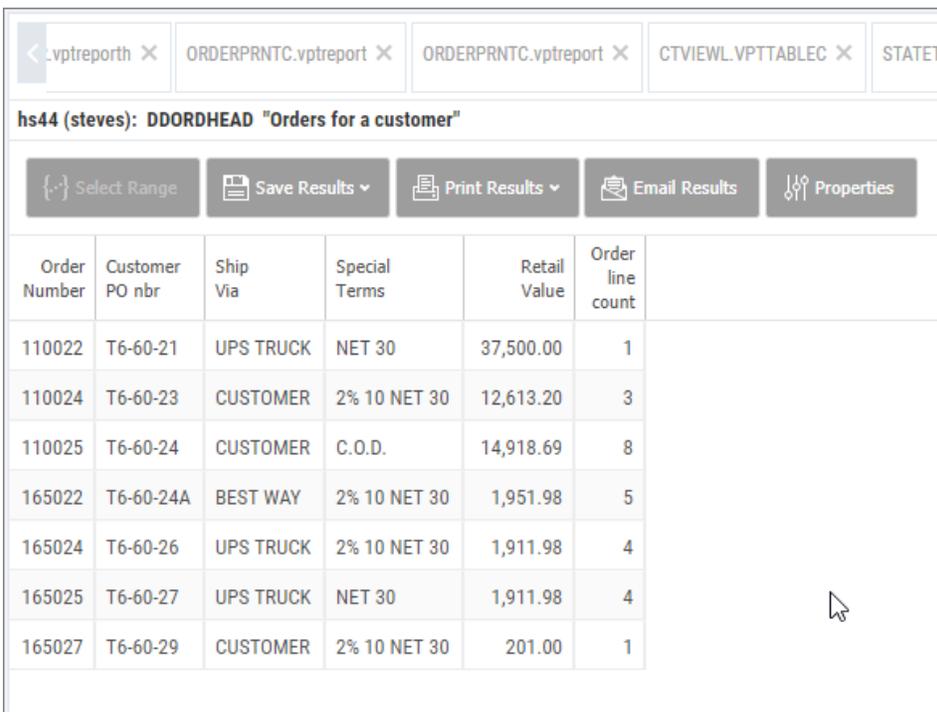
A Viewpoint Drill Down Application is a collection of views and/or tabling views along with an option file stored as single Viewpoint object on the System i.

Unlike [Dynamic Drill-Down and Regrouping views](#), Drill Down Applications can start with summary or detail views, they can link to many different types of objects (Reports, Scripts, views, Windows objects, and more), and can be linked together with pre-defined options.

Like other Viewpoint objects in SWI, double click the application (vptapp), or select **Display Results** from the [Actions menu](#). The object designed as the starting object for the application (usually a view) will open in a separate SWI results tab.



Right-click any row, as shown above, and select a drill down option to display new results in a separate tabbed window.



Use the buttons along the top of the result columns to direct results to the following output formats:

[Download to PC](#)

[Create a Physical file on the System i](#)

[Create an IFS Document on the System](#)

[Create a Remote Database Table](#)

[Print Locally](#)

[Submit to a System i output queue](#)

[Email as an attachment](#)

[Graph Results](#)

[Group and Sum](#)

NOTE:

Drill Down Application implied links are not supported in SWI. You can convert your implied links to explicit links in the Application Designer by right-clicking each object and selecting Create Option. For more information on Drill Down Application link types, refer to the ViewPoint User Guide.

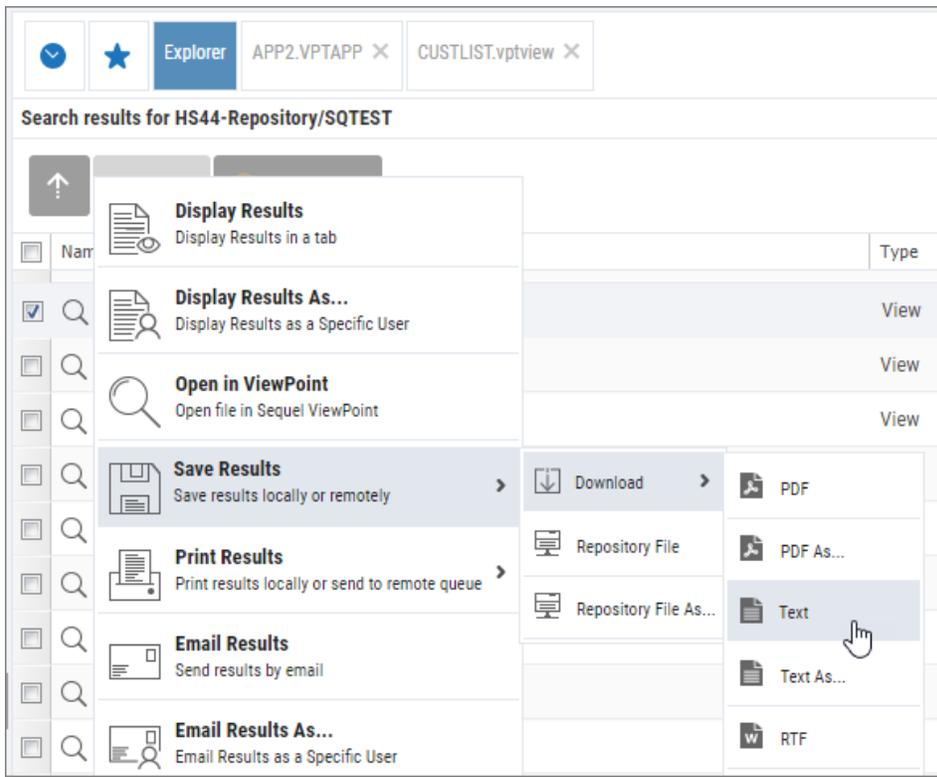
Create Local Results

Next to displaying results in SWI, downloading data is almost as important. Viewpoint views, tables and reports are all able to generate PC file results that can be saved locally in many popular formats.

Views and Tabling Views

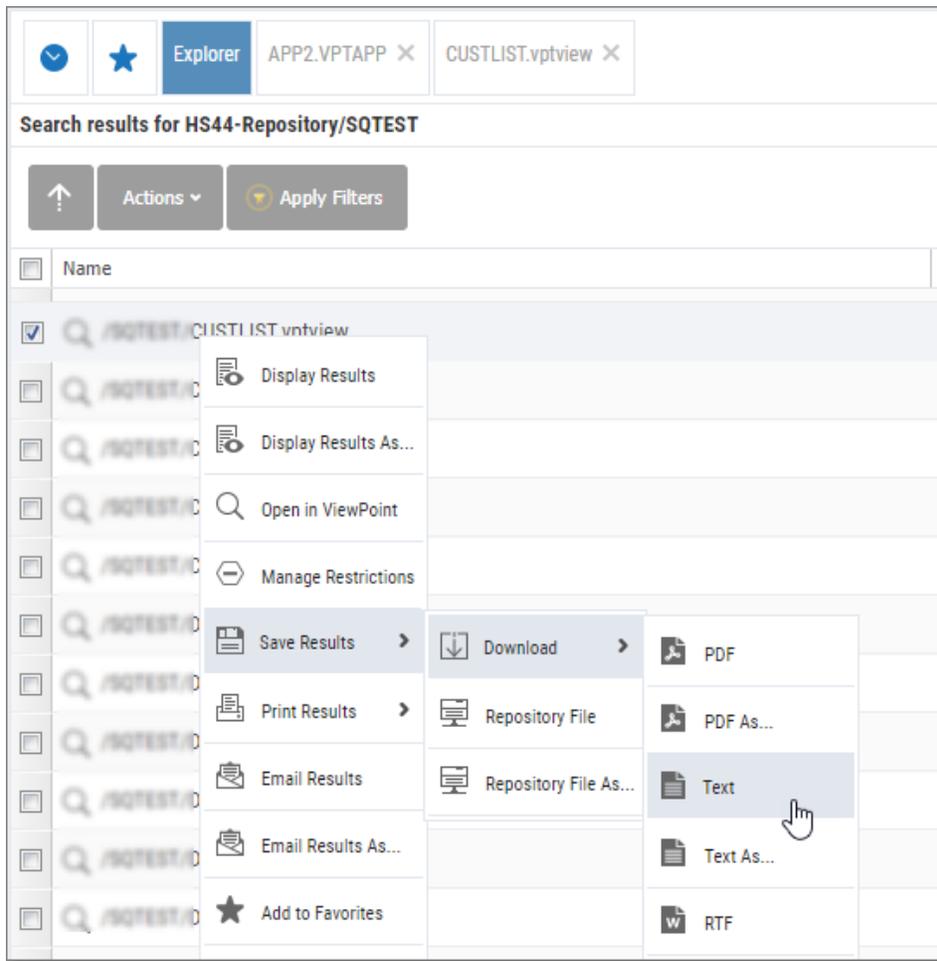
You can download view and tabling view results in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Save Results\Download\Type,**



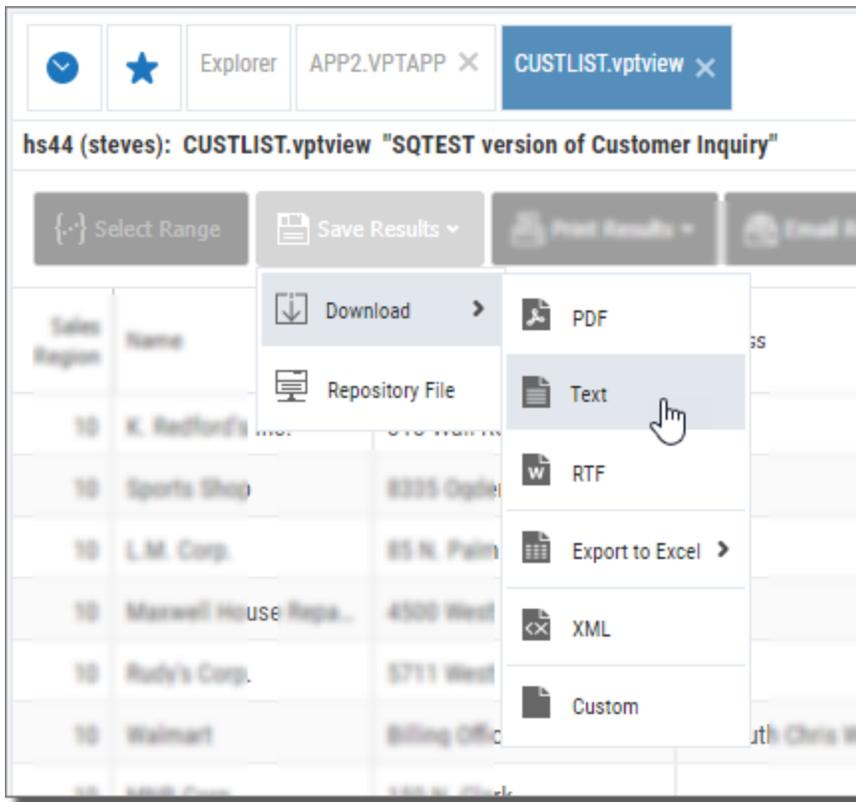
Actions Button

or, right-click a view or tabling view and select **Save Results\Download\Type**.



Actions Drop-down Menu

You can also press **Save Results\Download\Type** in the [results display](#) for views, and tables.



Results Display

All of these options will show a saved object at the bottom of the browser display and place the file in your default downloads folder.

Host Reports

You can download host report results in two PC formats: Text (.txt), Adobe PDF (.pdf) and HTML.

From the Explorer object list press the Actions button, or right-click a host report and select **Save Results\Download\Type**. You can also press **Save Results\Download\Type** in the [results display](#) for a host report.

All of these options will show a saved object at the bottom of the browser display and place the file in your default downloads folder.

NOTE:

When using the **Save Results\Download\Export to HTML** option, a new tab opens with the report as HTML. Use the browser's option to view the html source. This can then be copied and saved. You can also use the Email Results option to send the attached html file.

Client Reports

You can download client report results in five PC formats: Adobe PDF, MSWORD, RTF, Excel, and HTML..

From the Explorer object list press the Actions button, or right-click a host report and select **Save Results\Download\Type**. You can also press **Save Results\Download\Type** in the [results display](#) for a client report.

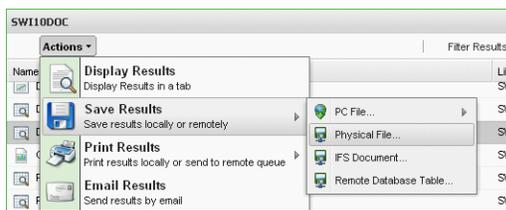
All of these options will show a saved object at the bottom of the browser display and place the file in your default downloads folder.

Create System i Physical File

Occasionally you may have the need to create work files from your views. With SWI you can save the results of views and tabling views as a physical file on the System i.

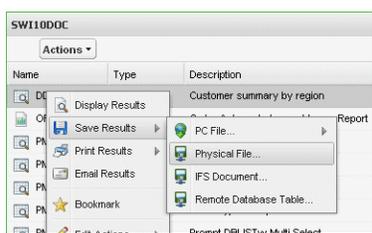
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Save Results\Physical File**,



Actions Button

or right-click a view or tabling view and select **Save Results\Physical File**.



Actions Drop-down Menu

You can also press **Save Results\Physical File** in the results display for views or tables.

	Client count	Open order value	Credit limit
	16	82099	39325
	11	77454	31925
	30	115185	43225
	40	183395	55225

Results Display

All of these options display the Create Physical File Results screen. At a minimum, give the file a name and specify the library to save the file into. Press **OK** to create the file.

Physical file

File name: DDREGON

Library: QTEMP

Member: *FIRST

Number of records: *ALL

Text:

Browse

OK

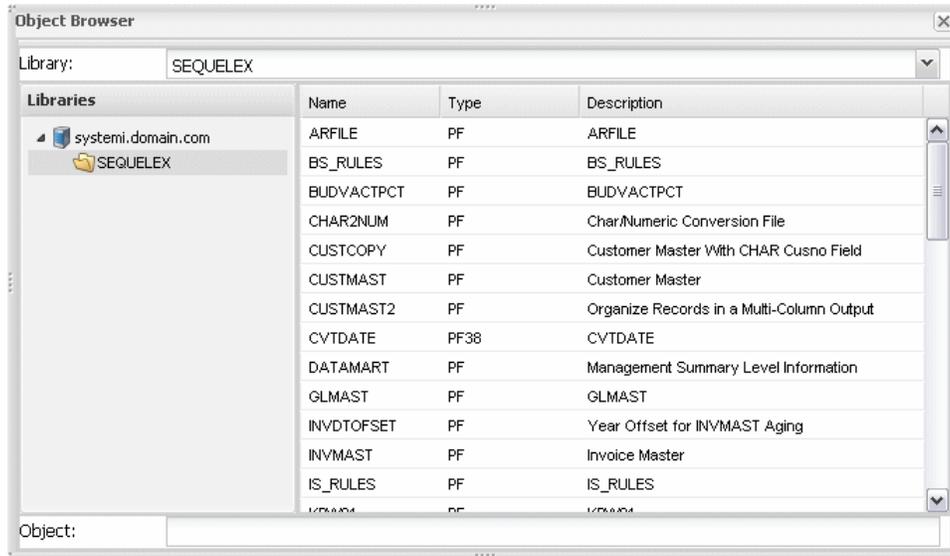
Options

File Name - Specify a name for the file (up to 10 characters). The starting view or table name is used by default.

Library - Choose a library for the new file. QTEMP is the default.

Member - Specify a member name or leave the default value.

Browse - Open the Browse Dialog and navigate to a location for the file or replace an existing file.



Number of Records - Choose the number of records to place into the new file. All records (*ALL) is the default.

Text - Enter text (optional) to describe the file.

OK - Press OK to create the file.

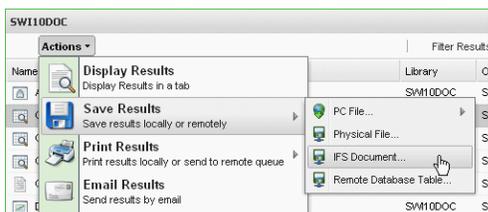
Create System i IFS Document

An IFS document is a PC file that is saved on the System i. This allows the file to be shared by anyone who has access to the IFS location containing the file.

Views and Tabling Views

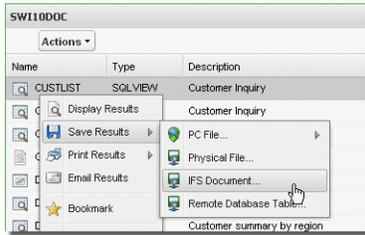
View and tabling views results can be saved in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Save Results\IFS Document**,



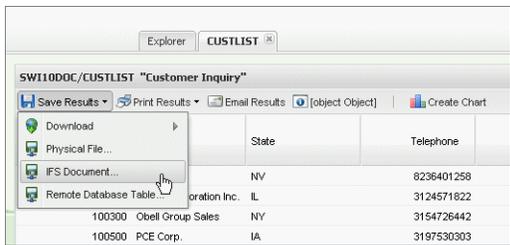
Actions Button

or right-click a view or tabling views and select **Save Results\IFS Document**.



Actions Drop-down Menu

You can also press **Save Results\IFS Document** in the results display for views, and tables.



Results Display

All of these options display the Create IFS Results screen. Give the file a name and press **OK** to create the file.



Options

File Name - Specify a name for the new file.

Format - Select a format using the drop-down list.

OK - Press OK to create the file.

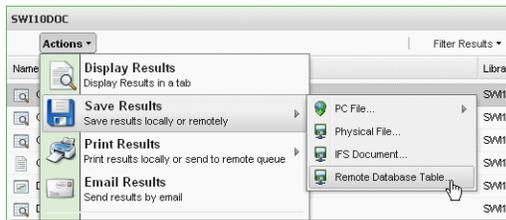
Browse - Press Browse to navigate to the location for the file.

Create Remote Database Table

Similar to creating physical files locally on the System i, you can create work files (tables) on defined and available remote database servers.

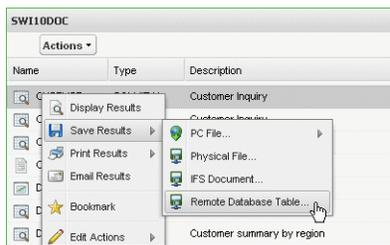
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Save Results\Remote Database Table**,



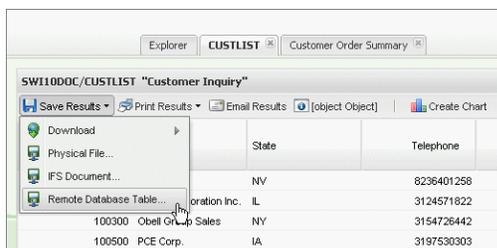
Actions Button

or right-click a view or tabling view and select **Save Results\Remote Database Table**.



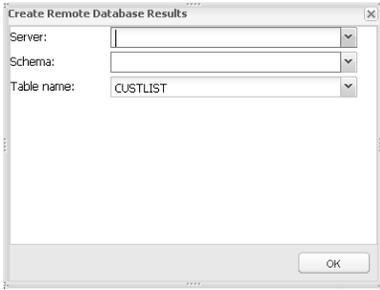
Actions Drop-down Menu

You can also press **Save Results\Remote Database Table** in the [results display](#) for views or tables).



Results Display

All of these options display the Create Remote Database Results screen. Choose a server, a schema, and give the file a name. Press **OK** to create the file.



Options

Server - Use the drop-down menu to choose a remote database server.

Schema - Use the drop-down list to select a schema to save the new table.

Table Name - Give the new table a name. The default is based on the starting view or table name.

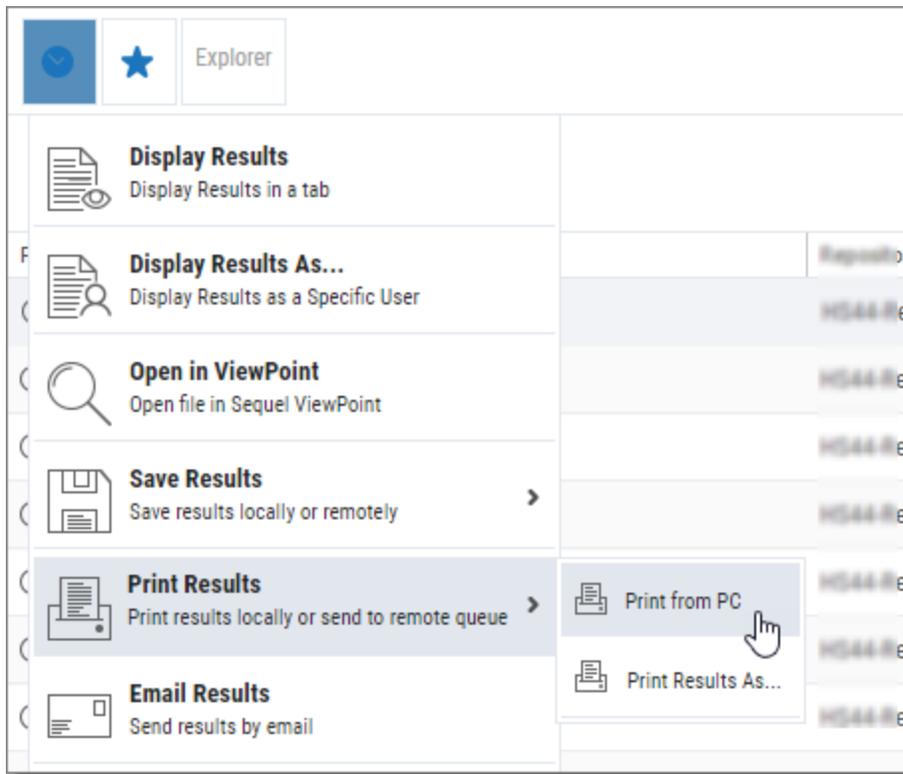
OK - Press OK to create the table.

Print Results Locally

Views, tabling views and reports can all be printed to your local PC Printer. In addition, host reports can be submitted to an output queue on the System i.

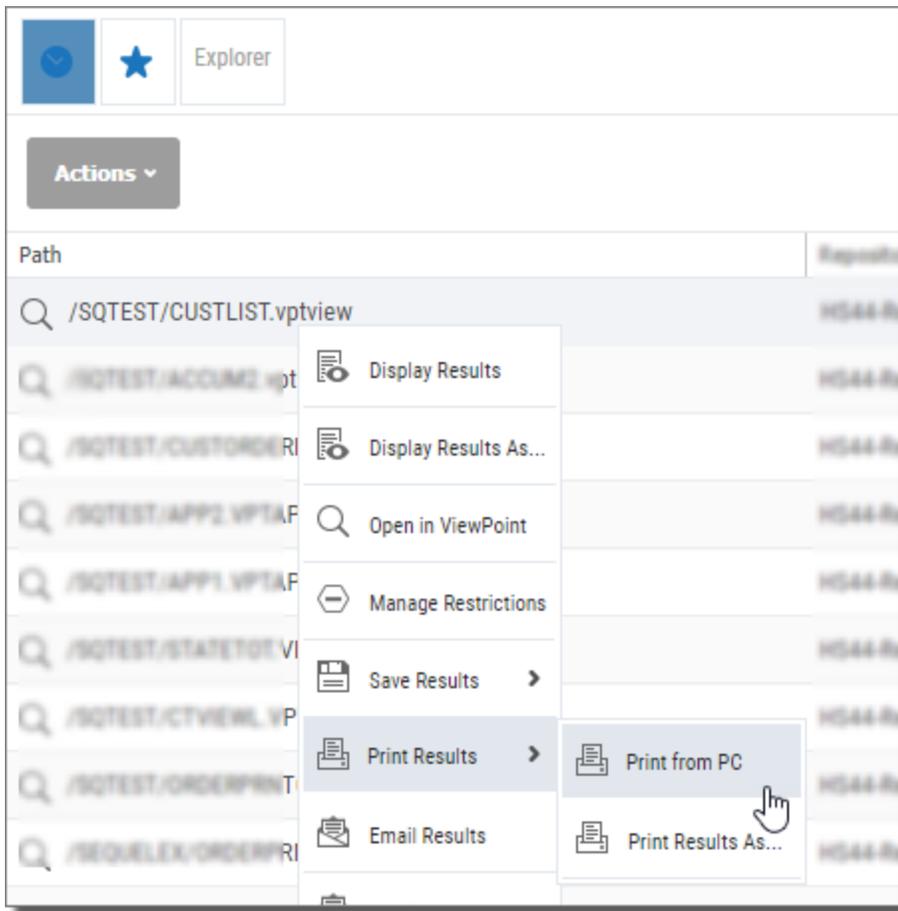
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Print Results\Print from PC**,



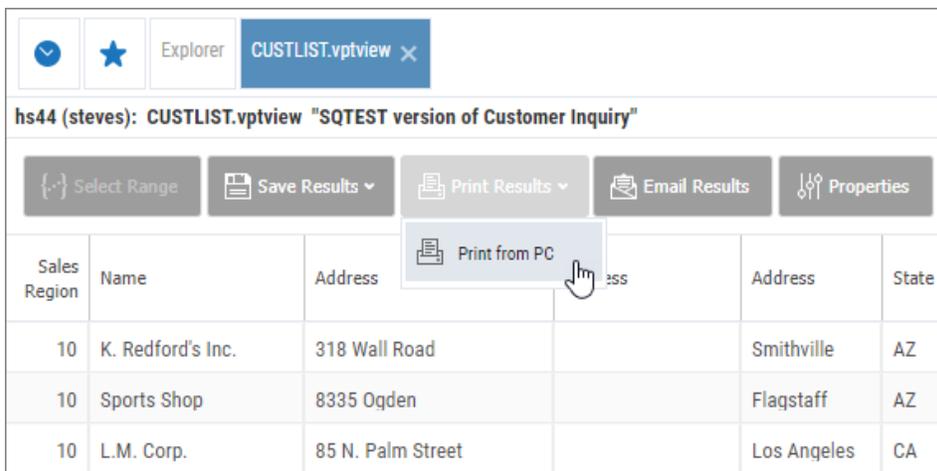
Actions Button

or right-click a view or tabling views and select **Print Results\Print from PC**.



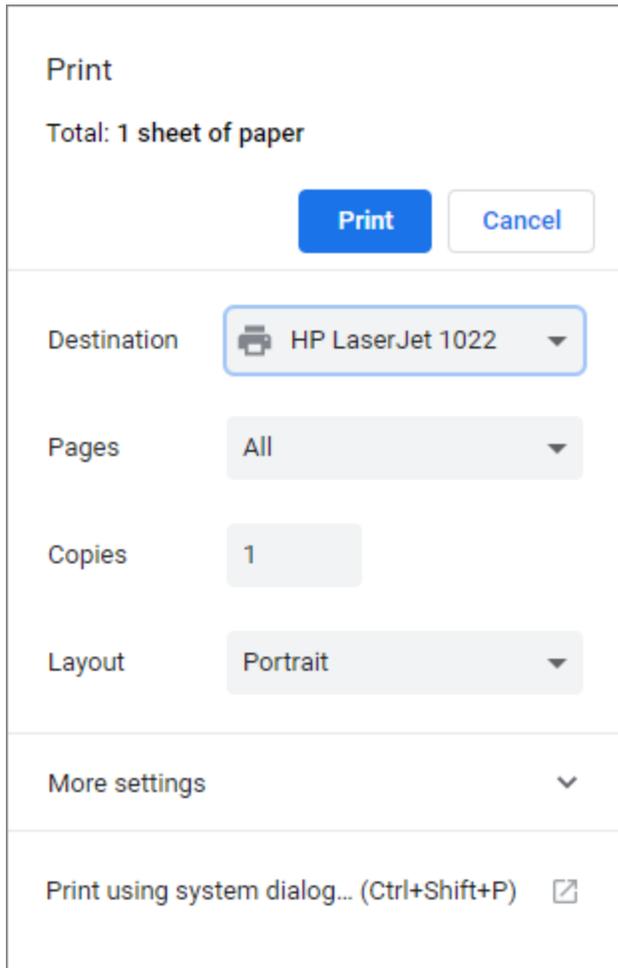
Actions Drop-down Menu

You can also press **Print Results\Print from PC** in the [results display](#) for views or tables.



Results Display

All of these options display your browser's print screen. Select your printer or destination.



The image shows a Chrome Print Dialog box. At the top, it says "Print" and "Total: 1 sheet of paper". Below this are two buttons: "Print" (blue) and "Cancel" (white). The dialog is divided into sections. The first section is "Destination" with a dropdown menu showing "HP LaserJet 1022". The second section is "Pages" with a dropdown menu showing "All". The third section is "Copies" with a text input field showing "1". The fourth section is "Layout" with a dropdown menu showing "Portrait". Below these sections is a "More settings" link with a downward arrow. At the bottom, there is a link "Print using system dialog... (Ctrl+Shift+P)" with an external link icon.

Chrome Print Dialog

Host Reports

You can print host reports on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a host report and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a host report.

All of these options display your browser's print screen. Select your printer or destination.

Client Reports

You can print client reports on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a client report and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a client report.

All of these options display your browser's print screen. Select your printer or destination.

Client Tables

You can print a client table on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a client table and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a client table.

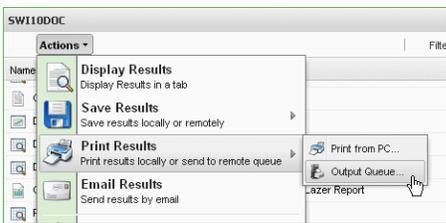
All of these options display your browser's print screen. Select your printer or destination.

Submit to Output Queue

In addition to printing to a local PC, views, tabling views, and host reports can be sent to print on the System i.

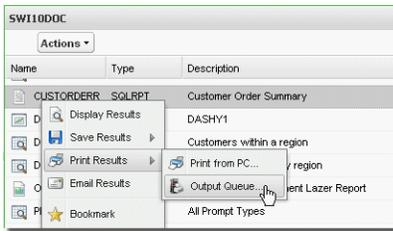
Views, Tabling Views, Host Reports

From the Explorer object list press the [Actions button](#) and select **Print Results\Output Queue**,



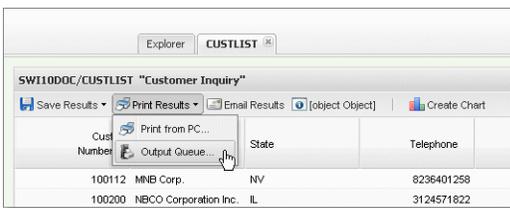
Actions Button

or right-click and select **Print Results\Output Queue**.



Actions Drop-down Menu

You can also press **Print Results\Output Queue** in the [results display](#) for views and tabling view, or host reports.



Results Display

All of these options will submit the request to the SWI job's output queue as defined in the product defaults (SWISETDFT). See the Setup and Configuration section in the [Sequel Web Interface Administrator Guide](#) for more on product defaults.

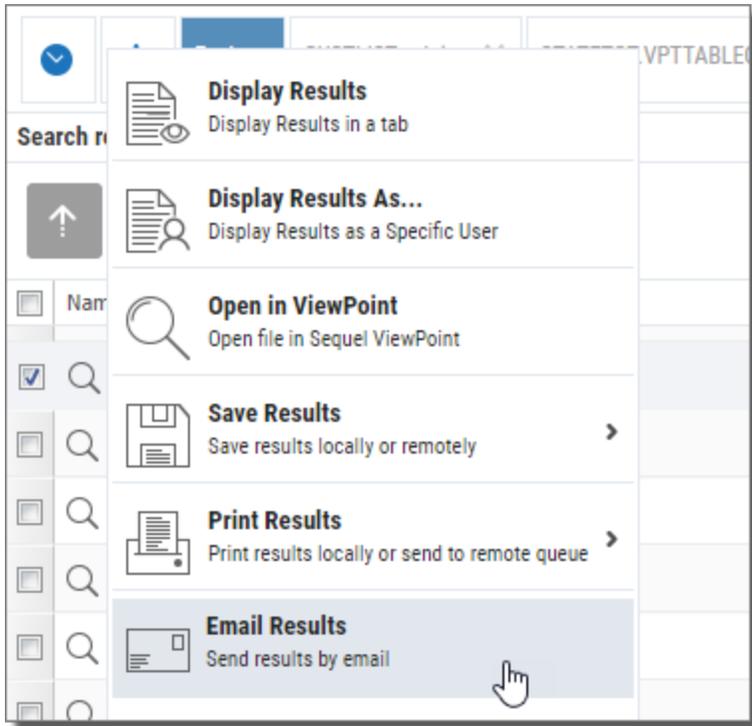
Email Results

Email is another great way to share Viewpoint results with others. Using SWI, view, table, and report results can be sent as an e-mail attachment in many popular PC formats.

Views, Tabling Views, and Script Views

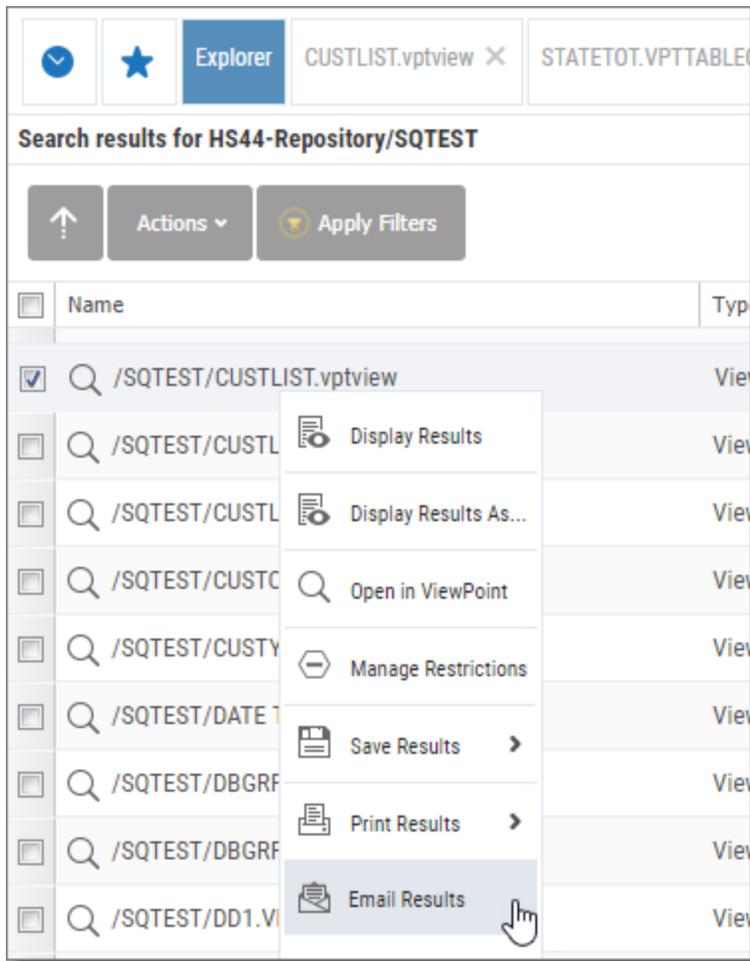
You can create an e-mail attachment with view and tabling results in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Email Results**,



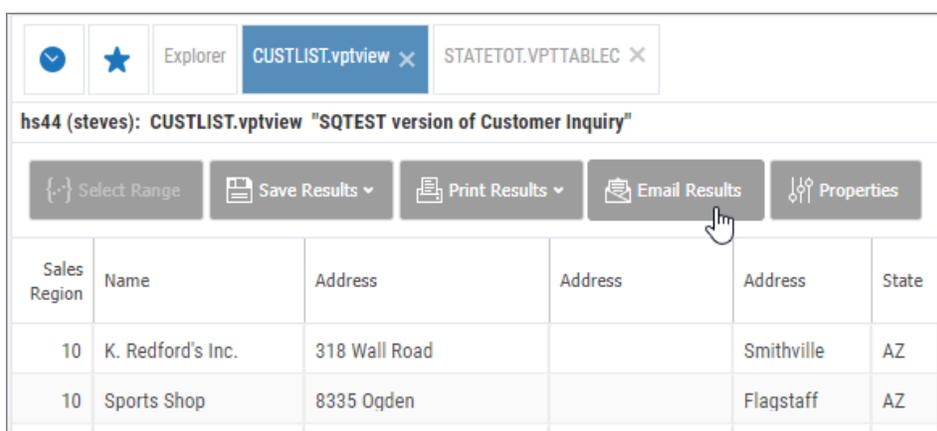
Actions Button

or right-click a view or table and select **Email Results**.



Actions Drop-down Menu

You can also press Email Results in the [results display](#) for views, and tables.



Results Display

All of these options display the Email Results screen.

EMAIL RESULTS [X]

Email Address:* **dev** [v]

Subject: **SWI Results**

Format:* **PDF** [v]

Message: **Here is the file you requested.**

OK

Options

Email Address - Enter the recipient's e-mail address. You can also use the drop-down to select a recipient from the ESEND address book.

EMAIL RESULTS [X]

Email Address:* **dev** [v]

Subject:

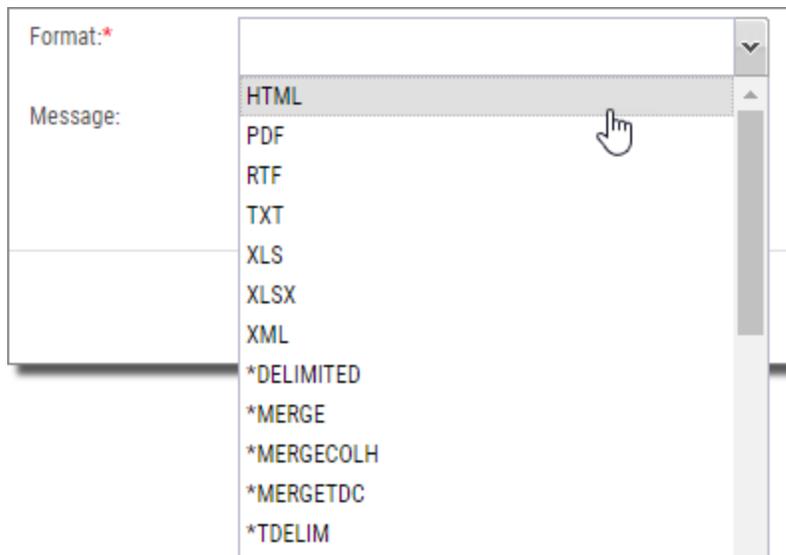
Format:*

Message:

- Brandy
- Dan
- Dan personal
- DCOOK
- Larry**
- LarryLst
- MARKA
- mikes
- Randy
- rig
- Robert
- RobertH

Subject - Enter text for the email subject.

Format - Use the drop-down list to select a PC format.



Message - Enter text to appear in the body of the e-mail.

OK - Press OK to send the file.

Host Reports

You can create e-mail attachments with host report results in three PC formats: Text (.txt), Hypertext (.html), and Adobe PDF (.pdf).

From the Explorer object list press the Actions button, or right-click a host report and select **Email Results**. You can also press **Email Results** in the [results display](#) for a host report.

All of these options display the Email Results screen with options similar to [view objects](#).

Client Reports

You can create e-mail attachments with client report results as MSWORD, Adobe PDF, RTF and Excel.

From the Explorer object list press the Actions button, or right-click a client report and select **Email Results**. You can also press **Email Results** in the [results display](#) for a client report.

All of these options display the Email Results screen with options similar to [view objects](#).

Client Tables

You can create e-mail attachments with client table results as Hypertext Markup (.htm).

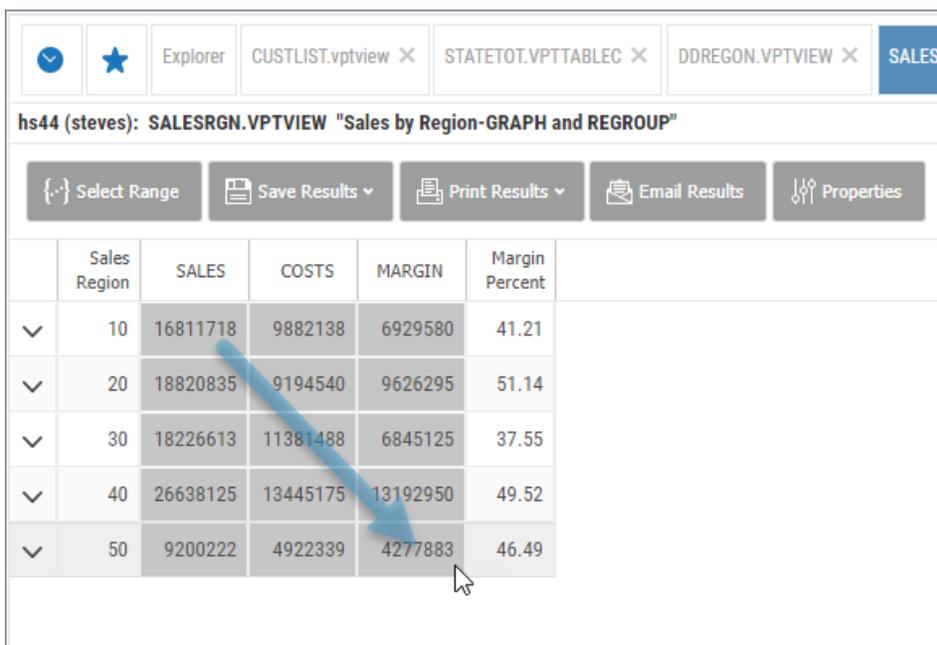
From the Explorer object list press the Actions button, or right-click a client table and select **Email Results**. You can also press **Email Results** in the [results display](#) for a client table.

All of these options display the Email Results screen with options similar to [view objects](#).

Graph View and Table Results

Once displayed, view and tabling view results are very simple to graph.

First, click and drag to highlight the data you want to graph.



	Sales Region	SALES	COSTS	MARGIN	Margin Percent
✓	10	16811718	9882138	6929580	41.21
✓	20	18820835	9194540	9626295	51.14
✓	30	18226613	11381488	6845125	37.55
✓	40	26638125	13445175	13192950	49.52
✓	50	9200222	4922339	4277883	46.49

Alternate Method for Mobile

Click any cell. Notice the **Select Range**  button is highlighted.

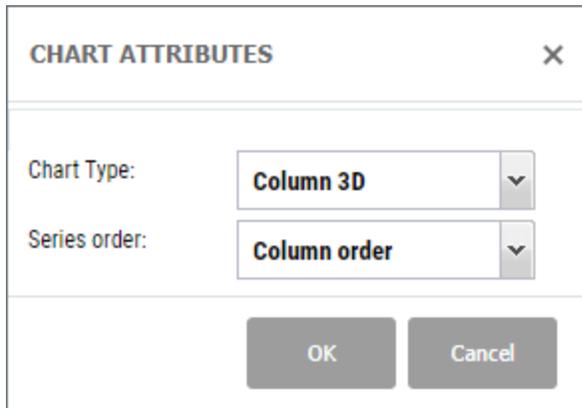
	Sales Region	SALES	COSTS	MARGIN	Margin Percent
∨	10	16811718	9882138	6929580	41.21
∨	20	18820835	9194540	9626295	51.14
∨	30	18226613	11381488	6845125	37.55
∨	40	26638125	13445175	13192950	49.52
∨	50	9200222	4922339	4277883	46.49

Press the **Select Range** button, and then click another cell to complete the range.

	Sales Region	SALES	COSTS	MARGIN	Margin Percent
∨	10	16811718	9882138	6929580	41.21
∨	20	18820835	9194540	9626295	51.14
∨	30	18226613	11381488	6845125	37.55
∨	40	26638125	13445175	13192950	49.52
∨	50	9200222	4922339	4277883	46.49

Then, press the **Create Chart**  button in the results display.

Using the Chart Attributes screen select a chart type and series order.



The image shows a dialog box titled "CHART ATTRIBUTES" with a close button (X) in the top right corner. Inside the dialog, there are two dropdown menus. The first is labeled "Chart Type:" and is set to "Column 3D". The second is labeled "Series order:" and is set to "Column order". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Options

Chart Type - Select one of ten [chart types](#) from the drop-down list.

Series Order - The option to choose row or column order is only available if multiple columns are selected. If only one column of data is selected, the chart defaults to Row order.

OK - Press OK to create the chart.

Cancel - Press to cancel the operation.

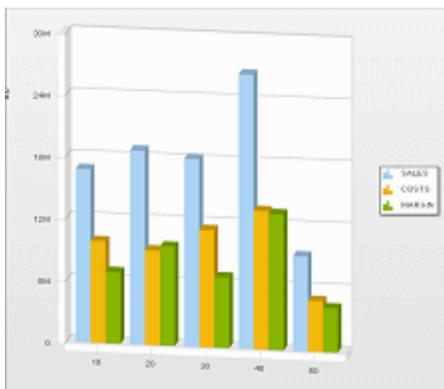
The graph opens in a separate tab with a name based on the starting view or table. Along with the graph, there is a menu of functions and options that allow you to copy, save, and print the chart as well as alter the series order and the chart type-switch from bar to pie.



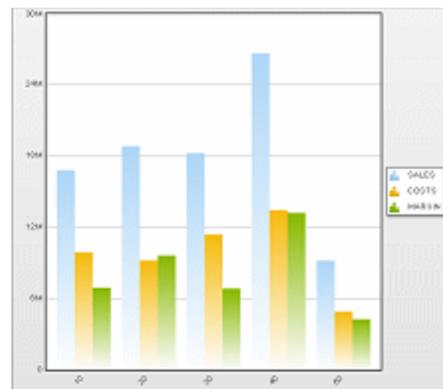
Chart Types

When creating a chart, you can select any one of the following ten chart types:

3D Column

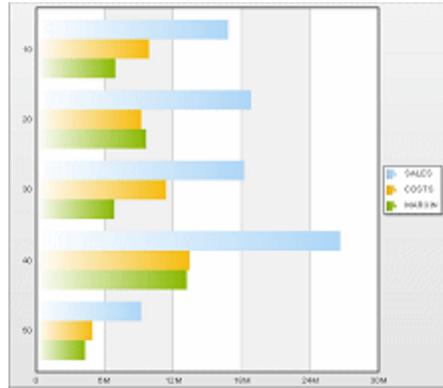
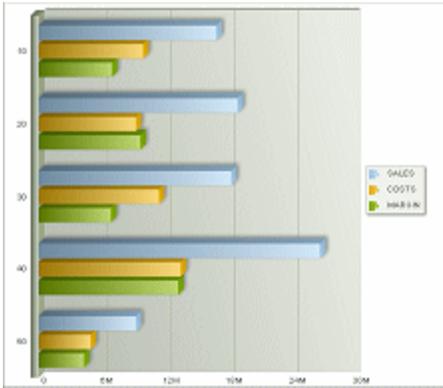


2D Column

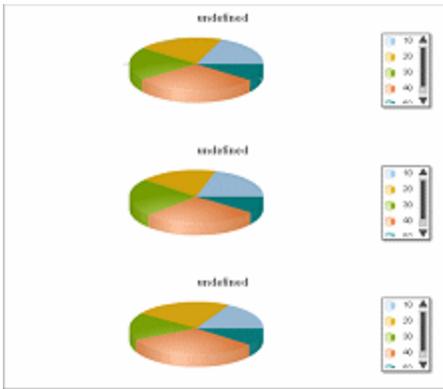


3D Bar

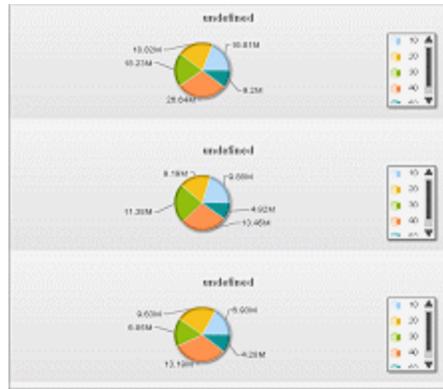
2D Bar



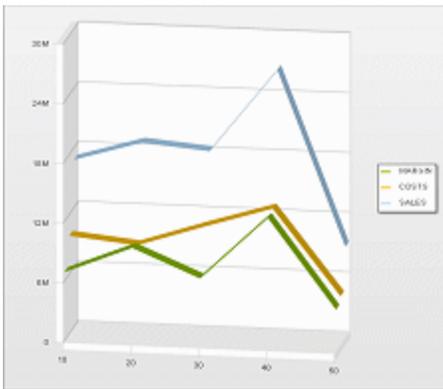
3D Pie with text, values, or percentages



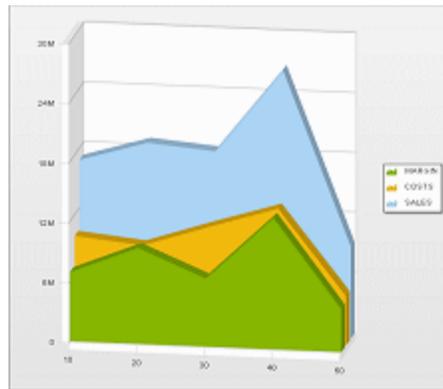
2D Pie with text, values, or percentages



Line

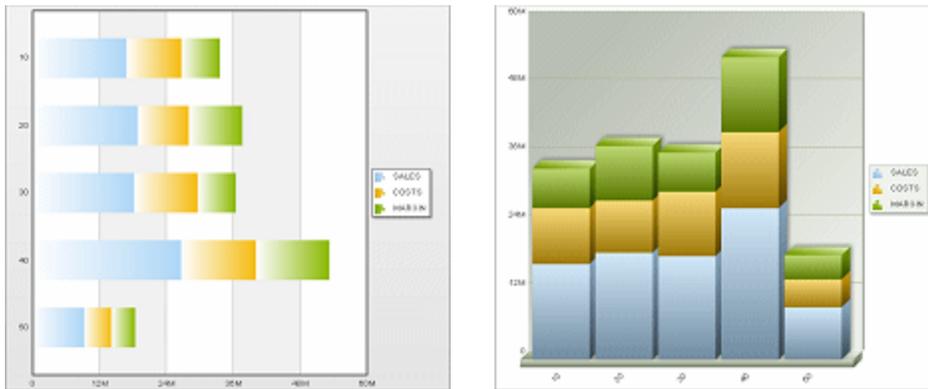


Area



Stacked Horizontal

Stacked Vertical



Setup Repository Mode

The use of a Sequel Web Server along with configuration of the necessary Authentication, Credentials, and Data Source settings is what defines Repository mode and differentiates Repository from Host mode.

After the initial installation of the host software, an administrator level user needs to perform the configuration steps on the SWS server described in the Host section [Install a Sequel Web Server on page 247](#), in addition to the following initial steps. Setup should be performed in the following order, since in several cases there are inter dependencies.

1. Authenticators (see [Authenticators on page 104](#))
2. Hosts (see [Configure Hosts on page 109](#))
3. Create Credentials (see [Configure Credentials on page 111](#)) or Import Credentials (see [Importing Settings on page 122](#))
4. Create Datasources (see [Configure Datasources on page 113](#)) or Import Datasources (see [Importing Settings on page 122](#))
5. Create Repositories (see [Configure Repositories on page 119](#)) or Import Repositories (see [Importing Settings on page 122](#))
6. Repository Users and Administrators (see [Configure Users on page 121](#))
7. SWS Settings (see [SWS Settings on page 146](#))
8. Disable Host Mode (see [Global Settings on page 150](#))

In addition to the above, you may also need to perform the following:

- Import credentials and data sources (see [Importing Settings on page 122](#))
- Manage authority to credentials, data sources, and repositories (see [Managing Authorities \(or Restrictions\) on page 125](#))
- Setup JDE Integration (see [JDE E1 Configuration on page 137](#))

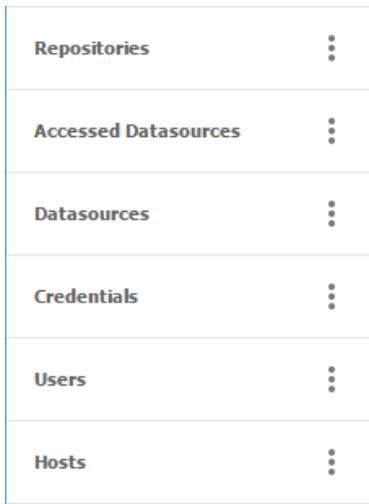
NOTE:

Users converting from an existing Sequel Web Interface (Host mode) installation will use a simple [import](#) process and minimal setup is required, except for managing [restrictions](#).

Initial Sign On

Sign on with the admin user name and password that was defined during installation. Leave the Authentication Provider as Local (SWS). The Sequel Web Interface (Host mode) Explorer displays.

On the left, in the Navigation panel, a collapsible set of options / tabs (called an accordion) is displayed:

**NOTE:**

Datasources, Credentials, Users and Hosts are only visible to [Admin users](#). A normal user will only see Repositories and Accessed Data Sources in the accordion.

Authenticators

An Authenticator describes the mechanism by which a user will identify themselves when logging on to SWS. Authenticators must be defined for each Authentication Type the customer wishes to support.

Supported Authentication Types are:

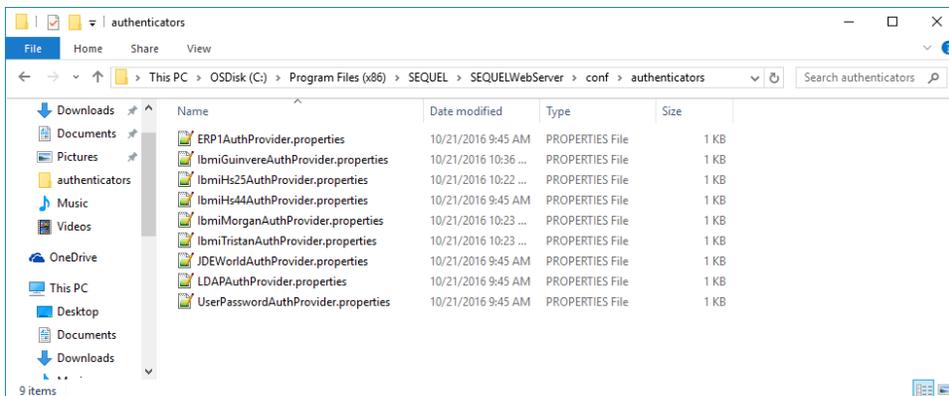
- Active Directory
- IBM i
- JDE E1
- JDE World
- SQL Server
- Local Users

Setting up Authenticators

Authenticators are maintained via properties (**.properties**) files located on the Sequel Web Server. As part of the installation, several properties 'template' files are installed in the following location:

```
C:\Program Files
(x86) \SEQUEL\SEQUELWebServer\conf\authenticators
```

An administrator will copy and edit these files for any authenticator to be used.



This example properties files shows the definition for an Active Directory.



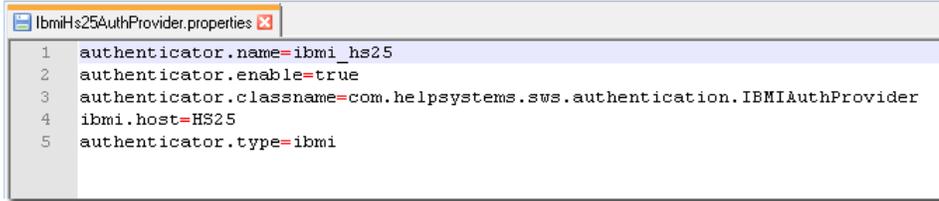
A new Global Setting in SWS allows the default authenticator to be set by the Administrator See [Global Settings on page 150](#) for more.

Create an Authenticator

At a minimum you should configure your IBM i as an authenticator using the following steps:

1. Open the **IbmiAuthProvider.properties** file in a text editor.

This file and the other authenticator properties template files (IBM i, Active Directory, SQL Server and SWS Local) are installed into the **c:\Program Files (x86)\SEQUEL\SEQUELWebServer\conf\authenticators** folder.



```

1  authenticator.name=ibmi_hs25
2  authenticator.enable=true
3  authenticator.classname=com.helpsystems.sws.authentication.IBMIAuthProvider
4  ibmi.host=HS25
5  authenticator.type=ibmi

```

2. Set the following values (after the equal = sign):

authenticator.name= - Specify a name for this authenticator. This will display in the drop-down list of [Authenticators](#) when you first try to log onto SWS.

authenticator.enable= - This value controls whether the authenticator displays in the Authenticators list.

true - makes the authenticator available to use.

false - removes the item from the list of authenticators.

authenticator.classname= This value is set by the template, and does not need to be altered.

ibmi.host= - Specify the name of the IBM i host.

authenticator.type= This value is set by the template, and does not need to be altered.

3. Save the properties file. Be sure to save the file with a different name as the templates files will be overwritten during an upgrade.
4. Restart the Sequel Web Server for changes to take effect.

IBM i Authentication: Extra Configuration Steps

When authenticating to an IBM i you can configure SWS to not require an additional log-in to your Repository. The required information and steps to accomplish this configuration are listed below:

Information that you will need to gather:

1. IBM i Host Name(s)
 - a. Issue the command **CFGTCP** and select **option 10** to make note of the Host Name(s) assigned to your IBM i IP address.

2. Authenticator Definition

- a. Access your SWS server.
- b. Browse to C:\Program Files (x86)\SEQUEL\SEQUELWebServer\conf\authenticators
- c. Find the authenticator entry that matches your IBM i (iSeries) and open that file with a text editor.

It should look something like this:

```
authenticator.name=ibmi_<SYSTEM_NAME>
authenticator.enable=true
authenticator.classname=com.helpsystems.sws.authentication.IBMIAuthProvider
ibmi.host=<SYSTEM_NAME>
authenticator.type=ibm
      (where <SYSTEM_NAME> is your server)
```

3. SWS Host Properties

- a. Open a Web browser and enter to your SWS URL:
server/sequel/sws/ui/index.html (where **server** is the name of your SWS server)
- b. Log in as **ADMIN** and select the Authentication Provider or Local (SWS).
- c. Click on the **Hosts** menu selection to expand.
- d. Right click on the entry for your IBM i and select **Edit Properties**.
The Host Properties panel opens. Notice the 3 highlighted references to

the IBM i system name.

Configuration settings:

1. In the authenticator definition (step 2 above), verify that the name follows this convention:

```
authenticator.name=ibmi_<SYSTEM_NAME>
```

```
ibmi.host=<SYSTEM_NAME>
```

where <SYSTEM_NAME> is the IBM i host name or domain-qualified host name from CFGTCP 10 or 12 (step 1 above).

2. In the SWS Host Properties (step 3 above), verify that all references to the IBM i system match the authenticator system name. There are three instances of this name:
 - Name
 - Database URL
 - SWI Host Secure URL

Troubleshooting:

1. The system names must match exactly.
2. Verify there are no leading or trailing spaces.
3. If you use an IP address rather than a system name, it's likely that users will always be prompted to log in twice. We support IP addresses, host names and domain-qualified host names, however, any inconsistencies in the above configuration will lead to the users being prompted twice.

NOTE:

Any changes made will require that the SWS Server services are stopped and restarted. You can do this by either rebooting the server PC, or by ending and restarting the following services: **Sequel HTTP Server**, **Sequel Web Server**, and **SequelDatabaseServer – PostgreSQL Server 9.2**. If any of these three get 'stuck' and do not end you will need to reboot the PC.

Configure Hosts

A Host defines an IBM i server on which the Sequel software resides. Therefore, in many customer environments there will be a single Host.

For existing SWS installs, one or more hosts will already exist in the **hosts.xml** file. These will be automatically available.

Steps

1. To define a new Host, click **Show Actions**  on the Hosts tab and select **New Host**.

The Add New Host panel displays:

ADD NEW HOST [X]

Name*

Type*

Database URL*

Driver*

Sequel library*

Sequel WI Library*

Esend Library*

SWI Host Secure URL*

Verify connection (please, provide username and password below)

Username*

Password*

Reset Save Cancel

2. Fill in the options and press **Save** when finished to validate the connection URL and library names.

Options

Name - Specify the network name of the **Host**.

Type- Currently, only *ISERIES is supported. This attribute is provided for possible future use.

Database URL- This value is based on the **Type**. Therefore, simply tab from the **Type** entry field, and this value will be autocompleted. It should not require modification.

The SEQUEL, SEQUELWI and ESEND libraries are set to the default library names. These should be changed if the default names were not used for the Sequel install.

SWI Host Secure URL - This entry field is also autocompleted when the **Type** is selected.

Username and Password - To verify the connection to the new Host, you must check the **Verify Connection** box, and provide a user profile and password. (These are not saved with the Host – are they only used for validating the connection or for other purposes).

The **Reset** button will clear any entries made since the panel was opened, and reset to the default values where appropriate.

Configure Credentials

Credentials are a stored user profile and password (stored in encrypted form) pair, and are used to access Repositories and Datasources.

Credentials allow users to access a Datasource or Repository without needing to have their own user profile on the applicable system, or to know the password for a shared user profile.

NOTE: Credentials can be imported from Sequel Host Entries. See [Importing Settings on page 122](#) for more details.

Steps

1. To manually define a Credential, click **Show Actions**  on the Credentials Tab and select Add Credential.

The Add Credential panel displays:

The screenshot shows a dialog box titled "ADD CREDENTIAL" with a close button (X) in the top right corner. The dialog contains the following fields and options:

- Alias:***: A text input field.
- Username:***: A text input field.
- Password:***: A text input field.
- Credential for:** Two radio buttons: **Datasource** and **Repository**.
- Datasource Type:***: A dropdown menu.

At the bottom of the dialog are two buttons: **OK** and **Close**.

2. Fill in the options and press **OK** when finished.

Options

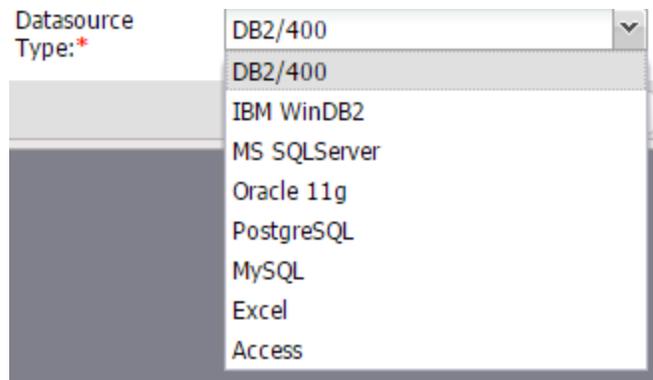
Alias - This is the name you assign to this credential. It may be the same as the Username, but this is not essential.

Username - Specify a valid user name. This is typically not case sensitive. The **Password** is case sensitive.

The same Credential may be used for **Datasources** and **Repositories** as appropriate.

- When used for a **Repository**, this is the user profile that will be used to connect to the server to access and display folders and files in the repository.
- When used for a **Datasource**, this is the user profile that will be used to access a data source (ie when running a view).

Datasource Type - When used to connect to a Datasource, you must also specify this value. Possible values are:



In the uncommon scenario where the same user profile is used for two or more different data source types, you would need to create two (or more) Credentials, under different alias names.

Repository Type - When used to connect to a Repository, you must also specify the type (IBM i, Local, or Network).

Configure Datasources

A Datasource defines the location and type of a database that is referenced by a Sequel definition. They are mostly equivalent to the Host Entries maintained in Sequel.

NOTE: Datasources can be imported from Sequel Host Entries. See [Importing Settings on page 122](#) for more details.

TIP:

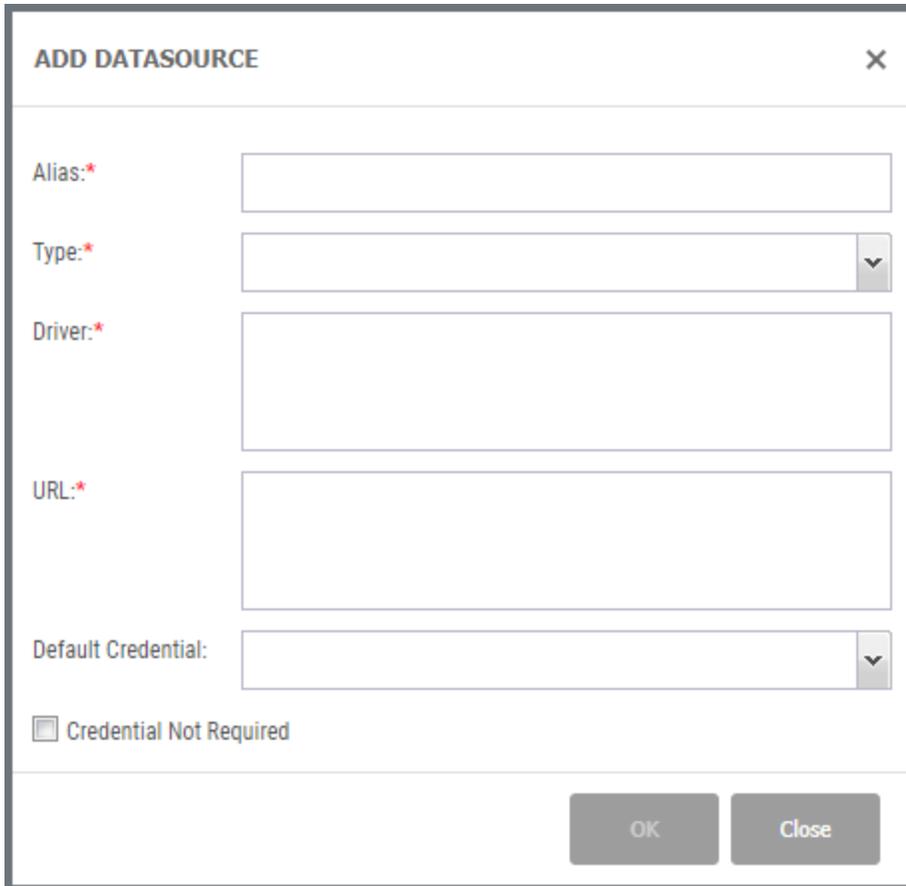
It is highly recommend that existing host connections from the IBM i are imported initially. This prevents duplication of effort, and creates two new datasources that SWS will need (but which don't exist on the IBM i): **<HOST>**, and **<HOST>_LOCALSYS**. See [Importing Settings on page 122](#) for more details.

If you are not importing any datasources, create a **<HOST>_LOCALSYS** connection for each IBM i host. Use the same Driver and URL described in the table below for JDE E1 connections.

Steps

1. To manually define a Datasource, click **Show Actions**  on the Datasources tab and select **Add**.

The Add Datasource panel displays:



The screenshot shows a dialog box titled "ADD DATASOURCE" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- Alias:***: A text input field.
- Type:***: A dropdown menu.
- Driver:***: A text input field.
- URL:***: A text input field.
- Default Credential:**: A dropdown menu.
- Credential Not Required**: A checkbox.
- OK** and **Close** buttons: Located at the bottom right of the dialog.

2. Fill in the options and press **OK** when finished.

Options

Alias - Enter a name to give this Datasource. This value is limited to 18 characters.

Type - Use the drop-down to select a database type. Supported Types are:



Driver and **URL** - Enter one of the following driver and URL values for the Type selected:

DB2/400

Driver: com.ibm.as400.access.AS400JDBCDriver

URL: jdbc:as400://<HOSTNAME>; extended metadata = true;
translate binary = true; prompt = false;
libraries=*LIBL,SEQUEL,SEQUELWI,ESEND; date format=*datefmt*

Where:

<HOSTNAME> = The name of IBM i host.

<LIB_LIST> = Specify libraries to override the user's default library list.

MS SQLServer

Driver: com.microsoft.jdbc.sqlserver.SQLServerDriver

URL: jdbc:microsoft:sqlserver://<HOSTNAME>:<PORTNUMBER>;
<INSTANCENAME>

Where:

<HOSTNAME> = The network resolvable name or address of the SQLServer host.

<PORTNUMBER> = The TCP/IP port for the server. The listener port number is usually 1433.

<INSTANCENAME> = The network resolvable name or address of the SQL Server instance to be used. Omit the instance name portion if you are connecting to the default (usually MSSQLServer) instance.

NOTE:

Version 9.2 of the driver is installed by default, but other drivers are available in the following folder: **C:\Program Files (x86)\SEQUEL\SEQUELWebServer\webapps\sequel\WEB-INF\lib\sqljdbcDrivers**

Oracle

Driver: oracle.jdbc.OracleDriver

URL:

jdbc:oracle:thin:@<HOSTNAME>:<PORTNUMBER>/<SIDNAME>

Where:

<HOSTNAME> = The network resolvable name or address of the Oracle host.

<PORTNUMBER> = The TCP/IP port for the server. The listener port number is usually 1521 and is defined in the network\admin\listener.ora file in the oracle product library.

<SIDNAME> = The name of the service (often ORCL).

PostgreSQL

Driver: org.postgresql.Driver

URL:

jdbc:postgresql://<HOSTNAME>:<PORTNUMBER>/<DATABASENAME>

Where:

<HOSTNAME> = The network resolvable name or address of the PostgreSQL host.

<PORTNUMBER> = The TCP/IP port for the server. The listener port number is usually 3306.

<DATABASENAME> = The name of the database to be accessed.

MySQL

Driver: com.mysql.jdbc.Driver

URL:

jdbc:mysql://<HOSTNAME>:<PORTNUMBER>/<DATABASENAME>

Where:

<HOSTNAME> = The network resolvable name or address of the MySQL host.

<PORTNUMBER> = The TCP/IP port for the server. The listener port number is usually 3306.

<DATABASENAME> = The name of the database to be accessed.

Excel

Driver: com.hxtt.sql.excel.ExcelDriver

URL: jdbc:excel:////qntc/<COMPUTER_NAME>/<PATH>/<FILENAME>.xls[x]?maxScanRows=<NN>;

Where:

<COMPUTER_NAME> = The name of PC, as identified to the network where the Access or Excel file is located. This value is mandatory.

<PATH> = The full path (including drive letter) to the directory containing Excel or Access files. On Windows, there must be a "Share" to the path on <COMPUTER NAME> that the IBM i profile running the job has authority to.

<FILE_NAME> = Add the specific name of the file to use with the connection. This value is mandatory.

<NN> = The maximum number of rows to return.

Access

Driver: com.hxtt.sql.access.AccessDriver

URL: jdbc:access:////qntc/<COMPUTER_NAME>/<PATH>/<FILE_NAME>.mdb?maxScanRows=<NN>

Where:

<COMPUTER_NAME> = The name of PC, as identified to the network where the Access or Excel file is located. This value is mandatory.

<PATH> = The full path (including drive letter) to the directory containing Excel or Access files. On Windows, there must be a "Share" to the path on <COMPUTER NAME> that the IBM i profile running the job has authority to.

<FILE_NAME> = Add the specific name of the file to use with the connection. This value is mandatory.

<NN> = The maximum number of rows to return.

JDE ERP

Driver: com.helpsystems.jdbc.SCDriver

URL: jdbc:hsjde://<HOSTNAME>;prompt=false;extended metadata = true;translate binary = true; installLib=<INSTALL_LIB>

Where:

<HOSTNAME> = The name of IBM i host.

<INSTALL_LIB> = The product install library. Usually SEQUEL.

JDE WORLD

Driver: com.helpsystems.jdbc.SCDriver

URL: jdbc:hsjdew://<HOSTNAME>;prompt=false;extended
metadata = true;translate binary = true;
installLib=<INSTALL_LIB>

Where:

<HOSTNAME> = The name of IBM i host.

<INSTALL_LIB> = The product install library. Usually SEQUEL.

Default Credential - Select from the list of previously defined Credentials. Only those Credentials that were defined to be used for Datasources, with the same Datasource Type are displayed.

TIP:

For JDE E1, leave the Default Credential blank and uncheck the **Credential Not Required** box.

Credential Not Required - Some Datasource types (Excel, for example) do not require credentials. If this is the case, check this box.

See the Viewpoint User Guide, Appendix B for complete information regarding remote database access, and the connection string values for each supported database type.

Configure Repositories

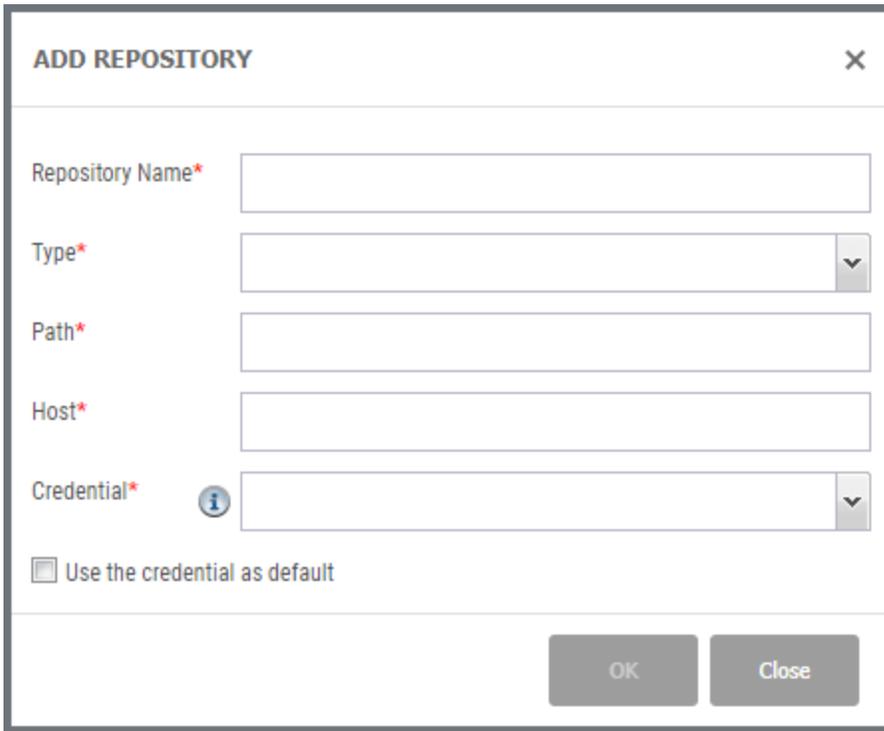
A Repository is a folder (and its subfolders) located in the IBM i IFS. Repositories contain Viewpoint objects, Automate Schedule jobs and saved output.

NOTE: Repositories are typically imported from a Host. See [Importing Settings on page 122](#) for more details.

Steps

1. To manually define a Repository, click **Show Actions**  on the Repositories tab and select **Add Repository**.

The Add Repository panel displays:



2. Fill in the options and press **OK** when finished.

Options

Repository Name - Enter a name by which you want to refer to this Repository.

Repository Type - This value indicates the location of the repository:

IBM i – The repository is in the IFS of the specified IBM i Host. This option is not allowed until the applicable Host has been defined to SWS.

Network – The repository is located on a network server.

Local – The repository is located on the local server, where SWS is running.

Path - Specify the path to the Repository. This is the path to the top-level folder that is to be used for the repository. This must exist.

Host - For IBM i Repositories, you must also specify the Host.

Credential - Define the default credential to use for accessing this Repository. A drop-down list shows previously defined credentials.

Configure Users

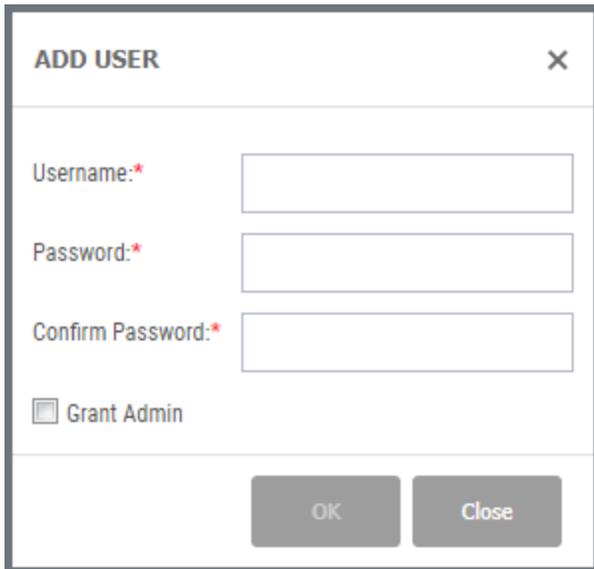
Users are user names/passwords that are define locally to the SWS server. They are used only to log on to the SWS Server. They are never used to run queries or reports etc.

In most cases, Users will only be defined for administration purposes. Non-admin Users may also be defined; however, it is expected that this will be unusual. Most users logging on to the SWS server to run definitions, view output etc. will use a different Authentication Type (Active Directory, IBM i, JDEE1 etc).

Steps

1. To define a User, click **Show Actions**  on the Users tab and select **Add**.

The Add User panel displays:



2. Fill in the options and **press** OK when finished.

Options

Username and Password - Enter a valid user and password.

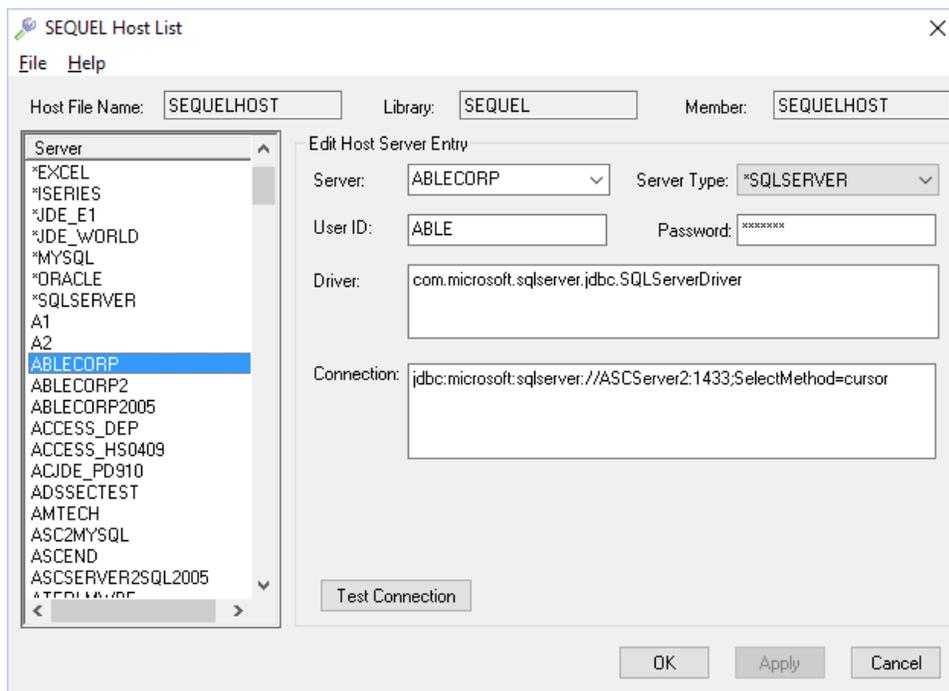
Grant Admin - When initially created, a User does not have Admin Privileges. Check this box to grant Admin privileges,

Importing Settings

Sequel Host entries—used to create connections to remote databases—can be imported into different elements of the SWI Repository mode such as Credentials, Data Sources, and Repositories.

Import Credentials and Datasources

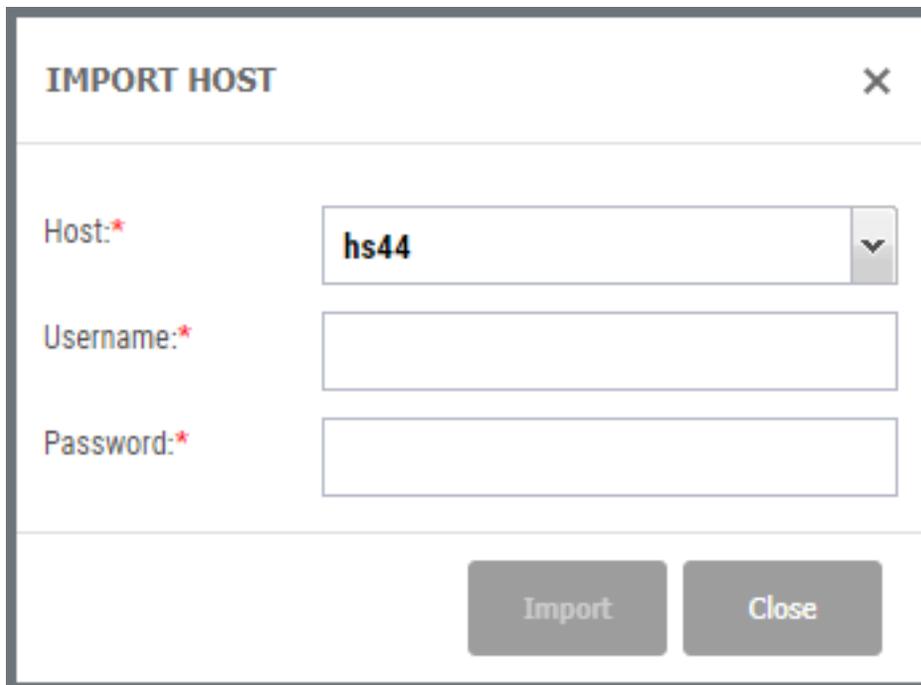
Credentials and Datasources are imported in a single process, based on the existing Host Server entries in Sequel. For example:



The above entry (from *Viewpoint Administrator, Maintain Host Servers*) will be converted to a Data Source called ABLECORP, type SQL Server, and a Credential ABLE

with its associated password. Credential ABLE will be set as the default Credential for the Datasource.

To import Sequel Host entries, right-click on a **Host** and select **Import Sequel Host entries**. The Import Host panel appears:



The screenshot shows a dialog box titled "IMPORT HOST" with a close button (X) in the top right corner. The dialog contains three input fields: "Host:*" with a dropdown menu showing "hs44", "Username:*" with an empty text box, and "Password:*" with an empty text box. At the bottom, there are two buttons: "Import" and "Close".

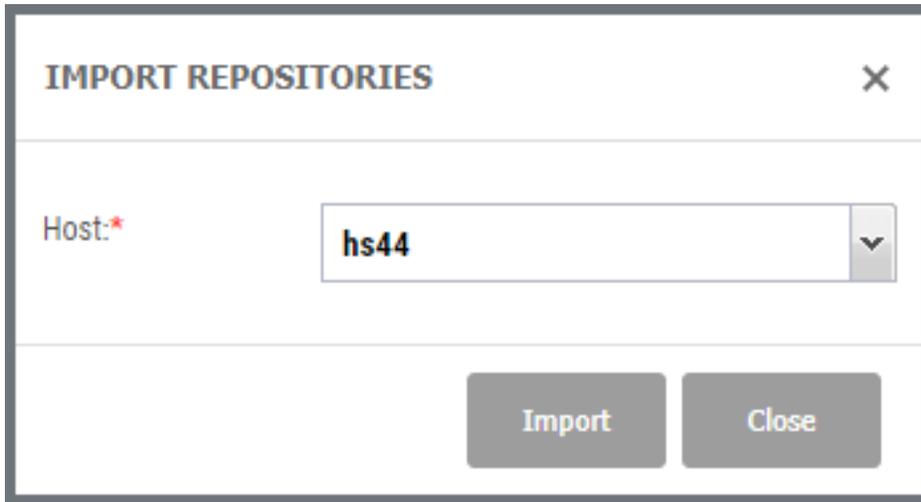
Select the Host from which to import the entries, specify a user profile/password to use to connect to the host, and press the **Import** button.

After the import, all Sequel Host entries will be available as Data Sources and Credentials.

Import Repositories

A customer that is currently using SWS will already have a Repository. The import process simply makes this repository known to the new SWS interface.

To import a Repository, right-click on a **Host** and select **Import Repository**. The Import Repositories panel displays:



The screenshot shows a dialog box titled "IMPORT REPOSITORIES" with a close button (X) in the top right corner. Below the title bar, there is a label "Host:*" followed by a dropdown menu. The dropdown menu is open, showing the selected option "hs44". At the bottom of the dialog, there are two buttons: "Import" and "Close".

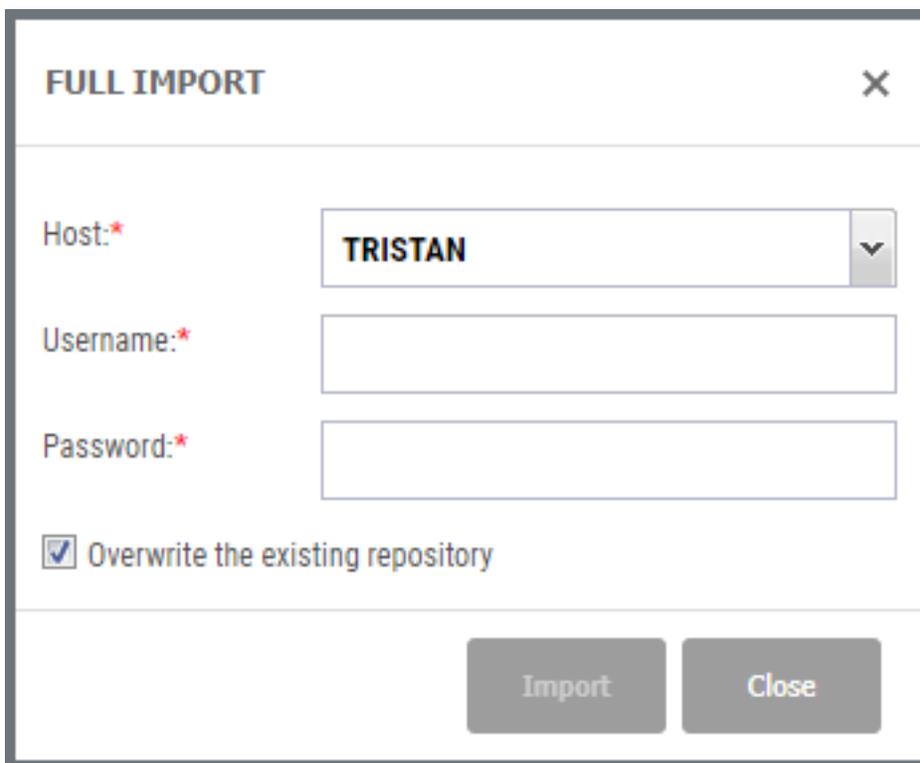
Select the Host from which to import the repositories and pres the **Import** button.

After the import, all repository folders will be added to the Repositories group.

Full Import

This option combines Import Repositories and Import Sequel Host Entries into a single step.

To import a Repository, right-click on a **Host** and select **Full Import**. The Import Repositories panel displays:



FULL IMPORT [X]

Host:*

Username:*

Password:*

Overwrite the existing repository

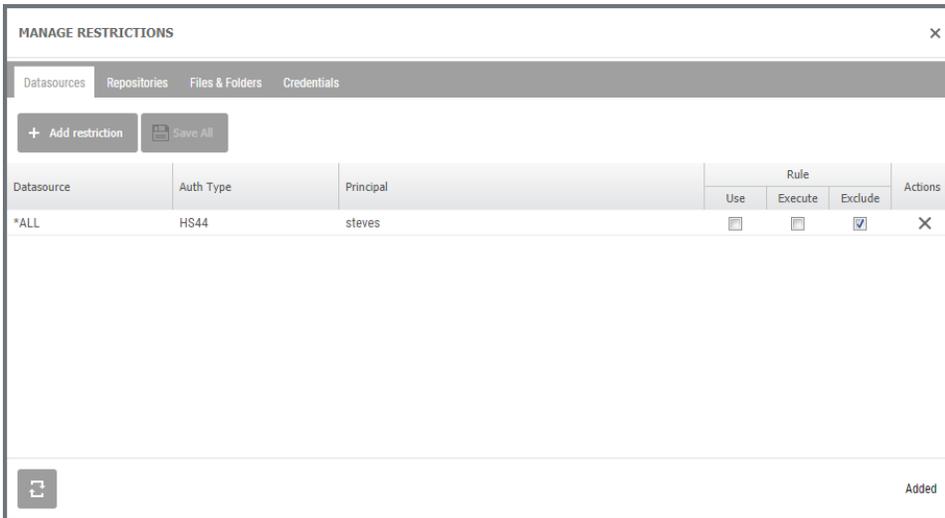
Select the Host from which to import the host entries and repositories, specify a user profile/password to use to connect to the host, and press the **Import** button.

After the import, all Sequel Host entries will be available as Data Sources and Credentials and the repository folders will be added to the Repositories group.

Managing Authorities (or Restrictions)

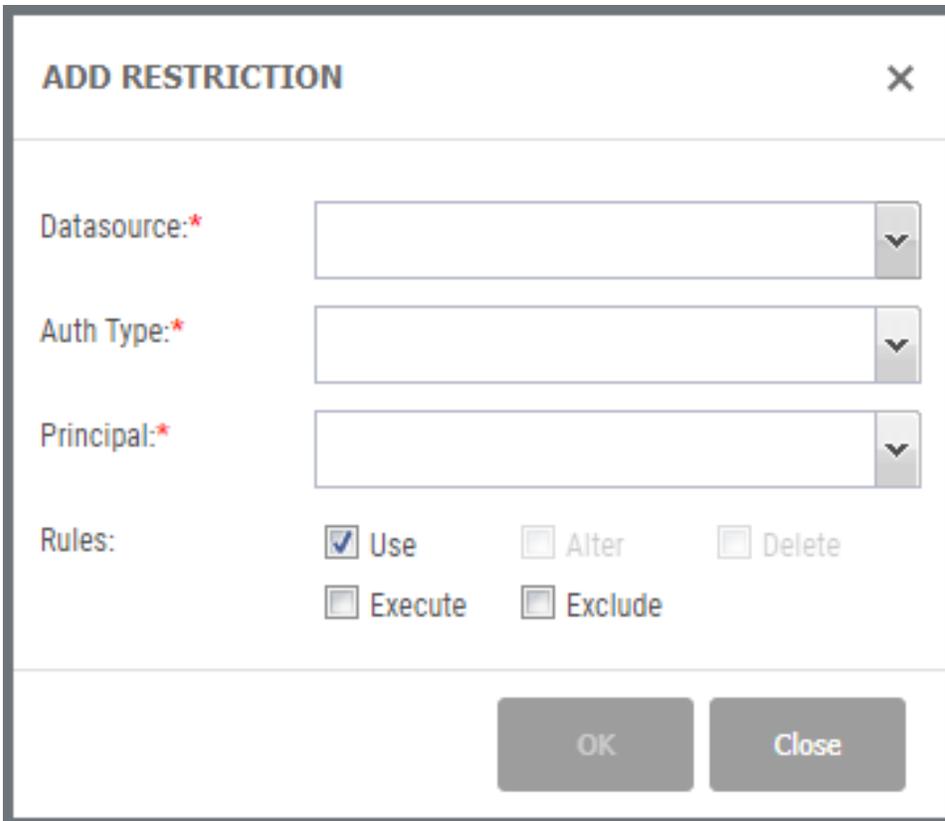
After defining or importing Hosts, Repositories, Data Sources and Credentials, an Administrator can assign authorities (or restrictions) to control access.

From the **Settings** menu at the top right, select **Restrictions**. The Manage Restrictions panel displays.



Initially, no restrictions are applied.

The **Add Restriction**  button allows you to create new Restrictions:



This example refers to a Datasource, but the same basic steps apply to all types.

Select the **Datasource** for which to apply a restriction.

Specify the **Authentication Type** for which this restriction is to apply. This is the authorization mechanism that is used to log on to SWS. The available Authentication Types are those that were defined in initial setup.

The screenshot shows a dialog box titled "ADD RESTRICTION" with a close button (X) in the top right corner. The dialog contains several fields:

- Datasource:***: A dropdown menu with "ABLECORP" selected.
- Auth Type:***: A dropdown menu that is currently empty and highlighted with a red border.
- Principal:***: A dropdown menu that is open, showing a list of options:
 - *ALL
 - HS44
 - ibmi_guinvere
 - ibmi_hs25
 - ibmi_hs44
 - ibmi_morgan
 - ibmi_tristan
 - GUINVERE_E1
 - local
 - skybot
- Rules:**: A text area that is currently empty.

Specify the **Principal**. (A Principal is a username). For Authentication Types Active Directory and IBM i, the Principle may be a Group (Active Directory Group, or IBM i Group Profile). In this case the rule applies to all users within that Group (unless another rule overrides it).

Specify the **Rules** to apply to this combination.

For example, the following:

ADD RESTRICTION [X]

Datasource:* **ABLE** [v]

Auth Type:* ***ALL** [v]

Principal:* ***ALL** [v]

Rules: Use Alter Delete
 Execute Exclude

[OK] [Close]

Specifies that all users logged on to SWS by any means can use the ABLECORP Datasource.

If the following rule is also applied, Local user AJ is not allowed to use the data source. This rule overrides the global (*ALL/*ALL) rule above.

ADD RESTRICTION
✕

Datasource:*

Auth Type:*

Principal:*

Rules:

<input type="checkbox"/> Use	<input type="checkbox"/> Alter	<input type="checkbox"/> Delete
<input type="checkbox"/> Execute	<input checked="" type="checkbox"/> Exclude	

OK

Close

NOTE:

Restrictions added to folders will not be preserved if the folder is renamed.

Alternative Work Flow

Use the left navigation panel to select an item (repository, folder, credential, datasource) and right-click to Manage Restrictions. By using one of these items as a starting point, you are setting the level of granularity for the restriction, and some of the restriction values will fill in for you based on the starting item.

After you have defined a bunch of different restrictions, you can review them all together using the Setting menu in the upper-right. Select **Settings \ Restrictions**. The Manage Restrictions screen displays.

The four tabs provide access to Datasources, Repositories, Files and Folders, and Credentials.

Datasource	Auth Type	Principal	Rule			Actions
			Use	Execute	Exclude	
SQLSERVER_ASCSERVE	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
HS25_LOCALSYS	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
Shar_Guinvere	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
Shar_Guinvere	local	*ALL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	X
Shar_Guinvere	*ALL	shar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X

You can edit the rule from this display and remove (delete) restrictions with the **Delete** button .

This approach to security therefore specifies that **you can use this datasource unless you are explicitly excluded**.

Another approach would be to **exclude everyone unless explicitly included**. See [Inclusive vs. Exclusive on page 131](#) .

Since multiple rules may be applied (both include and exclude), it is important to understand the hierarchy that is used to determine how authority is granted.



Inclusive vs. Exclusive

Like Sequel Database Security (with the Inclusion / Exclusion dictionary), restrictions in SWI Repository mode can be applied from two directions:

- Allow access to everything, and restrict some things (**Inclusion**), or
- Deny access to everything, and allow access to some things (**Exclusion**).

The exclusion method is more restrictive and less forgiving. Take the following example:

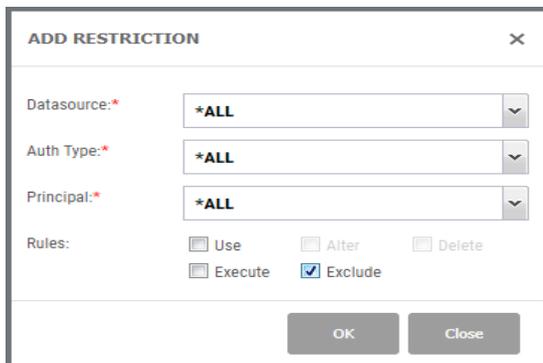
EXAMPLE:

An **Exclude** rule against a folder applies to the folder and all sub-folders, with no possibility of an override restriction at the sub-folder level. An **Allow** rule against a folder applies to sub-folders, however it is possible to then apply an exclude rule to a sub-folder.

The reason for this apparent difference in behavior is simply due to visibility. If you are excluded from a folder it will not be visible, and therefore it is not possible to then show its sub-folders.

Out of the box, SWI Repository mode is **Inclusive** (all open)—everyone has access to everything. To switch to an **Exclusive** mode, first create a 'everything is restricted from everyone' restriction using these steps:

1. From the **Settings** menu at the top right, select **Restrictions**. The Manage Restrictions panel displays.
2. Press the **Add Restriction** button  to create a new Restrictions. The Add Restriction screen displays.



3. Set the following values:
 - Datasource = *ALL
 - Auth Type = *ALL
 - Principal = *ALL (see note below about the Principal)
 - Rules = Exclude

This will restrict **ALL** users from **ALL** authenticators access to any, or **ALL** repositories—in effect restricting everyone from everything.

NOTE:

The **Principal** value in the *Add Restriction* panel is related to the **Auth Type** (authentication server—or *authenticator*), and represents a user that is defined on the selected authenticator.

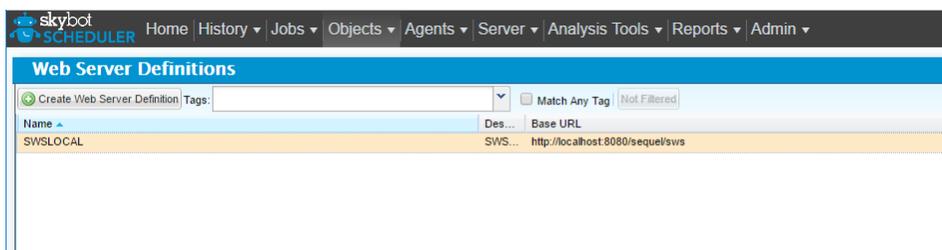
The SWI administrator, who is configuring SWI, and defining restrictions, needs to know who the user is, and how they are named for the chosen authenticator. If the drop-down for Principal shows any users those are merely 'recently used' users, not actual users from the authenticator.

Depending on environment, like manufacturing, maybe starting as Inclusive is the way to go. But, if you are a bank of some other financial, or health-related industry, maybe start as Exclusive, then grant access where needed.

Configure SWS Web Service in Automate Schedule

For Automate Schedule to make web service calls to SWS, there must be a defined web service inside of the Automate Schedule interface with the URL of the SWS server. This is the communication link between SWS and Automate Schedule, and it must be manually configured.

1. Access the Automate Schedule Scheduler using your browser and log in. From the main menu select **Objects\Web Server Definitions**.



2. Press the green **Create Web Server Definition** for a new definition. Specify a Name, Description and the URL of the Sequel Web Server.

The screenshot shows the 'Web Server Definition' configuration page for 'SWSLOCAL'. The page is divided into two main sections: 'General' and 'Definition Details'. The 'General' section includes fields for Name (SWSLOCAL), Description (SWS on Localsys), and Tags. The 'Definition Details' section includes fields for Base URL (http://localhost:8080/sequel/sws), Ignore Invalid Certificate Errors (No), Character Set (UTF-8), and Authentication Type (No Authentication). Each field has an [EDIT] link next to it.

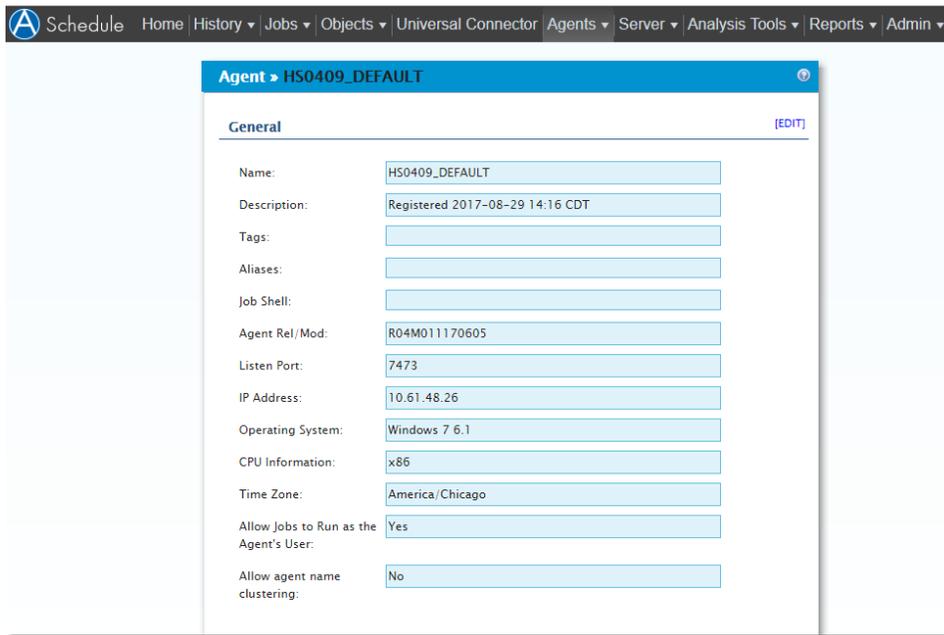
This web server definition can be named anything that the user likes. In the above example, it is named **SWSLOCAL** to indicate that it's talking to SWS on the localhost. The important part from a configuration perspective is that the name of the WebServer Definition be set in the Automate Schedule properties in SWS (steps 5 and 6). Press **Save** to save changes and close the screen.

- From the menu select **Agents**, and double click the local agent for the server. It will be named **swsServer_DEFAULT**.

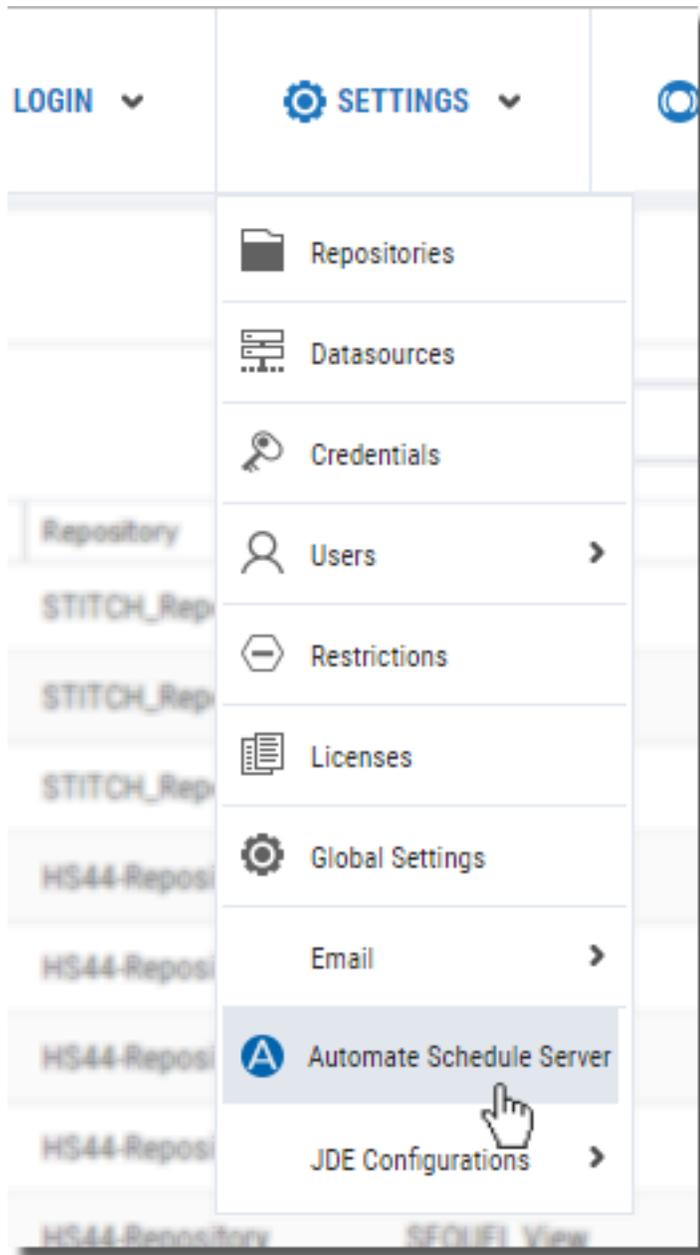
The screenshot shows the 'Agents' table in the software interface. The table has columns for Status, Name, Description, Operating System, Agent Rel/Mod, Jobs On Queues, Active Jobs, and Queues. The table contains several rows of agent information, including 'BAMBI_SKYAGENT', 'HS0409_DEFAULT', 'HS0409_LARRRY', 'HS18_SKYHS0409', 'HS44_SKYAGENT', and 'TRISTAN_SKYHS0409'.

Status	Name	Description	Operating System	Agent Rel/Mod	Jobs On Queues	Active Jobs	Queues
Active (Unic...)	BAMBI_SKYAGENT	Registered 2017-09-22 16:00 CDT	OS/400 V7R2M0	R03M091161028	0	0	No
Active	HS0409_DEFAULT	Registered 2017-08-29 14:16 CDT	Windows 7 6.1	R04M011170605	0	0	No
Failed (Unic...)	HS0409_LARRRY	Registered 2017-09-20 08:55 CDT	Windows 7 6.1	R04M011170605	0	0	Unavailable
Failed (Unic...)	HS18_SKYHS0409	Registered 2017-04-18 16:36 CDT	OS/400 V7R1M0	R04M011170612	0	0	Unavailable
Active	HS44_SKYAGENT	Registered 2017-04-18 12:55 CDT	OS/400 V7R2M0	R04M011170612	0	0	No
Active (Unic...)	TRISTAN_SKYHS0409	Registered 2017-09-26 08:11 CDT	OS/400 V7R2M0	R03M091151210	0	0	No
Failed (Unic...)	TRISTAN_SKYHS0409	Registered 2017-08-31 13:29 CDT	OS/400 V7R2M0	R03M091151210	0	0	Unavailable

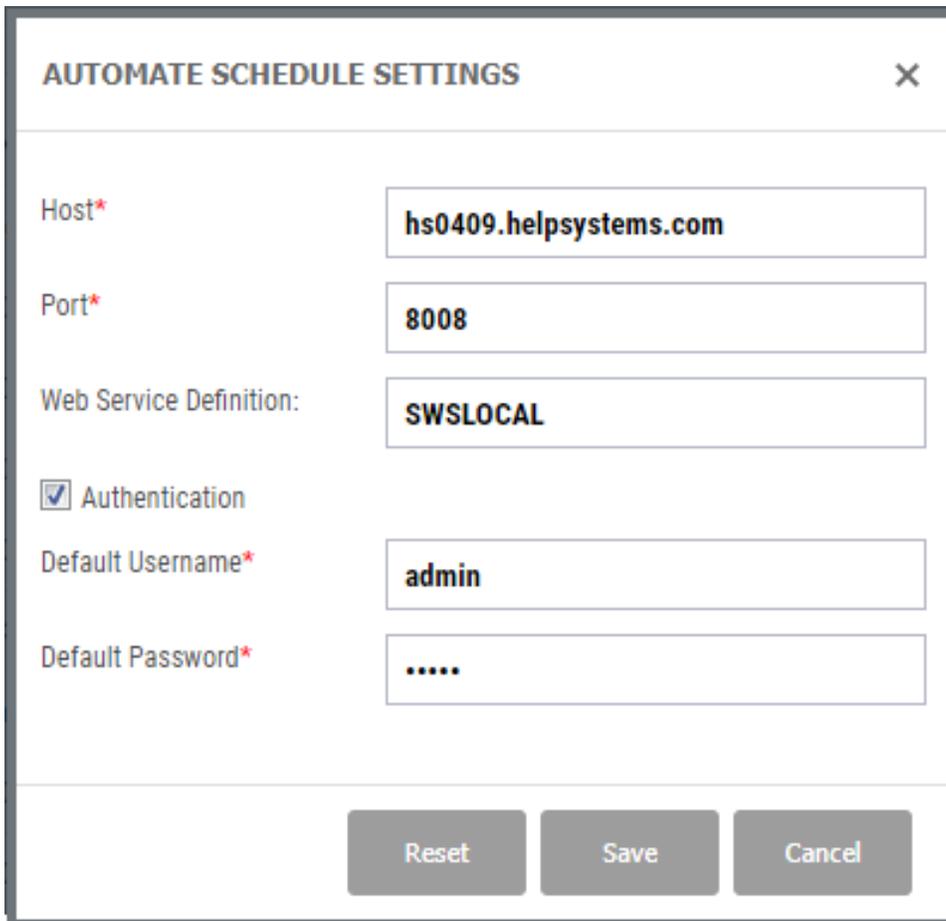
- In the General section, click the Edit link, and set the 'Allow Jobs to Run as the Agent's User' value to **YES**. Press **Save**.



5. From the SWI Explorer, select **Settings\Automate Schedule Server** like so:



The Automate Schedule Settings window displays.



AUTOMATE SCHEDULE SETTINGS [X]

Host*

Port*

Web Service Definition:

Authentication

Default Username*

Default Password*

6. Give the Automate Schedule host a name and set the port to 8008. Set the Web Server Definition to the name given in the Automate Schedule Web Service Definition screen (SWSLOCAL in this example). Press **Save**.

See [SWS Settings on page 146](#) for more on this panel.

Change Over to Repository Mode

The goal with this process is to not interrupt day-to-day business while setting up for repository mode. For a period of time, an administrator will need access to repository mode in both Sequel Web Server (SWS) and Viewpoint in order to test, configure and plan—at the same time regular users are still working in host mode.

However, when the time comes all users need to change over to repository mode without having to manually update bookmarks, or change a Viewpoint setting.

Here are the steps an Administrator should perform:

Before the final change over to repository mode

1. Use the **CHGAUTMODE** command on the IBM i host to set the authentication mode to `*BOTH`, and enter the URL for the SWS server in repository mode.
2. Access SWS in repository mode, and start configuring [repositories](#), [data sources](#), and [credentials](#) etc.
3. As part of the setup, change the SWS Global Setting to specify the default [authentication provider](#), but at this stage do not disable host mode.
4. Change the Administrator PC's Viewpoint setting to use repository mode.

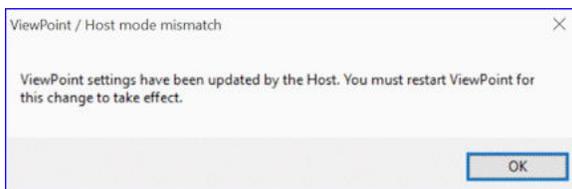
Now the Administrator has access to repository mode in both Viewpoint and SWS, while all regular users are still using host mode.

To finally change over to repository mode

1. Use the **CHGAUTMODE** command on the IBM i host to change from `*REPOSITORY` mode to `*BOTH`.
2. On the SWS server, change the **SWS Global Settings** to disable the Host mode URL.

When web users use their bookmark to connect to SWS, the request is re-directed automatically to the Repository mode URL. Users don't need to change their bookmark, although we recommend that customers try to get their users to update them, to avoid redirects forever.

The next time a user starts Viewpoint after the change, and connects to the host, they will see the following message:



Viewpoint issues this message when checking with the connected host to see if it supports host mode (It doesn't because the CHGAUTMODE setting is now `*REPOSITORY` instead of `*HOST` or `*BOTH`), and the host also sends back the SWS Repository mode URL.

Viewpoint then creates or changes registry settings for mode and url and tells the user they must close and restart Viewpoint. On restart, Viewpoint finds the registry settings and starts in repository mode.

JDE E1 Configuration

JDE E1 configuration is a little more involved and includes the following steps.

- [Copy E1 Java Class Files on page 138](#)
- [Set JDE OneWorld/E1 Attributes on page 139](#)
- [Copy JDE Config Files on page 142](#)
- [Create an E1 Authenticator on page 143](#)
- [Create Credentials on page 144](#)
- [Create a Datasource on page 145](#)

Each of these items is discussed in the sections that follow.

Copy E1 Java Class Files

For JDE EnterpriseOne (E1) integration, copy the jar files (see list) from the Classes folder within the System Foundation IFS directory (for example, /E910SYS/CLASSES) to the following directory:

```
C:\Program Files  
(x86)\SEQUEL\SEQUELWebServer\webapps\sequel\WEB-INF\lib\jde
```

File List:

- ApplicationAPIs_JAR.jar
- ApplicationLogic_JAR.jar
- Base_JAR.jar
- BizLogicContainer_JAR.jar
- BizLogicContainerClient_JAR.jar
- BusinessLogicServices_JAR.jar
- Connector.jar
- EventProcessor_JAR.jar
- Generator_JAR.jar
- JdbjBase_JAR.jar
- JdbjInterfaces_JAR.jar
- JdeNet_JAR.jar
- ManagementAgent_JAR.jar
- Metadata.jar
- MetadataInterface.jar
- PMApi_JAR.jar

- Spec_JAR.jar
- System_JAR.jar
- SystemInterfaces_JAR.jar
- xmlparserv2.jar

For more information about these files, consult with the Oracle documentation:
https://docs.oracle.com/cd/E53430_01/EOTCN/dynamic_java_connector.htm#EOTCN00290 (for E1 9.2)

Set JDE OneWorld/E1 Attributes

This step is optional and provided only for completeness. Run this command only if it has not been previously executed during the initial product install.

The Set JDE OneWorld/E1 Attributes (SETJDEOWA) command configures reporting interoperability on the IBM i with JDE OneWorld and EnterpriseOne integration. The command has a number of parameters, each of which is discussed below. These values will take effect the next time a user connects.

To run the command issue the command **SETJDEOWA**, at a command line, and press **F4** to prompt.

NOTE:

SETJDEOWA requires that the IBM i interactive job CCSID is not set to 65535 (*HEX).

JDE Release (JDEOWRLS)

Enter the JDE OneWorld or EnterpriseOne release installed on this IBM i system. The possible values are:

- | | |
|---------|--|
| *ERP9.1 | Select this option if you use JDE EnterpriseOne 9.1. |
| *ERP9.2 | Select this option if you use JDE EnterpriseOne 9.2. |

JDE System Library (JDEOWSYSLB)

Specifies the name of the IBM i library that contains the OneWorld security tables. When entering this value, pressing F4 provides a list of possible library names. You can specify to search the system for the JDE system library or explicitly specify the library name.

JDE Application Security (APPSECOPT)

This option enables or disables the JDE OneWorld or EnterpriseOne application security integration feature. The possible values are:

***ENABLE** - JDE Application Security Integration is enabled. Application security defined in JDE OneWorld or EnterpriseOne will be honored.

***DISABLE** - JDE Application Security Integration is disabled. Application security defined in JDE OneWorld or EnterpriseOne will not be honored. This option enables or disables the JDE OneWorld or EnterpriseOne application security integration feature.

JDE Application Security Run Authority Override (RUNAUTHOVR)

This option controls how application security is applied for tables that are shared by multiple JDE OneWorld or EnterpriseOne applications. The possible values are:

***YES** - The run authority override is enabled. A JDE OneWorld or EnterpriseOne table that is shared by multiple applications will be available to the user if the user has run authority to at least one of the applications that uses the table.

***NO** - The run authority override is disabled. A JDE OneWorld or EnterpriseOne table that is shared by multiple applications will not be available to the user if the user is secured from running at least one of the applications that uses the table.

Application User Profile Signon (SNGUSRPRF)

This prompt allows you to enable or disable JDE OneWorld or EnterpriseOne Application User signon. The possible values are:

***ENABLE** - JDE application user signon is enabled.

***DISABLE** - JDE application user signon is disabled.

JDE Authentication System (AUTHSYSNAM)

This is the name of the IBM i system used to authenticate the JDE OneWorld or EnterpriseOne user. The possible values are:

***LOCAL** - The EnterpriseOne authentication system is the local IBM i system (EnterpriseOne Services must be running on this system).

Character Value - The name of the authentication IBM i system, if EnterpriseOne Services are running on a different system. If specifying a remote IBM i, the system name must be the RDB name. The RDB name must also be accessible as a host name via TCP/IP.

NOTE:

For more detailed instructions on configuring Remote Authentication, please contact Fortra technical support.

Authentication User Name (AUTHSYSUSR)

This is the IBM i database user used to authenticate the JDE OneWorld or EnterpriseOne user. The possible values are:

***NONE** - The database user is not required when the JDE Authentication System is *LOCAL.

Character Value - The user profile for the IBM i system used for JDE OneWorld or EnterpriseOne authentication. The value must be a valid *ALLOBJ profile on the remote system when the authentication system is specified as an RDB name (other than *LOCAL).

Authentication Password (AUTHSYSPWD)

This is the IBM i database password used to authenticate the JDE OneWorld or EnterpriseOne user. The possible values are:

***NONE** - The database password is not required when the JDE Authentication System is *LOCAL.

Character Value - The password for the IBM i profile used for JDE OneWorld or EnterpriseOne authentication when the authentication system is specified as an RDB name (other than *LOCAL).

JDE Program Library (JDEOWPGMLB)

Specifies the name of the IBM i library containing OneWorld programs and service programs. When entering this value, pressing F4 provides possible library names.

JDE Remote System Library (JDEOWRSYLB)

Specifies the name of the OneWorld/EnterpriseOne system library on the remote system. The One-World Remote System Library parameter is used only when the Authentication System is not *LOCAL. The special parameter value of *LCLSYSLB can be used to indicate that the remote system library name is the same as the local system library name. The possible values are:

***LCLSYSLB** - The name is the same as the local JDE OneWorld or EnterpriseOne system library.

Character Value - The name of the JDE OneWorld or EnterpriseOne system library on the remote IBM i system.

IASP Name (IASPNAME)

This is the name of the IASP where JDE OneWorld or EnterpriseOne libraries reside. The possible values are:

***NONE** - JDE OneWorld or EnterpriseOne libraries are not stored on an IASP.

Character Value - The name of the IASP where JDE OneWorld or EnterpriseOne libraries reside.

IASP User Profile (IASPUSER)

This is the host user profile to access JDE OneWorld or EnterpriseOne libraries on the IASP. The possible values are:

***NONE** - JDE OneWorld or EnterpriseOne libraries are not stored on an IASP.

Character Value - The IBM i user profile used to access JDE OneWorld or EnterpriseOne libraries on the IASP.

IASP Password (IASPPASS)

This is the password for the IBM i user profile to access JDE OneWorld or EnterpriseOne libraries on the IASP. The possible values are:

***NONE** - JDE OneWorld or EnterpriseOne libraries are not stored on an IASP.

Character Value - The password for the IBM i user profile to access JDE OneWorld or EnterpriseOne libraries on the IASP.

Copy JDE Config Files

After using the SEQUEL/SETJDEOWA command, the following four files are created in the 'rio/lib' folder of the IFS:

- JDBJ.ini
- JDEDRIVER.cfg
- JDEOW.cfg
- SSINEROP.ini

For SWI and Sequel Web server to work correctly with JDE, these four files must be copied from the 'rio/lib' folder on the IFS to the following location:

```
C:\Program Files (x86)\SEQUEL\SEQUELWebServer\webapps\
Sequel\WEB-INF\classes\jdeConfigs folder.
```

Create an E1 Authenticator

For JD Edward E1 Authenticators:

Currently, there can only be one IBM i server defined as a JDE E1 Authentication Provider.

1. Copy and edit the **ERP1AuthProvider.properties** file.



```

1 authenticator.name=JDE_E1_GUINVERE
2 authenticator.enable=true
3 authenticator.classname=com.helpsystems.sws.authentication.JDEE1AuthProvider
4 classes.dir=C:/E910SYS/CLASSES
5 #config.dir=C:/E910SYS
6 config.dir=C:/Program Files (x86)/SEQUEL/SEQUELWebServer/webapps/sequel/WEB-INF/classes/jdeConfigs
7 environment=PD910

```

2. Referring to the example above, set the following values (after the equal = sign):
 - authenticator.name=** - Specify a name for this authenticator.
 - authenticator.enable=** - This value controls whether the authenticator displays in the Authenticators list. Changing this values requires a restart of the Sequel Web Server service in Windows.
 - true** - makes the authenticator available to use.
 - false** - removes the item from the list of authenticators.

authenticator.classname= This value is set by the template, and does not need to be altered.

classes.dir= - Specify the path to the /CLASSES folder containing the .jar files copied from the JDE E1 install directory (see [Copy E1 Java Class Files on page 138](#)).

config.dir= - Specify the root folder for the JDE E1 config files. We recommend the following value:

```
C:/Program Files (x86)/SEQUEL/SEQUELWebServer/webapps/
  sequel/WEB-INF/classes/jdeConfigs
```

Note: This value is case sensitive.

environment= - Specify a valid JD Edwards Environment to authenticate the user. You may need to set up one Authentication Provider for each JDE environment.

Note: This value doesn't actually set security, library lists or file access—it's only used at this point to authenticate the user as a valid JDE profile.

3. Save the properties file. Be sure to save the file with a different name as the templates files will be overwritten during an upgrade.
4. Restart the Sequel Web Server for changes to take effect.

Create Credentials

JDE customers might assume that they can enter their JDE credentials when prompted to log in to the Repository, but this is not the case.

A JDE user needs to log in three times in order to access and run a specific ViewPoint object in the Repository.

Login 1: Log in to SWS. This is not a credential, but an actual user name and password. Selecting the appropriate Authentication Provider determines what kind of user it is. So, for a JDE E1 user, select the E1 Auth Provider. SWS then goes out to JD Edwards and verifies that the user name and password are correct.

Login 2: Log in to the Repository. Since the actual repository structure resides on an IBM i, this must be an IBM i profile OR A CREDENTIAL that is linked to an IBM i profile. We recommend that JDE customers create a universal Credential that all JDE users can use. When the user selects the Credential, the actual user name and password are hidden—all they know is that they need to select a generic Credential to access the Repository. This Credential doesn't have any security applied to it, so there's no need to create a unique Credential for each user.

Login 3: Log in to the Data Source when running a View. This can be a Credential, but JDE E1 users can enter their own JDE user name and password. A Credential would be faster, but a user can check the box to save the login information (“Save Credential”), and then they only have to do this once per session. Once this information is entered—whether it’s selecting an existing Credential or manually entering user name and password—JDE users are then prompted to select an Environment and Role. The prompt for Environment and Role, by design, happens every time results are displayed.

This is why two different credentials need to be created.

Create an IBM i Credential

A credential is required for an IBM i user that will be used to log in to the Repository. This single 'universal' credential can be used by all JDE users. See [Configure Credentials on page 111](#) for the process to create this credential.

Create a JDE Credential

This credential is optional. This is a Credential that will be selected when running ViewPoint objects, but users can also manually enter a JDE user name and password

Create a Datasource

Data Source creation should always begin on the IBM i using either the ViewPoint Administrator or the green screen command SEQUEL/MNTHOSTF command. Then, one of two options should be used to create datasources:

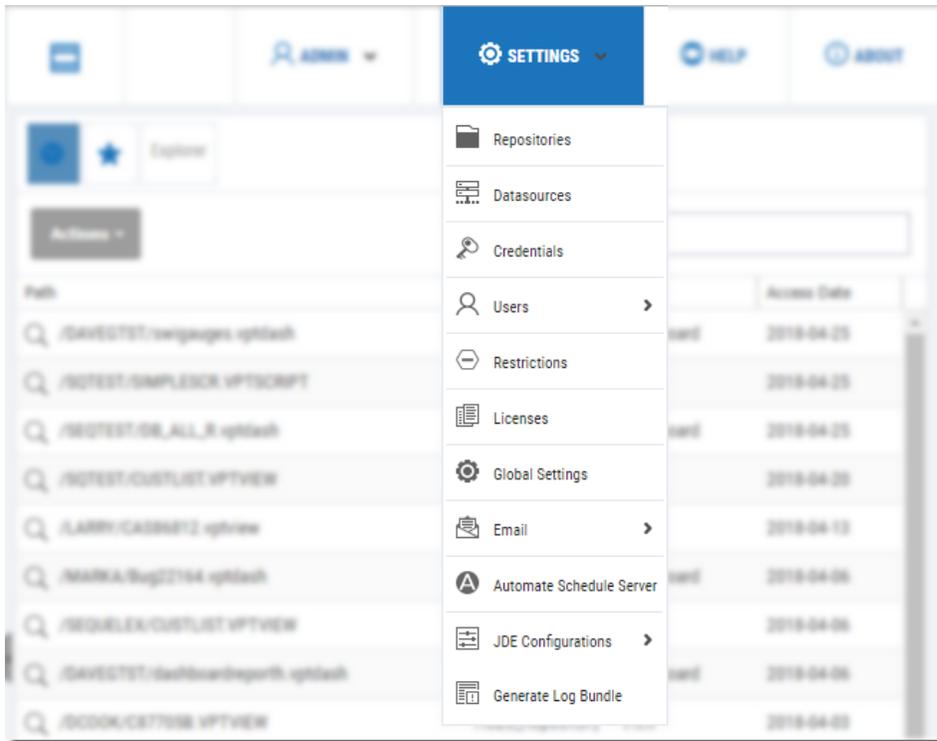
Option 1 – Create a new data source in SWS Repository Mode and copy the connection information directly from the data source on the IBM i. You can have both open at the same time and simply copy/paste the appropriate strings to the new data source.

Option 2 – Run a new Import of Datasources and Credentials from SWS Repository Mode. This will synchronize the two sets of data sources and will overwrite what exists in SWS. The only time when this option may not be recommended is if the user name and/or password of previously-imported Credential has been modified. A new Import will overwrite and reset both existing Datasources and existing Credentials in SWS. It will NOT blow away everything that exists, but will overwrite duplicates.

SWS Settings

Various SWS settings are available that control different areas of the product. Each display shows a list of objects along with management options to **Add** , **Edit** , **Edit Credentials** , and **Remove** items  from the list.

Located in the upper left of the Explorer, the menu provides access to the following:



Repositories

Manage repositories with this display.

MANAGE REPOSITORIES ✕

+ Add Repository

Name	Type	Path	Host	Actions
GUINVERE_JADREPO	IBMI	/JACKIE/JADREPO	GUINVERE	  
GUINVERE_Repository	IBMI	//scserver10/swi/repository	GUINVERE	  
GUINVERE_SHCREPOSITORY	IBMI	/SHARI10/SHCREPOSITORY	GUINVERE	  
HS25	IBMI	//scserver10/swi/repository	HS25	  
HS44	IBMI	/sequel/swi/repository	HS44	  
LCC_REPOSITORY	IBMI	/lcc/repository	GUINVERE	  
Wisdom_Repository	IBMI	/sequel/swi/repository	WISDOM	  

↻

Datasources

Manage data sources with this display.

MANAGE DATASOURCES ✕

+ Add Datasource

Alias	Driver	URL	Type	Actions
ABLECORP2005	com.microsoft.sqlserver.jdbc...	jdbc:sqlserver://ASCSEVER2;instanceName=SQL2005;	MS SQL Server	  
ACJDE_JDETWorld	com.helpsystems.jdbc.SCDriver	jdbc:hsjdedw://HS25,JDEEnvironment=JDET,JDERole=A...	DB2/400	  
ACJDE_PD910	com.helpsystems.jdbc.SCDriver	jdbc:hsjdee://192.168.3.9,JDEEnvironment=PD910;tra...	DB2/400	  
ACJDE_PD910X	com.helpsystems.jdbc.SCDriver	jdbc:hsjdee://GUINVERE,JDEEnvironment=PD910;insta...	DB2/400	  
ADSSECURITY	com.helpsystems.jdbc.SCDriver	jdbc:hslocal://GUINVERE;installDir=/rio/lib;installLib=S...	DB2/400	  
AFS	com.microsoft.sqlserver.jdbc...	jdbc:merant:sqlserver://S005354:1433;DatabaseName...	MS SQL Server	  
B19007	com.helpsystems.jdbc.SCDriver	jdbc:hslocal://GUINVERE;	DB2/400	  
BOBK_JDE	com.helpsystems.jdbc.SCDriver	jdbc:hsjdee://GUINVERE;installDir=/rio/lib;installLib=S...	DB2/400	  

↻

Credentials

Manage credentials with this display.

MANAGE CREDENTIALS ✕

+ Add Credential

Alias	Username	Datasource Type	Repository Type	Actions
abarnett	abarnett	DB2/400	IBMi	
ABLE	ABLE	MS SQLServer		
acjde_dataso...	acjde	DB2/400		
acjde_reposit...	bobk		IBMi	
acje	acje	DB2/400	IBMi	
admin	admin	MS SQLServer		
bobjde	bobjde	DB2/400	IBMi	
bobk	bobk	DB2/400	IBMi	

Users

Manage users ([defined locally](#) to the SWS server) and show active users with this option.

MANAGE USERS ✕

+ Add user

Username	Role	Enabled	Created Date	Actions
JACKIED	Admin	true	May 4, 2017	
Education	Admin	true	May 3, 2017	
LCCADM	Admin	true	May 3, 2017	
kirsten	Admin	true	Mar 16, 2017	
shar	Admin	true	Feb 15, 2017	
bobk	Admin	true	Jan 6, 2017	
admin	Admin	true	Dec 19, 2016	
hkath	User	true	May 17, 2017	

Admins Only
Enabled Only

Manage

IP Address	User Name	Administrator	Authentication Type	Remote Connection	Last Activity Time
10.61.48.36	admin	true	local	No	Wed Aug 16 15:14:23 CDT 2017

Viewers Total: 1

Active

The Active User display has separate tabs for Viewer-type users and Designer-type users. This is based on product licensing.

Restrictions

Manage restrictions with this display. The four tabs provide access to Datasources, Repositories, Files and Fields, and Credentials. See [Managing Authorities \(or Restrictions\) on page 125](#).

Datasource	Auth Type	Principal	Rule			Actions
			Use	Execute	Exclude	
SQLSERVER_ASCSERVE	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
HS25_LOCALSYS	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
Shar_Guinvere	*ALL	*ALL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X
Shar_Guinvere	local	*ALL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	X
Shar_Guinvere	*ALL	shar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X

Licenses

Manage and apply SWS licenses with this display. Licenses for Viewpoint designers and users are managed here as well.

Hardware ID	Type	Code	Expiration
W-00:50:56:A3:22:00	Permanent	MJD9DP97DB861DUMGPRV5QXD9RBKFFVKLMBDF9GJTA7T7ACFG403GC	No Exp

Global Settings

Global settings for default authentication provider and setting host mode are managed here.

GLOBAL SETTINGS

Default Auth Provider:*

Disable Host Mode:*

Recent Objects Limit:*

Settings

Default Auth Provider - If you have more than one authentication server configured, you can select one as the default.

Disable Host Mode - SWI Host mode uses a different url than SWI Repository mode. When Repository mode is configured and enabled, the Administrator can use this setting to disable the Host mode URL and force all users to use Repository mode.

Yes - Disables Host Mode and redirect all attempts to use the host mode URL to the repository mode URL.

No - Enable the URL to access SWI Host mode.

Recent Objects Limit - Select a value for the number of objects to display on the Recent tab.

Email

Use this option to configure email settings and manage the email address book.

EMAIL SETTINGS ×

SMTP host*

SMTP port*

Default mail sender*

Default mail sender name

Test mail recipient*

SSL protected connection

Authentication

Username*

Password*

Compress size(MB)

Compress type Dont compress Zip 7z

Settings

SMTP Host - This is the name (maximum 256 characters) of your mail server. It is typically in the form smtp.mymailserver.com.

SMTP Port - The outgoing port used by the mail server.

Default Mail Sender - This is the email address to be used as the default sender. It must be properly formed, but typically does not need to be a valid email address.

Default Mail Sender Name - The name to use for the email sender.

Test Mail Recipient - A valid email address that can be used to test the email configuration. A test email will be sent to this address.

SSL Protected Connection - Check this box to use SSL for encrypting emails. The mail server must be configured to support SSL.

Authentication - Check to specify a user and password to use email processes (we recommend you set this value). If unchecked you will have to provide credentials every time email functions are accessed.

Username - The user name (ie account name) to use to connect to the mail server.

Password - The password for the user name defined above.

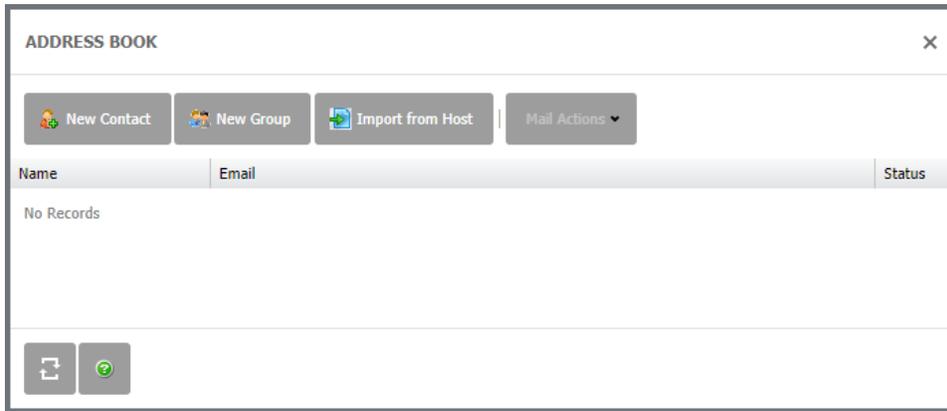
Compress Size(MB) - The threshold that will trigger a large attachment to be compressed.

Compress Type - The algorithm used to compress, and extension to append.

Don't Compress - Select if you don't want compression. If blank (to compress) select one of the two compression algorithms: Zip, or 7z.

Address Book

Manage address book entries here.



You can import Esend address book entries using the Import from Host option.



Specify the host name to import from along with a valid user and password for that host.

Automate Schedule Settings

AUTOMATE SCHEDULE SETTINGS ✕

Host*

Port*

Web Service Definition:

Authentication

Default Username*

Default Password*

Settings

Automate Schedule Host - Specify a name for the Automate Schedule server.

Automate Schedule Port - The incoming port for the Automate Schedule server. Usually 8008.

Web Server Definition - This is the name specified for the Automate Schedule Web Service Definition described in the topic [Configure SWS Web Service in Automate Schedule on page 132.](#)

Authentication - Check this box to set the user and password for the default user to interact with Automate Schedule. If this option is left unchecked, users will be prompted for a credential anytime they use Automate Schedule functions in SWS.

Automate Schedule Default Username - The user name (ie account name) to use to connect to the Automate Schedule server.

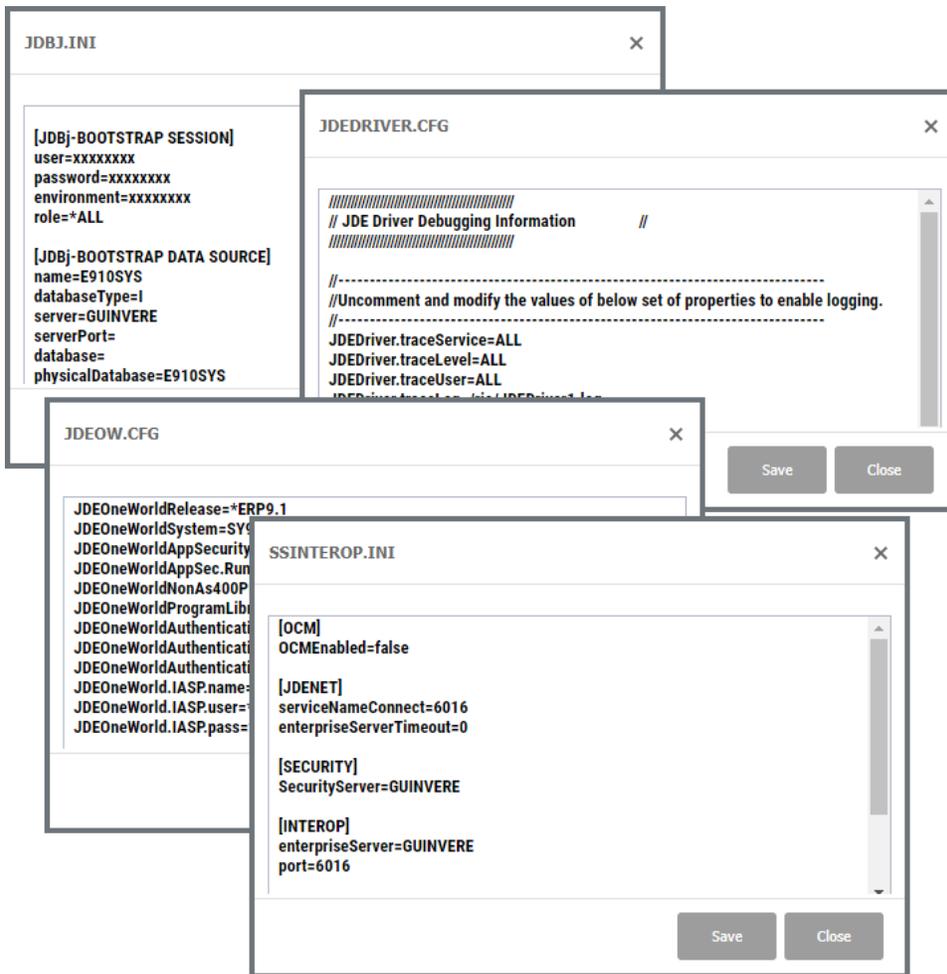
Automate Schedule Default Password - The password for the user name defined above.

JDE Configurations

Use this option to review the four JDE configuration files created by the SETJDEOWA command:

- JDBJ.ini
- JDEDRIVER.cfg
- JDEOW.cfg
- SSINEROP.ini

Each opens in a notepad-like editor.

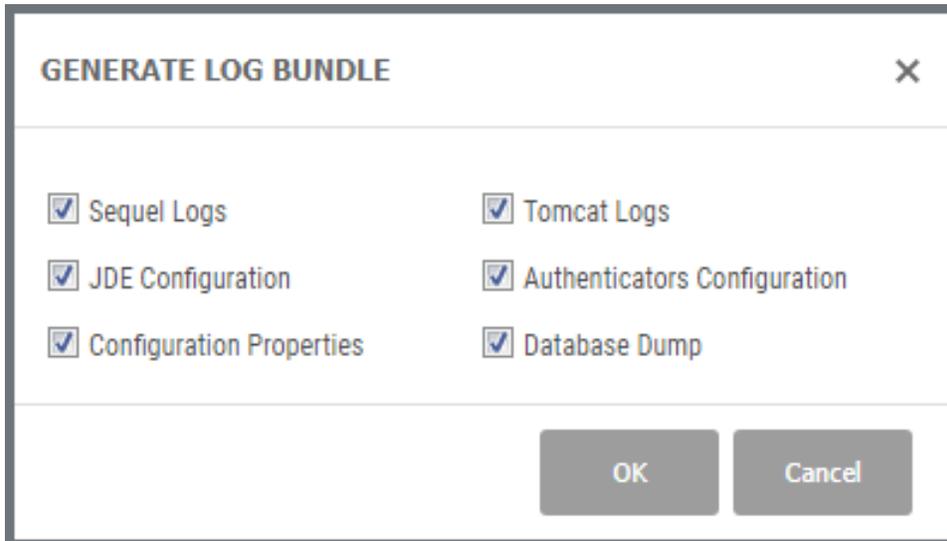
**NOTE:**

These files are copies of the original versions from the host IFS 'rio/lib' folder. See [JDE E1 Configuration on page 137](#) for more information on SETJDEOWA and file locations.

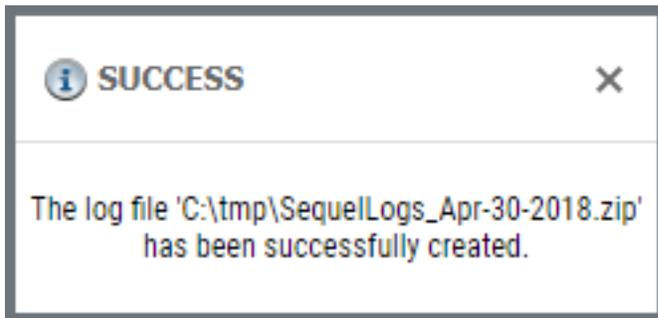
Generate Log Bundle

A zip file containing various log files can be generated with this option. This option is only available for admin level users.

Select any or all of the available log types, and press **OK** to submit the request.



A message displays indicating the name and location of the zip file.



SWI Host Mode

Host Mode introduced a number of new features including the ability to access more than one host from the main interface. This mode, defined by the use of a configured Sequel Web Server, and services on the host IBM i, provides improved performance, multi-system access in the Explorer, multi-system object support in Dashboards, and interactive client tables. In addition, access to the IFS file system creates a [repository](#) for use as a centralized location to manage objects, automate processes and share results.

This mode is more IBM i-centric in a structure centered around host connections, libraries, and objects.

The Explorer Interface

Additional functionality is available in the Explorer interface using a configured Sequel Web Server (SWS). SWS integration was introduced with the development (and is one of the key components) of SWI Host Mode. With this optional server you can:

- Schedule views, reports, and scripts using the Fortra' Automate Schedule Job Scheduler
- Store and share object shortcuts and output files in the Viewpoint Repository
- Provide JD Edwards Security and Data Dictionary support when displaying Viewpoint views and reports

Like the Classic mode Explorer, the Host mode Explorer allow you to navigate to a library and create a list of objects based on any combination of name, type, description, owner, and change date. The results of your views, tabling views, and reports are displayed in separate tabbed windows, and can be printed, emailed, or saved locally in many PC formats.

Start the Explorer Interface

The URL to access the Host mode Explorer references a configured Sequel Web Server like so:

```
http://SWS_SERVER/sequel/web/index.html
```

Each system in the navigation panel should prompt you for Power Systems log on credentials depending on configuration.

NOTE:

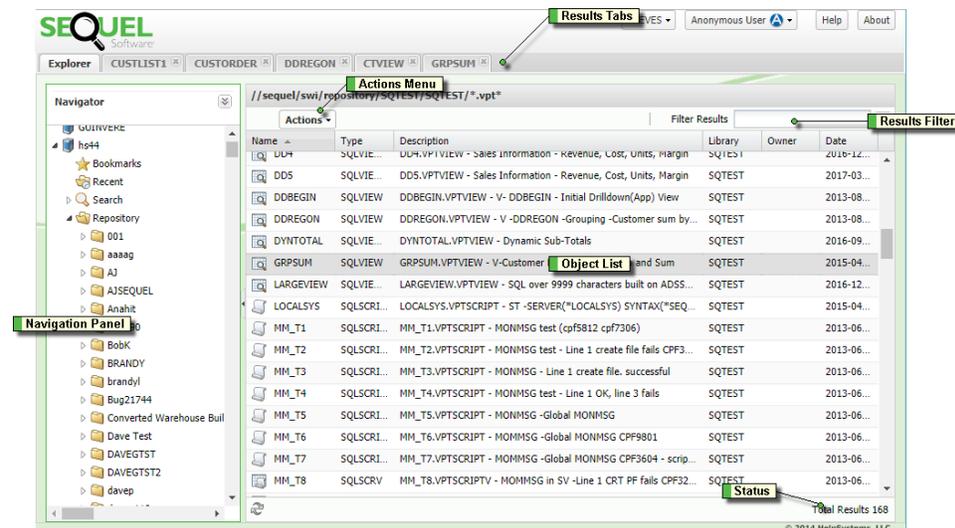
For views designed to use JDE Security, you will also be prompted for JDE credentials and for JDE Environment and Role (if applicable) information.

Overview

The intuitive layout of the Explorer consists of the [Navigation panel](#) on the left and the [Object List panel](#) on the right. There is an [Actions Menu](#) button to direct output, a [filter](#) for fine tuning the object list, and access to [Automate Schedule login, user preferences, on-line help](#), and [version](#) information.

You can navigate to a library and create a list of objects based on any combination of name, type, description, owner, and change date. You can work with output files and Automate Schedule job definitions stored in the [Viewpoint Repository](#).

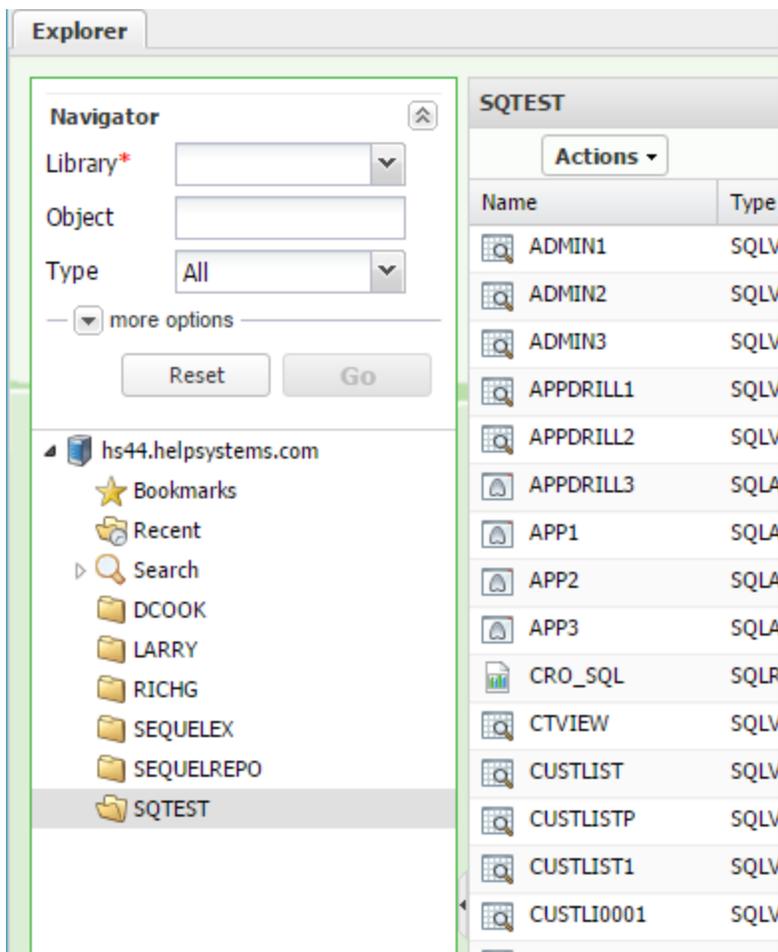
Results from your Viewpoint objects display in separate tabs along the top of the object panel with the name of the object.



The Navigation Panel

You use the navigation panel on the left side of the Explorer to [create a list of Viewpoint objects](#) based on the combination of library, object name, and object type. Additional filtering options are available in the **More Options** section. Press the arrow to expand this section and enter values for an object's text description, owner, and change date.

Beneath this area are links to quickly access a list of user-defined [bookmarked objects](#), a list of [recently used objects](#), and the [last search](#) performed.



Create a List of Objects

There are many options available to create a list of Sequel objects. Press the down arrow at the top of the Navigator to enter any combination of a specific library, an object name, an object type or all object types. In the 'More Options' drop-down, you can fine tune your search based on the [text description](#), [owner](#), and [last change date](#) of an object.

Choose a Library Name or List

To generate an object list you have to enter a library value. Use the library entry to specify the name of a single library, or part of a library name appended with an [asterisk](#)¹. For instance:

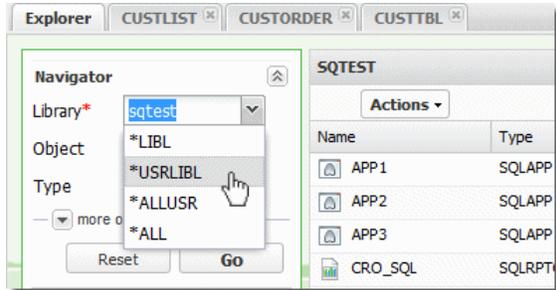
SEQ* - returns all libraries beginning with 'SEQ'.

¹Often referred to as 'Generic*', and used like a wildcard, any library or object name meeting the generic criteria is chosen.

***X** - returns libraries ending with 'X'.

E - returns libraries that contain an 'E' anywhere in the name.

You can also use the drop-down to select one of the following library lists:



***LIBL** - Display all libraries in the current library list.

***USRLIB** - Display libraries from the user portion of the current library list.

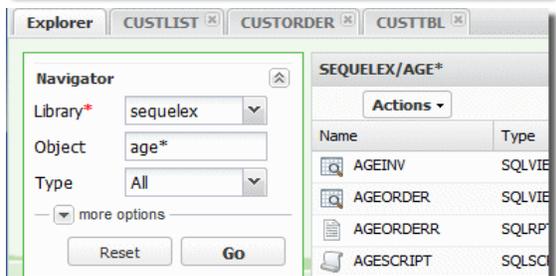
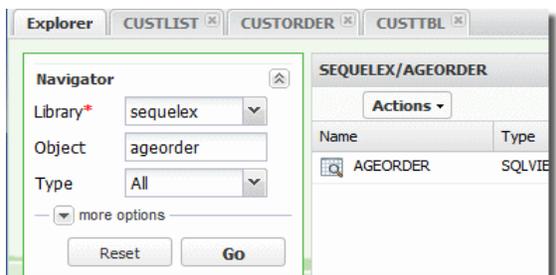
***ALLUSR** - Display all user libraries.

***ALL** - Display all libraries on the system.

Each of these options generate a [list of Sequel objects](#) for the libraries returned.

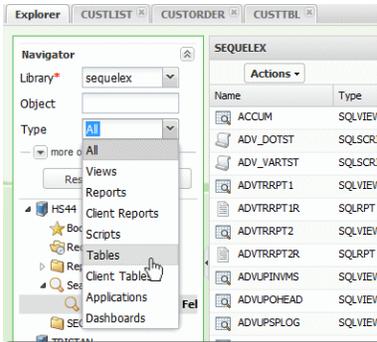
Choose an Object Name

Enter an object name, or part of a name (using Generic* naming) for a given library. Objects meeting the criteria will display. Leave the value blank to return all objects.



Choose an Object Type

The Object Type drop-down lists all the available Sequel object types. Select a single object type, or the value 'ALL' to return all object types.



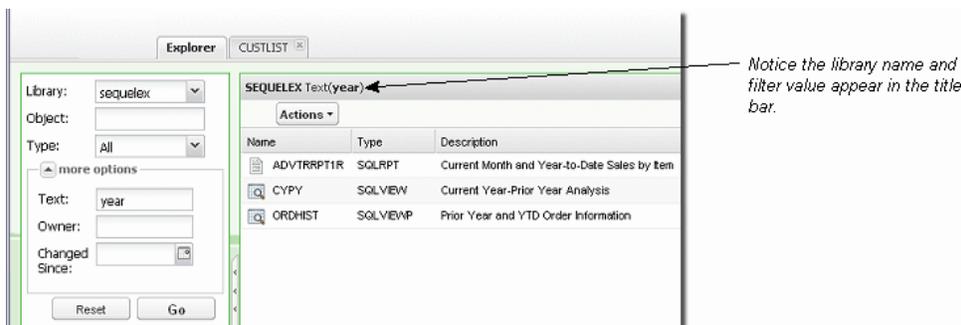
Generic* naming is not available for object type.

More Options

Additional filtering options are available in the 'More Options' section. Press the down arrow to expand.

Text

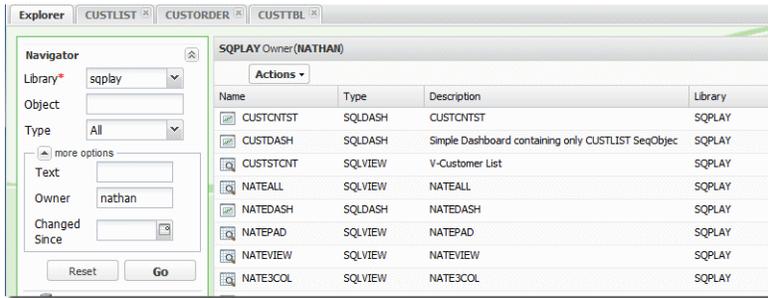
Sequel objects can be saved with descriptive text. This value is shown in the Description column of the object list. Enter any part of the object description to filter the object list, or leave the value blank to return all descriptions.



Generic* naming is not available for object text.

Owner

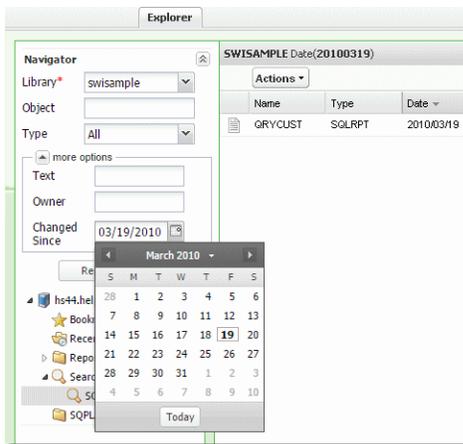
Enter a valid user name for a given library. Objects meeting the criteria will display in the object list. Leave the value blank to return all owners.



Generic* naming is not available for object owner.

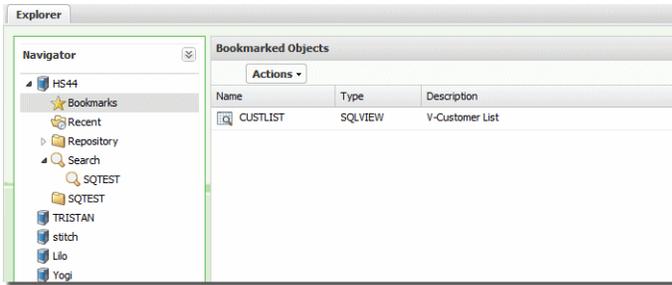
Date

You can filter objects by the last change date using the drop-down calendar. Navigate through the months and select a date. Leave the value blank to return all dates.

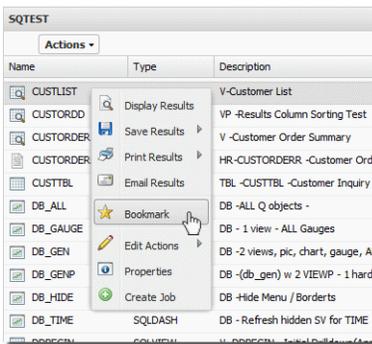


Bookmarked Objects

Bookmarks are similar to browser bookmarks and create quick access to the objects you use most often. You can create a bookmark for any Sequel object and generate a list using the Bookmarks link.

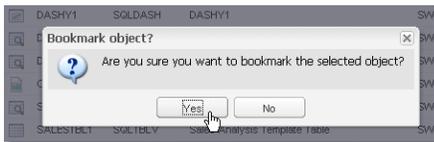


Adding a bookmark is very easy. Just right-click any object and select Bookmark from the drop-down menu.



You can also select the object first, and press the [Actions button](#) to access the bookmark option.

When the confirmation screen displays, press Yes to add the bookmark.

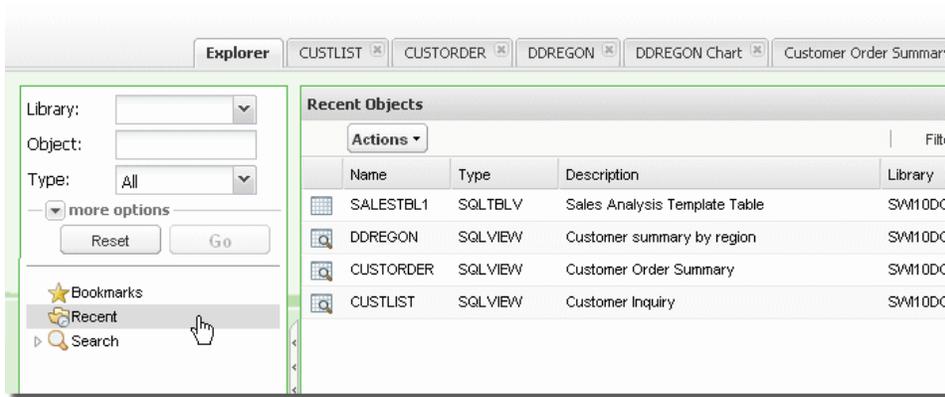


A success message similar to the following will display.



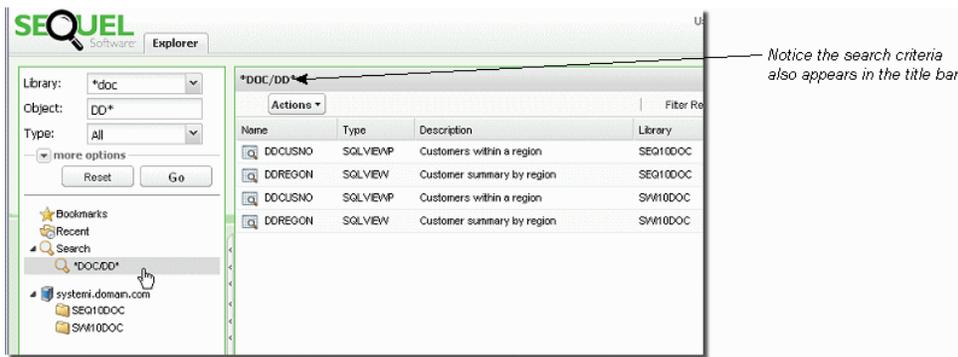
Recent Objects

The recent objects link is another way to quickly access Sequel objects. The last 20 objects used will display in the object list by clicking on this link.



Search

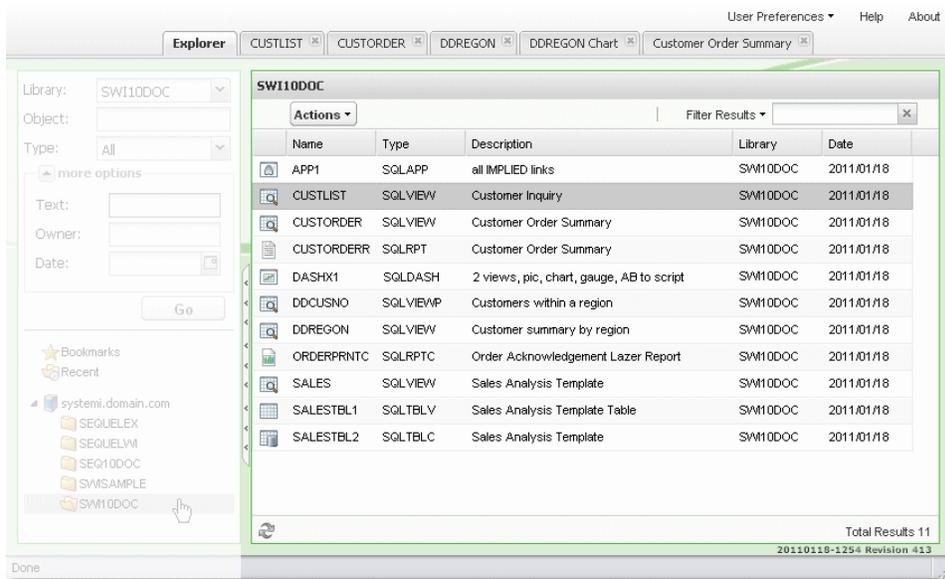
You can recreate a list of objects from your last search by clicking this link. The search link will change any time a new search is initiated by pressing the Go button.



The Object List Panel

The Object List Panel displays Viewpoint objects (views, reports, dashboards, and so on) contained in host libraries, [Viewpoint Repository](#) folders, or referenced by Automate Schedule job definitions in the repository.

The Object List Panel is where you will work with your Viewpoint objects and use one of the two [Actions menus](#) to [direct output](#) for display, print, download, and email.



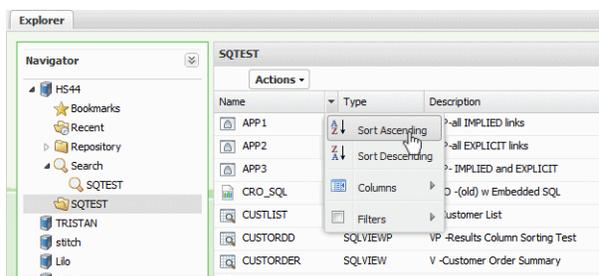
There are many options available to [control the look and arrangement of the list](#). You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can re-size the width of each column and add or remove columns from the display.

Control the Look of the Object List

There are many options available to control the look and arrangement of the list. You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can re-size the width of each column and add or remove columns from the display.

Sort Columns

Each column in the display can be sorted ascending or descending. By default the list is sorted ascending by the object name and the column heading of the currently sorted column appears darker than the others. To change the sorting, hover your mouse over a column heading and press the arrow to access the drop-down menu and select ascending or descending. You can also click the column heading to reverse the current sorting. An arrow will appear (up or down) to indicate the sort type.



Re-size Columns

Columns in the list are displayed in a 'best fit' fashion depending on the number of columns and the amount of information in each column.

You can re-size columns by placing the cursor between any two columns in the heading section-your mouse cursor will change to a to double-bar cursor \leftrightarrow . Click and drag the column to a new width.



Name	Type	Description	Library	Date
APPY1	SQLAPP	APPY1	SWI10DOC	2011.01.18
CUSTLIST	SQLVIEW	Customer Inquiry	SWI10DOC	2011.01.18
CUSTORDER	SQLVIEW	Customer Order Summary	SWI10DOC	2011.01.18

Move Columns

Moving columns in the list is just as easy as resizing. Click and hold any column heading, and move it to a new location. An insertion point will show you where the column will be placed.

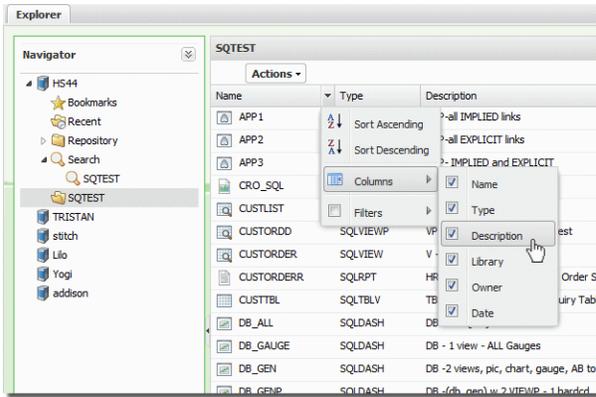


Name	Type	Description	Library	Date
APPY1	SQLAPP	APPY1	SWI10DOC	2011.01.18
CUSTLIST	SQLVIEW	Customer Inquiry	SWI10DOC	2011.01.18
CUSTORDER	SQLVIEW	Customer Order Summary	SWI10DOC	2011.01.18

Add and Remove Columns

Adding or removing columns from the list is available from the column drop-down menu. Un-check any of the listed columns to remove, or check the box to add the column.

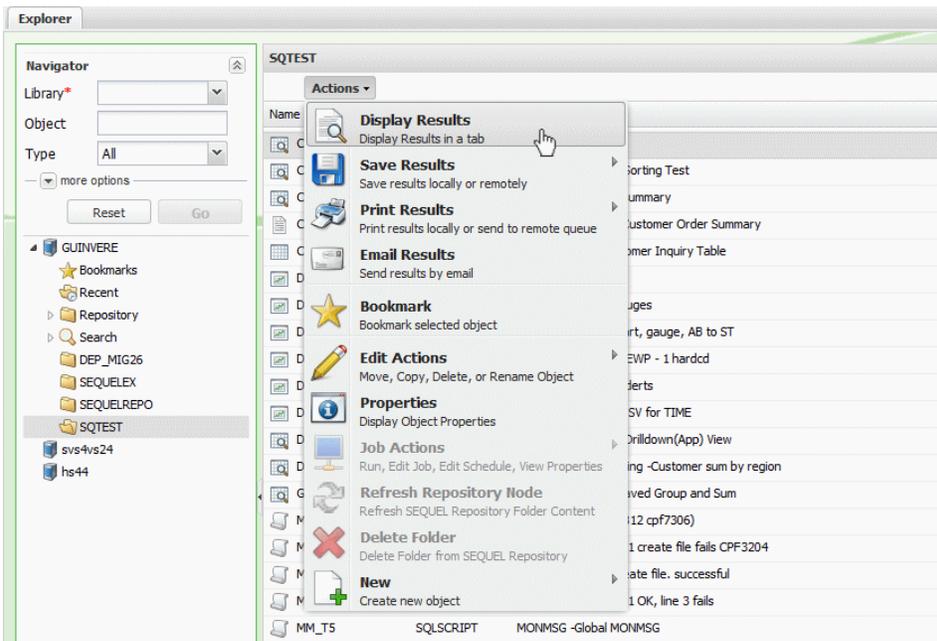
Removing columns will not affect your search results for that column. If you remove Description, you can still search an [objects text](#).



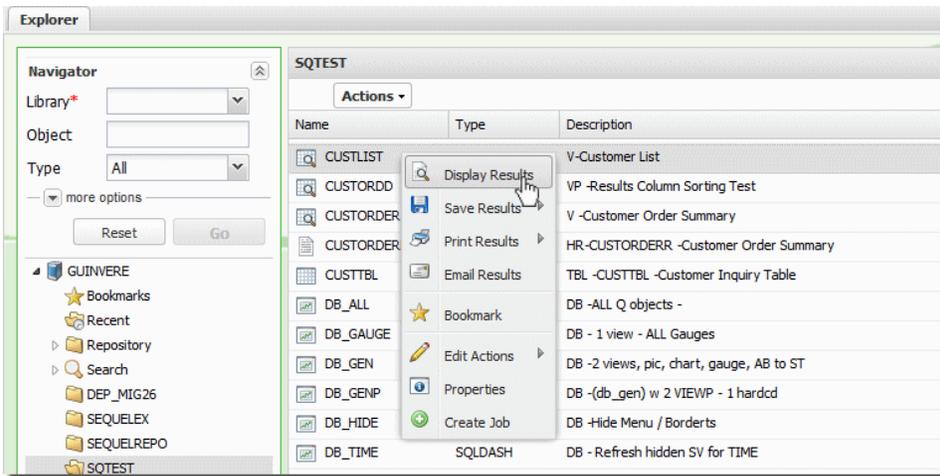
The Actions Menu

There are two Actions menus available in the [object list](#). One is shown at the top of the object list as a button and the other is a right-click contextual menu. Each provide options to [direct output](#), [edit objects](#), and view [object properties](#).

To use the Actions button, first select an object—it will highlight in grey—then click the Actions button to see the menu of options. If you press the Actions button before you select an object, all the options will be disabled.



You can access a similar list of actions by right-clicking any object in the list as show below.



Options will be available or grayed out depending on the object selected either in the Object Panel or the Navigation Panel. Some options are object sensitive—meaning the same option, like Properties, will show different information based on the object or item selected such as system node, folder, shortcut, host object, and so on.

Many of the actions shown above are available in the tabbed results windows for the [displayed](#) Viewpoint objects.

Filter Results

Another powerful feature is the Filter Results entry in the upper-right corner of the [object list panel](#). This option filters results after they have been displayed in the list. The options available in the [navigation panel](#)-library, object, type, and so on, are used to filter objects before the list is displayed.

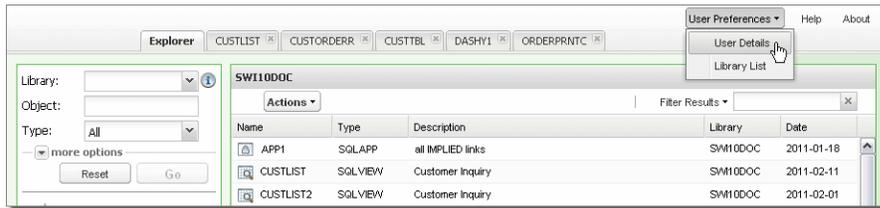
Once you have a list of objects, enter at least three characters. You don't even have to press enter-the search is dynamic. Just pause for a moment and the list will re-generate.



Anywhere the value is found-column or row-that object will remain in the list. Clear the values in the Filter to return to your original object list.

User Preferences

In the upper-right corner of the object list panel you can access User Details and adjust your Library List.



User Details

Open User Details to customize your browser display with your name and set a default e-mail address.



Use this screen to set the following values:

User Name - This value is for display only. It shows the name of the current logged-in user.

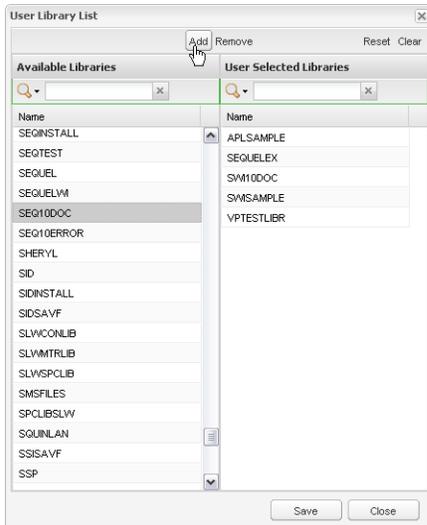
Real Name - Enter the long version of your name or a nick name.

E-mail - Enter an E-mail address for use in all E-mail results dialogs.

Library List

You may find a need to add a library to the user portion of your library list to perform a specific task or if your queries use unqualified libraries or *LIBL and you want to ensure users are using the correct files.

Select the Library List option to open the User Library List screen.

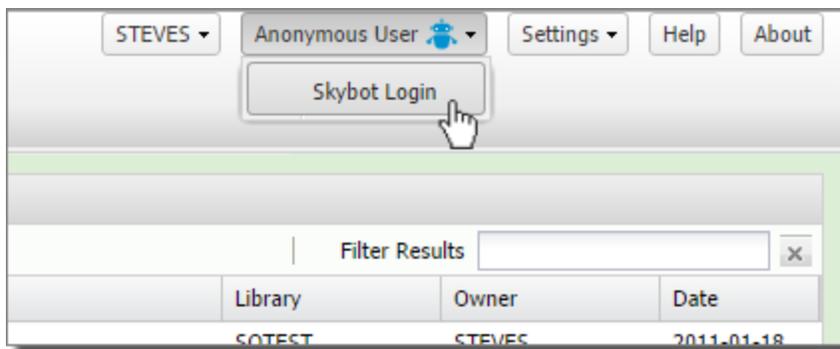


Select a library (or multiple libraries using CTL-click or Shift-click) from the Available Libraries list on the left, and press Add to place them in the user portion of your library list. When you are finished press **Save**.

These values are stored in a file (SEQUELWI/SWIUSERDFT) containing a record for each user. You can use data manipulation commands (Insert, Update, Delete) to make mass changes to this file.

Automate Schedule Login

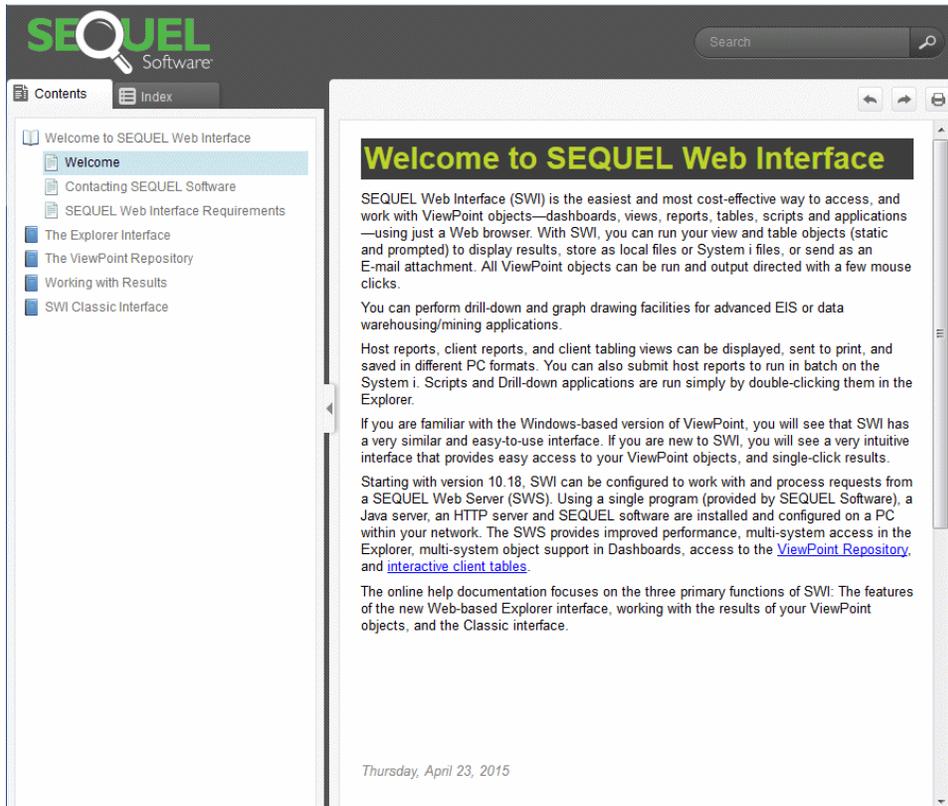
Use the Automate Schedule Login button to log into Automate Schedule to access advanced scheduling features or to edit jobs.



Help

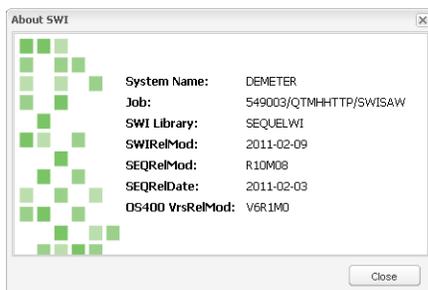
Press Help in the upper-right corner of the [object list panel](#) to open the on-line help facility built into SWI.

Expand the books in the Table of Contents, and click topics to access specific information about the product. Press the Search button to search for keywords anywhere in the online documentation.



About

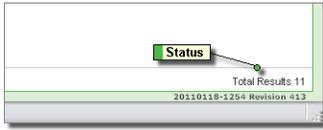
Use the About option in the upper-right corner of the [object list panel](#) to display all version numbers for SWI, the operating system, and other important information.



If you ever need to [contact Fortra](#) for support, you will be asked for this version information.

Status

In the lower-right corner of the [object list panel](#) the number of objects displayed by your searches is displayed.



Repository Overview

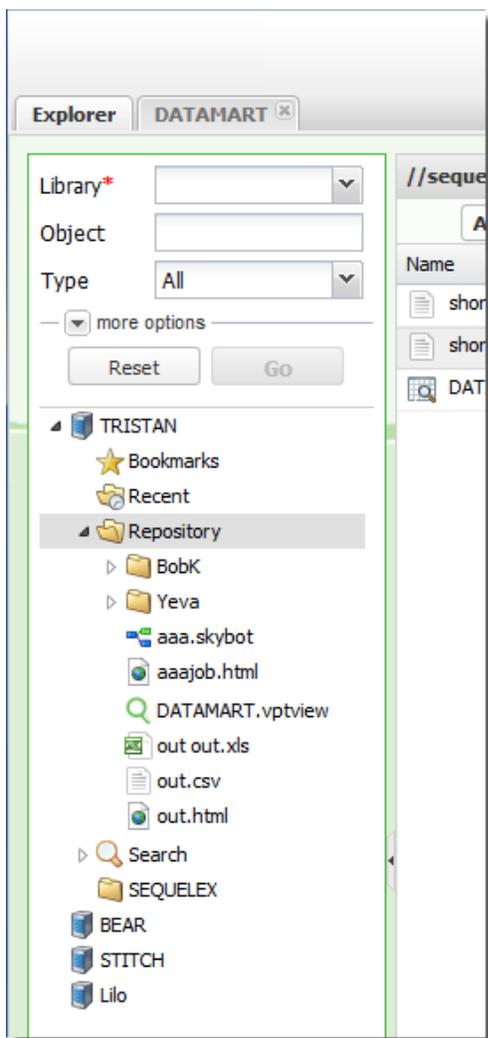
The Viewpoint Repository is the key feature of SWI Host mode, that provides a centralized location to manage objects, automate processes and share results. The Repository is available (provided a Sequel Web Server is installed and configured) in the navigator panel along with your systems and libraries.

Currently, the repository is mapped to the Integrated File System (IFS) on the IBM i in a PC-like structure where objects reside in folders or sub folders. In the repository you will see:

- Output from your Viewpoint queries and reports, saved as different PC file types (such as pdf and xls), making them easily accessible to web users.
- Viewpoint shortcut files (ending in .vpt*) that reference Viewpoint objects on the IBM i.
- Converted Showcase objects (as shortcut files ending with .vpt*) created as part of the optional C&DS migration process.
- Automate Schedule job definitions to schedule jobs on the IBM i that create output from Viewpoint objects (views, reports, scripts). These files have a .job extension.

Working with Repository Objects

The Repository appears in the navigator tree within a selected system along with host libraries. Double-click or press the arrow next to the system icon to expand the tree for that system.



Inside the repository (double-click the folder, or single-click the arrow) you will see: Sub folders, Viewpoint shortcut files (.vpt*), output files (in different PC file formats), and Automate Schedule job definitions (.job).

Folders and Sub Folders

Click on a sub folder to see items contained within.

Right-click the main Repository folder, or a sub folder to create a new folder.

Viewpoint Shortcut Files

Click on a Viewpoint shortcut (.vpt*) to see the host object it references.

Available Shortcuts:

.vptview	Views and Host Tables
.vpttableh	Host Tables
.vpttablec	Client Tables
.vptreporh	Host Reports
.vptreport	Client Reports
.vptscript	Scripts
.vptscriptv	Script Views
.vptdash	Dashboards

Run the Viewpoint shortcuts by double-clicking the link in the Navigation pane, or right-click to select an output action. You can also run the referenced object listed in the Object List panel, just like you would from a library display.

Output Files

Click on an output PC file, and it opens in a separate tab, prompts you to save locally, or opens with an associated program like Word or Excel.

Automate Schedule Job Definitions

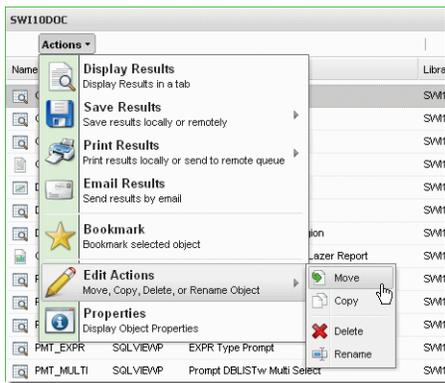
Click on a Automate Schedule job definition object (as a shortcut) to see the referenced object (view, report, script), double-click the job icon to run the job, or right-click to access a list of job related actions.

Refer to the topic, [Setup Host Mode on page 246](#) for more information on working with, and creating Automate Schedule jobs.

Edit Actions

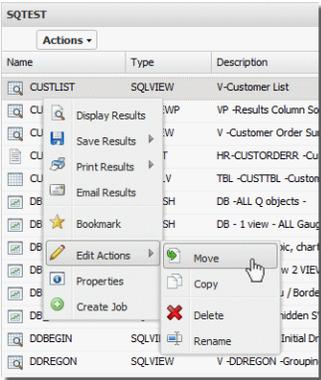
Basic object related maintenance functions are available in SWI to authenticated (logged in) users-anonymous users cannot access these functions.

From the Explorer object list press the [Actions button](#) and select **Edit Actions**,



Actions Button

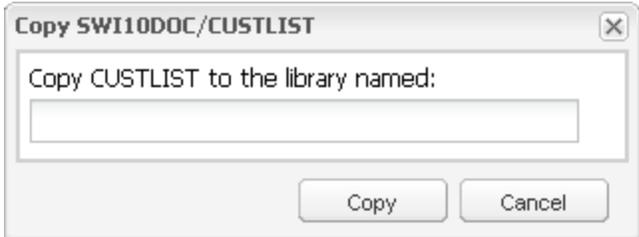
or right-click any object and select **Edit Actions** to copy, move, delete, or rename an object.



Actions Drop-down Menu

Copy

In the Copy window, enter the name of the library to copy the selected object to.



Press **Copy** to complete the action.

Move

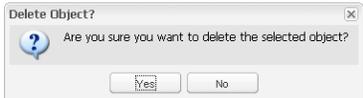
In the Move window, enter the name of the library to move the selected object to.



Press **Move** to complete the action.

Delete

Selecting delete for an object will open a confirmation screen.



Press **Yes** to delete the selected object.

Rename

In the Rename window enter a new name for the selected object.



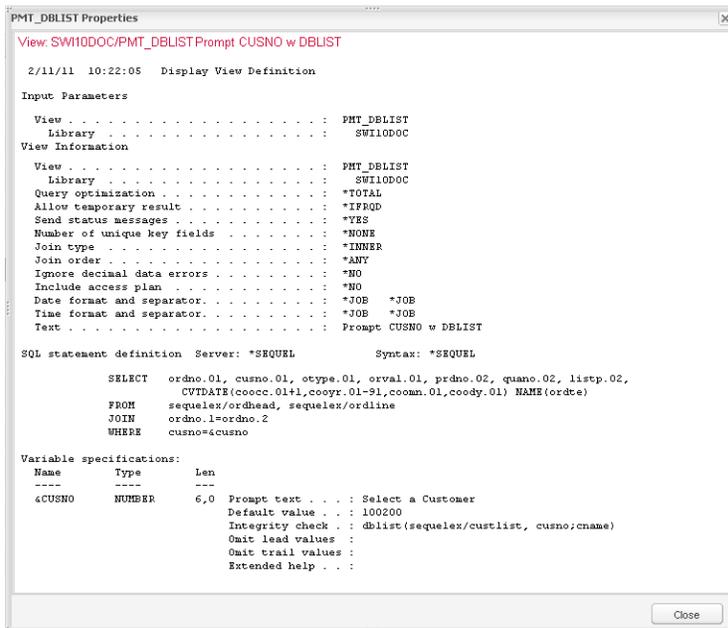
Press **Save** to complete the action.

Properties

You can access the properties of your Viewpoint objects using the [Actions menu](#). Press the Actions button, or right-click an object and select Properties from the menu.

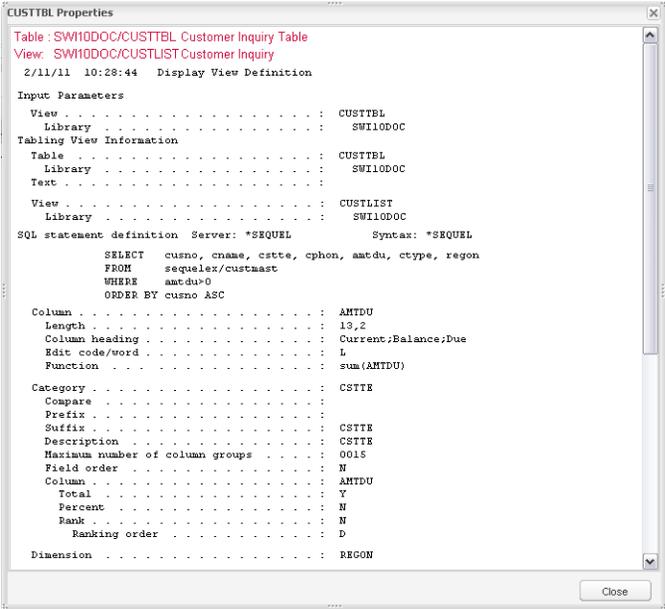
Views

The View Properties report will show everything about the view. You can see the full SQL statement and any run-time prompt definitions.



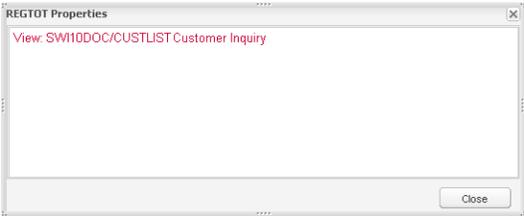
Tabling Views

The Table Properties report includes all table definition elements-Dimension, Category, and Field. Because a table is built over a view to extract the data, basic view information is included as well.



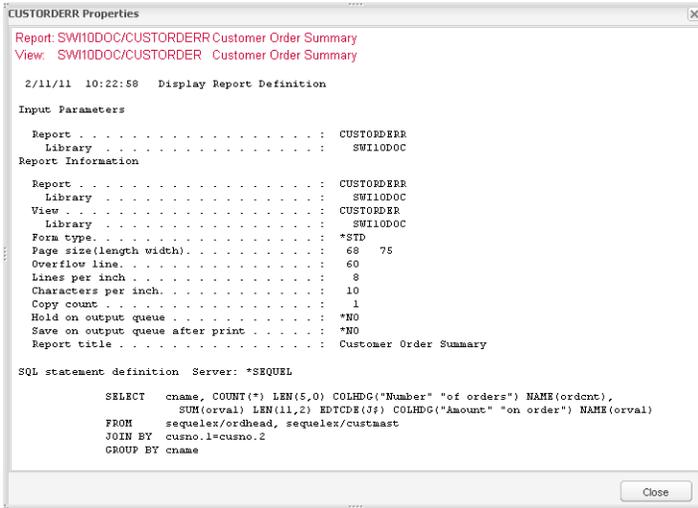
Client Tables

The Client Table Properties report displays the name of the view used by the client table.



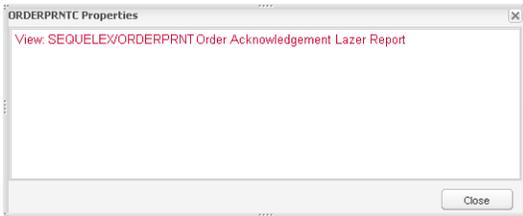
Host Reports

The Host Report Properties report contains information about the view the report uses to extract data as well as basic information about the report itself.



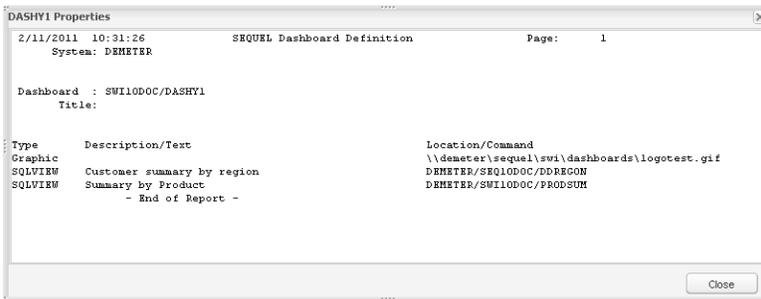
Client Reports

The Client Report Properties report displays the name of the view used by the client report.



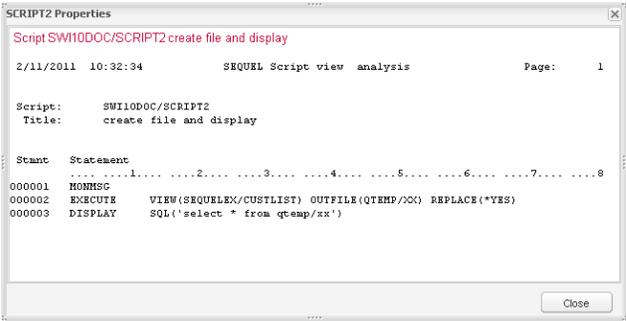
Dashboards

The Dashboard Properties report lists the name and location of all elements contained in the dashboard.



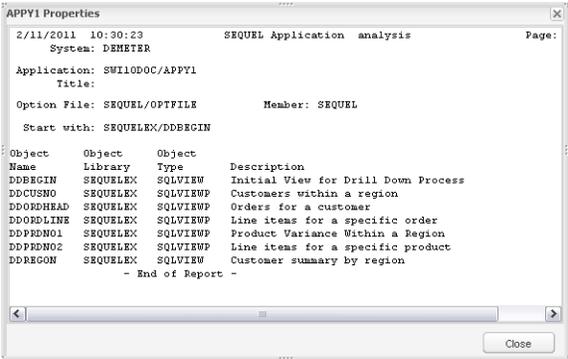
Scripts

The Script Properties report list the full definition and all commands in the script.



Drill-Down Applications

The Drill-Down Application Properties report lists all the name and location of all objects contained in the application.

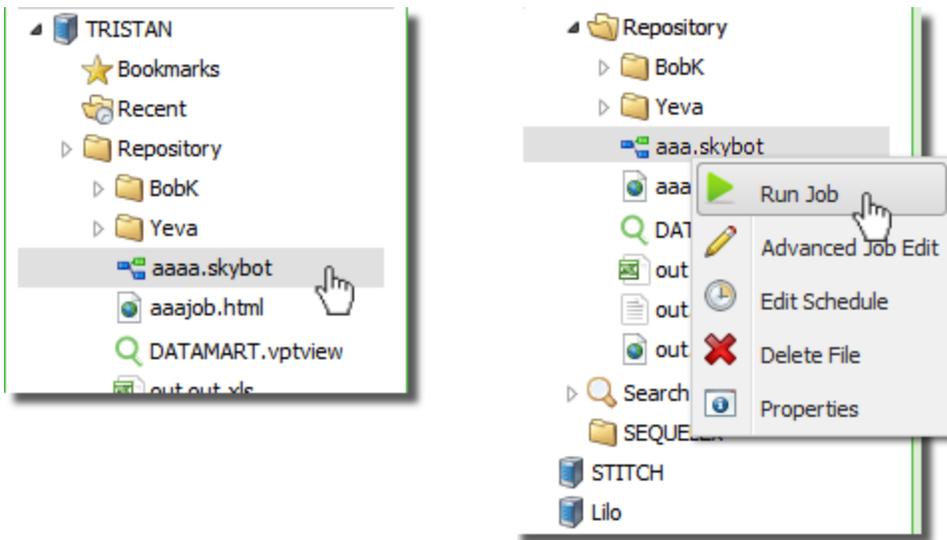


Automate Schedule Jobs

An Automate Schedule job definition (.job) in the repository references a Viewpoint object, and defines a job to be run on the Power Systems server to create output at a scheduled time. This output can be saved in the repository, and emailed to users. Below are the activities available when working with Automate Schedule job definitions:

Run a Job

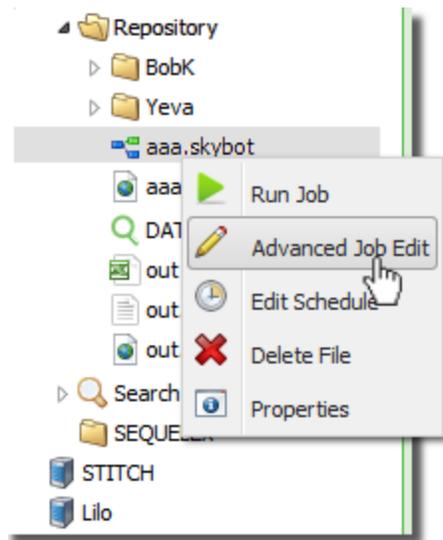
To run a job simply double-click the job icon, or right-click and select **Run Job**.



Edit an Existing Job

Once a job has been defined and saved, you can modify its properties using the Automate Schedule Interface.

Right-click the job and select **Advanced Job Edit**. You will be prompted to log onto the configured Automate Schedule Scheduler server, and taken to the [Automate Schedule job definition screen](#).

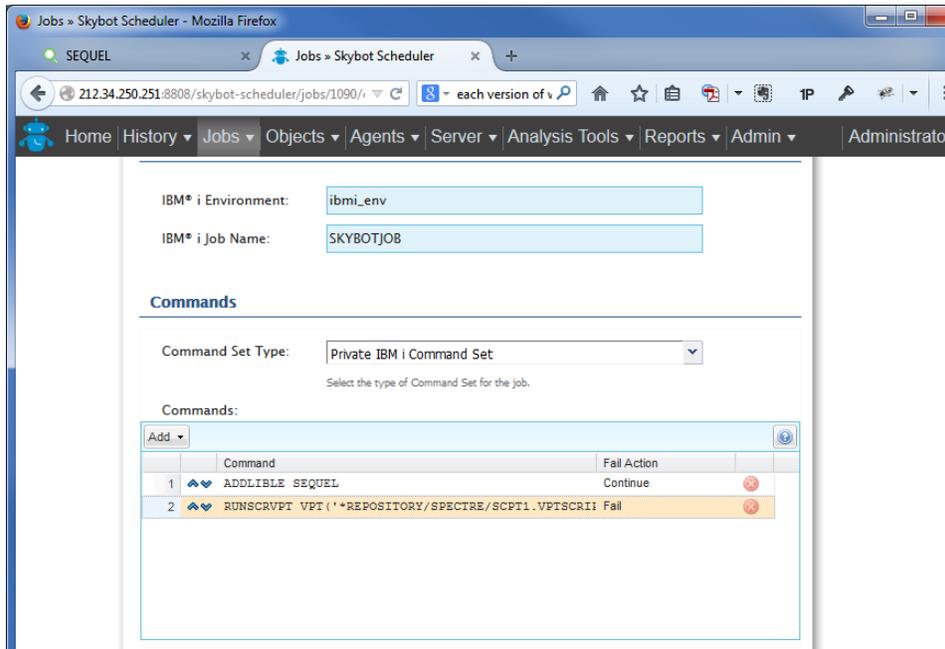


Advanced Job Edit

Automate Schedule Job Definition Screen

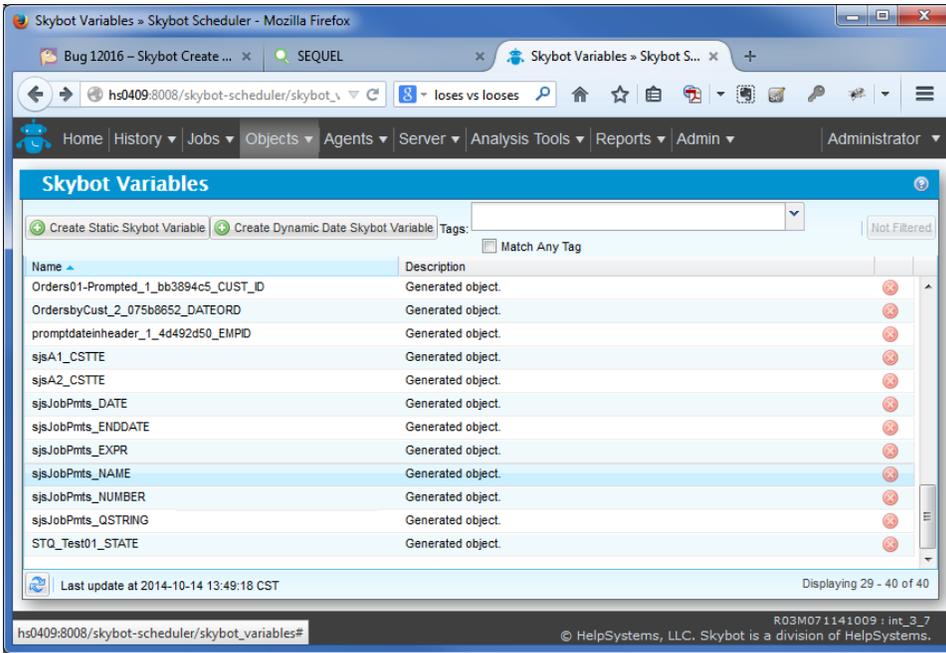
You will be directed to the Automate Schedule Job Definition screen if you select to edit a Automate Schedule job in the Viewpoint Repository.

This screen opens in a separate browser tab and shows all the settings for the selected job such as schedule times, agent environment, commands (shown below), and more.



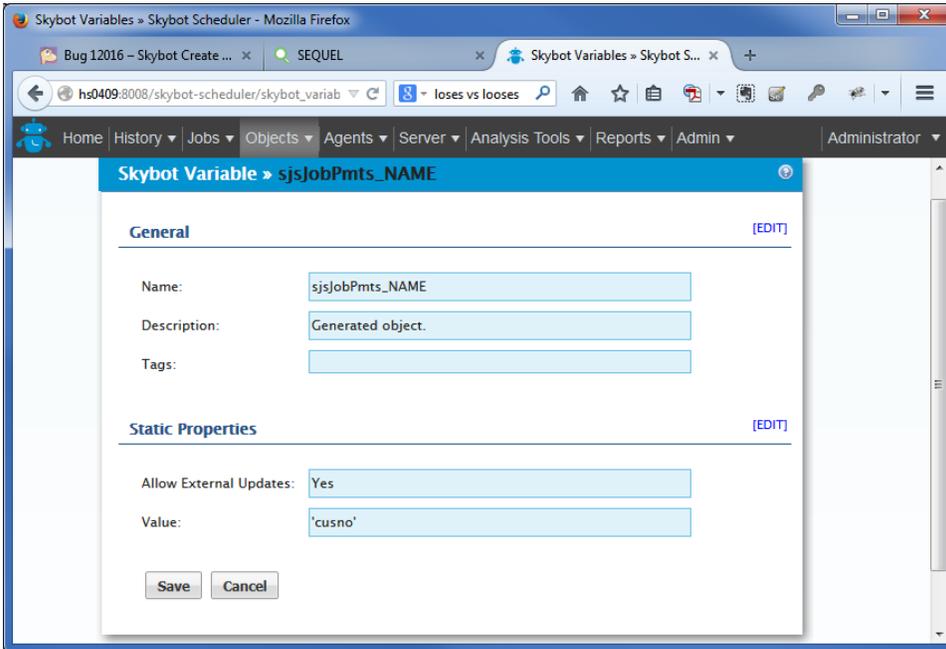
Jobs with Prompted Views

If you [create a job](#) built with a prompted view, you can review the values set in the job by selecting **Objects\Automate Schedule Variables** from the Automate Schedule menu.



Double-click the job/variable to open its properties.

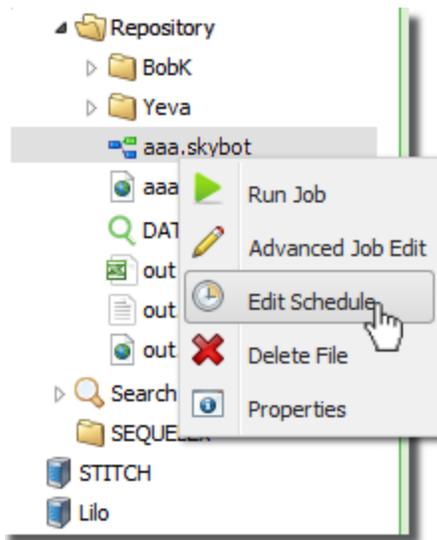
The value set for a given variable is shown in the Value field.



Edit a Job's Schedule

After your job is created and saved, you can alter the scheduled run time.

Right-click the job and select **Edit Schedule** to open the [Schedule Job](#) panel. You can set the job to run once, weekly, or the nth day of an interval.



You will see the same schedule panels when creating a [new job definition](#).

Schedule Job Parameters

The following panels are used to set or change a job's run time settings when creating a [new job](#), or editing an [existing schedule](#).

Select the tab for the type of schedule you wish to change or review, fill in the required values, and press **Schedule** to save any changes.

Run Once

Use the drop-down entries for time and date (month, day, and year) to schedule a job to run once.

Schedule Job

Run Once Weekly Interval

Schedule Time: 2:46 PM

Schedule Date: [Month] [Day] [Year]

Schedule Cancel

Weekly

To set the job to run weekly, select a time along with a day(s)-of-the-week.

The screenshot shows the 'Schedule Job' dialog box with the 'Weekly' tab selected. The 'Schedule Time' is set to '2:46 PM'. Under the 'On:' section, there are seven checkboxes for the days of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. The 'Schedule' and 'Cancel' buttons are visible at the bottom right.

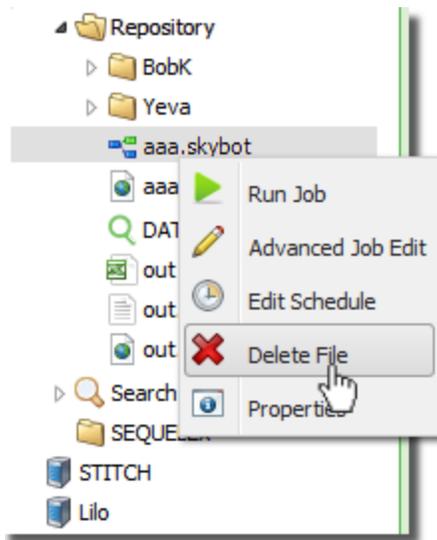
Interval

To set an interval, select a time along with an nth day of the Month, Quarter, Half-Year, or Year.

The screenshot shows the 'Schedule Job' dialog box with the 'Interval' tab selected. The 'Schedule Time' is set to '2:00 AM'. The 'Run on:' field is set to '5' with a dropdown arrow, followed by '(nth day)'. The 'Of the:*' field is set to 'Month'. The 'Counting days:*' field is set to 'from the end (backwards)'. The 'Schedule', 'Clear schedule', and 'Cancel' buttons are visible at the bottom.

Delete a Job

Right-click a job and select **Delete** from the menu.

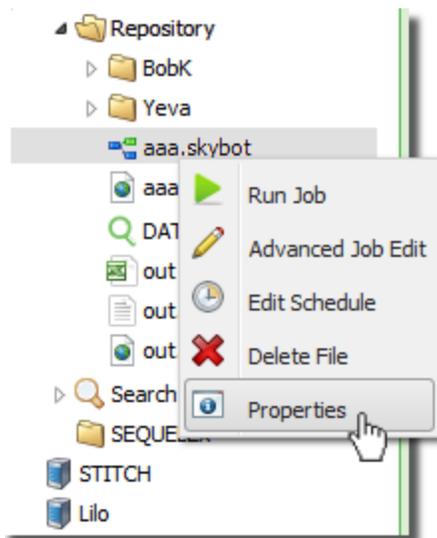


You will be asked if you want to delete the job definition from the IFS (the .Automate Schedule file) and/or the underlying job from the Automate Schedule Server.

Job Properties

The Job Properties option is used to review the general job properties and history, specify recipients for a job's notifications, and review or modify the job's commands and variable run-time values.

Right-click the job, and select **Properties** from the menu.



A new tab opens with five sub-tabs: General Information, Job History, Notifications, Commands and Variables.

General Information

This tab does as described—shows general information about the job and its schedule.

The **Schedule** item at the bottom will show 'Unscheduled' if the job was not defined with a time to run. Use the [Edit Schedule](#) option to set a time.

Type	Job
Agent	HS44_SKYAGENT
Agent Environment	STEVES
IFS path	repository/SPECTRE/pmt_qstring.skybot
Skybot Job Name	pmt_qstring
Description	prompted view
Scheduled / Unscheduled	Scheduled
Schedule	Run Once at 3:22 PM on 16 Jan 2015

Job History

The Job History tab lists every time the job runs. Each line can be expanded (as shown) using the plus sign to the left of the entry. A joblog is available from Automate Schedule using the **Download Joblog** button next to each entry.

Run ID	Status	Started	Ended	Job	
2384	Completed	2015-01-16 16:29:59 -06:00	2015-01-16 16:30:00 -06:00	pmt_qstring	Download Joblog
Job details		Run details		Run results	
Agent: HS44_SKYAGENT		Start: 2015-01-16 16:29:59 -06:00 End: 2015-01-16 16:30:00 -06:00 Running time: 2015-01-16 16:30:00 -06:00 Manually started: true Start at command sequence: 1		Run status: Completed	
2383	Completed	2015-01-16 16:28:34 -06:00	2015-01-16 16:28:35 -06:00	pmt_qstring	Download Joblog

Pressing the **Download Joblog** button for an Advanced job (or Job Suite), opens the Member Job Joblogs dialog. Each member job has its own joblog button so you can review how each member job ran.

Run ID	Member Job Name	Status	
2393	SteveSuite_member1	Completed	Download Joblog
2392	SteveSuite_member2	Completed	Download Joblog
2391	SteveSuite_member3	Failed	Download Joblog

Notifications

This tab displays a list of recipients for job completion or failure, and the users (subscribers) designated to receive the output specified in a given job.

General Information Job History Notifications Commands Variables					
Add Email Remove Email Save Run Job Advanced Job Edit Edit Schedule Refresh					
Email Address	Run	Complete	Failure	Results	
user1@helpsystem.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
user2@helpsystems.com	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

If a job was defined with a list of subscribers (to the output), they will appear here with all options checked when you open the tab.

Use the green plus icon to add a recipient's email address and check the following:

Run - Send the recipient a notice that the job was added to the scheduler. If a job was defined with a list of subscribers (to the output), they will be already listed here when you open the tab.

Complete - Send the recipient a notice that the job completed as scheduled.

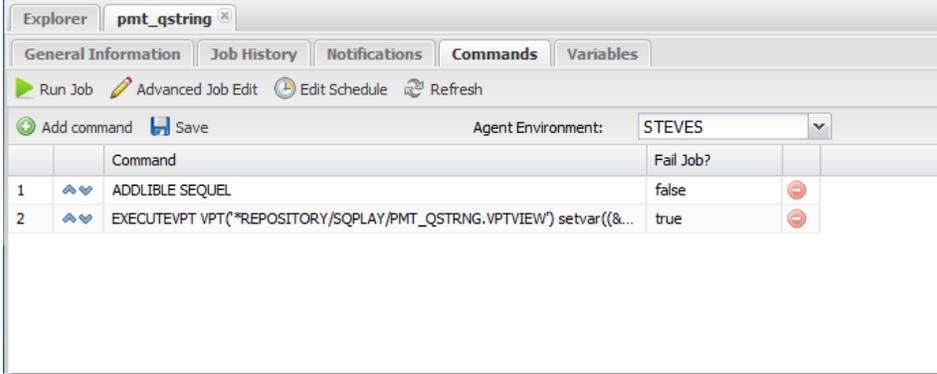
Failure - Send the recipient a notice that the job failed to run.

Results - Send the results of the query or report as an attachment with the email.

Make sure to press the **Save** button to apply changes.

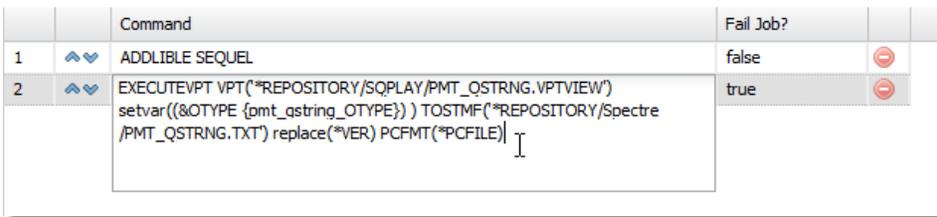
Commands

The Commands tab lists the commands that will be executed by the job. The command lines can be deleted, resequenced, modified and new commands can be added.



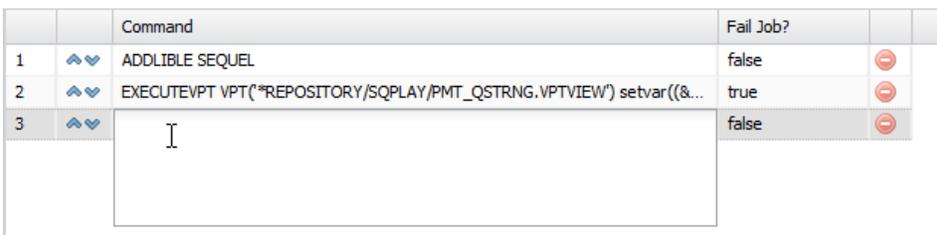
Use the red minus button to the right of each line to delete. Use the blue up-down arrows to the left of each line to re-sequence.

To modify, simply click the command to expand the in-line edit box like so:



Insert, or over type to make changes. Be sure to press the **Save** button to apply changes.

To add a new command, press the **Add Command** button. After the new line is added to the display, click the blank command to open the in-line edit box.

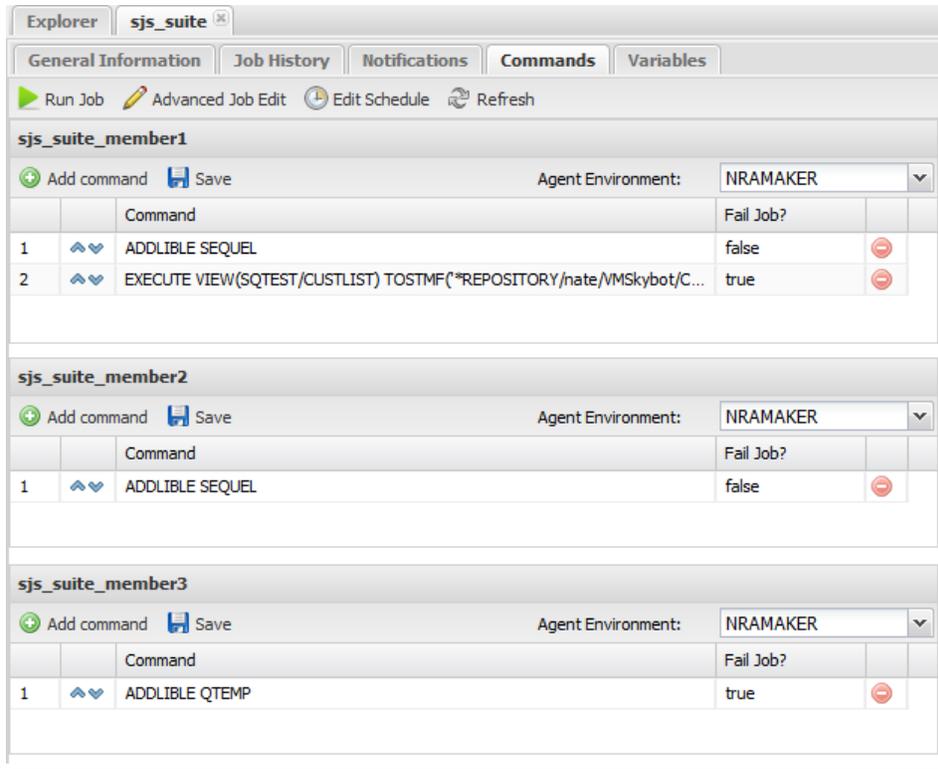


Enter the new command and press the **Save** button to apply changes.

NOTE: Modifying and creating commands using these dialogs is an advanced feature as there is no prompting or syntax checking. This should only be performed if you are absolutely comfortable with command syntax.

Advanced Jobs / Job Suites

For Advanced Jobs, commands are shown for each member job that makes up the advanced job definition.



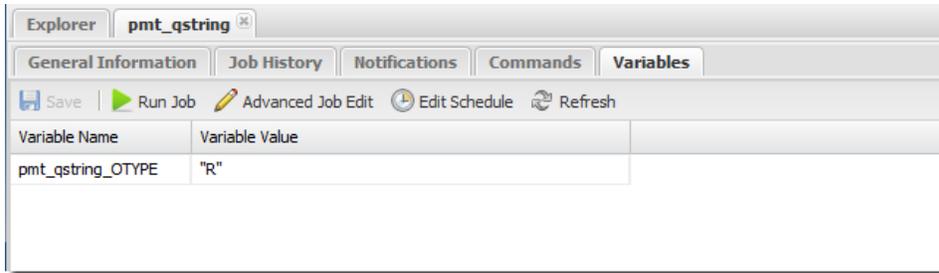
About Advanced Jobs and Automate Schedule Job Suites

Job Suites are a grouping of jobs created in Automate Schedule that are connected by a common starting point. Jobs that are assigned to a Job Suite are called Member Jobs. Job Suites contain the schedule, schedule exceptions, missed run time options, job history purge options, and prerequisites for all Member Jobs assigned to the Job Suite.

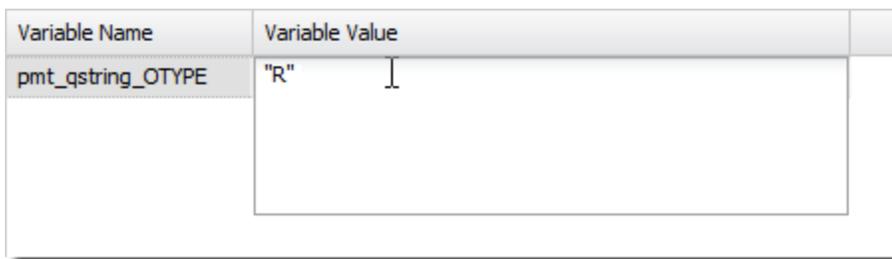
The job flow in a Job Suite may be set up in multiple ways: serial, parallel, complex. Regardless of flow, all Member Jobs are tied directly or indirectly to the initiation of the Job Suite. Member Jobs can run immediately when the Job Suite is initiated or react to the completion of one or more other Job Members. This differentiates Job Suites from a grouping of jobs that are initiated independently, but referred to by one name.

Variables

If the job uses a prompted view, any variables and their corresponding run-time values are displayed here. The run-time values can be modified from this screen.



To modify, simply click the current value to expand the in-line edit box like so:



Insert, or over-type to make changes. Be sure to press the **Save** button to apply changes.

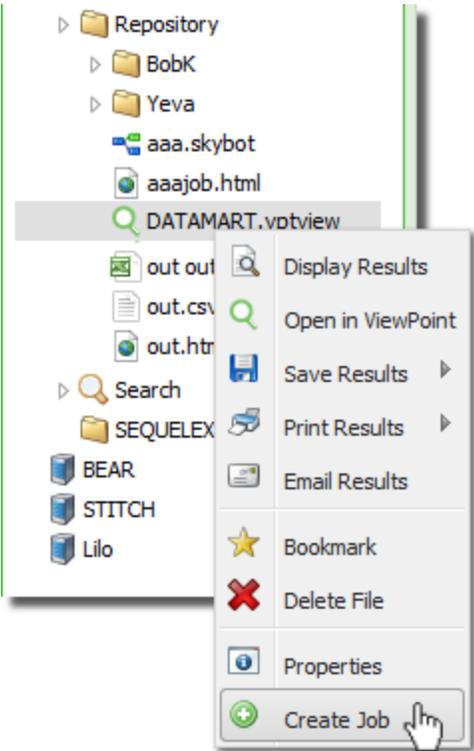
New Job Definition

There are two parts to creating a Automate Schedule job from a Viewpoint object in the repository:

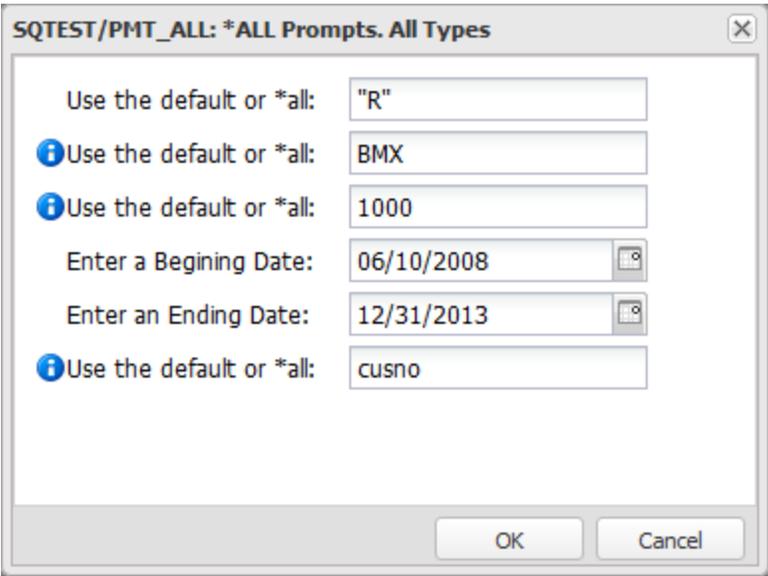
- Create the Job
- Set the Job's Run Time

Create the Job

Start with a Viewpoint object (view, report, script, and so on)—either a host object in a library, or a shortcut file in the repository, and right-click to select **Create Job**.



The New Job Definition screen is displayed if the starting objects is not prompted. If the starting object is based on a prompted view, you must first fill in the prompts and press **OK** to define the job.



At the New Job Definition screen fill in all required values (if you selected a repository object—vptview, vptreport, vptscript—many of the options will auto-fill) and press **Create Job** to continue with the job's run time settings.

New Job Definition

Job Name* NewJob

File Name* *Repository/NewJob.job

Job Description* This is a new job definition.

Agent* HS18_SKYHS0409

Agent Environment* sws

Object to Run* SQTEST/CUSTORDERR

Output File* *Repository/CUSTORDERR TXT

Subscribers user1@mail.com, user2@mail.com

Create as Advanced Job

Options

Job Name - Enter a unique name for the job. Do not use spaces.

File Name - This will auto-fill based on the Automate Schedule Job name entered in the first field. You can overwrite this value or use the **Browse** button to navigate to an existing Automate Schedule file.

Job Description - Enter a useful description of the job.

Agent - Use the drop-down menu to choose the Agent the job should use. This should default to the IBM Agent defined in Automate Schedule and SWS.

Agent Environment - IBM i agent environments are named groups of IBM i job control defaults that contain attributes to run your jobs. These attributes are stored in one place and shared across multiple jobs and if something changes, you change it in one place, not every job. Use the drop-down menu to choose the Agent Environment the job should use.

Object to Run - This value will fill in with the name of the object you selected to create a job. If you started with host object in a library you won't be able to alter this value. If you started with a repository object (.vpt*), you can change the object by over typing or search the repository for a different object using the **Browse** button.

Output File - This value will auto fill the name and path based on the Object to Run value above. Change the name if you like or leave as is. Use the drop-down menu to choose a PC format.

Output will be saved by default to the same location as the Object to Run. Objects that save in the top-level repository folder (called repository) appear as '/filename.ext'. To save to a sub folder, use the syntax '/subfolder/filename.ext'.

Subscribers - Enter a list of email recipients, separated by a comma, to receive the specified output file. Subscribers will also receive completion and fail notifications. These subscribers will appear in the job properties [Notification](#) tab as 'Run'.

Create as Advanced Job - Check this box to create the job as an Advanced Job. An advanced job definition can be used as the starting job for a Automate Schedule Job Suite. See below for more information.

About Advanced Jobs and Automate Schedule Job Suites

Job Suites are a grouping of jobs created in Automate Schedule that are connected by a common starting point (the Advanced Job above). Jobs that are assigned to a Job Suite are called Member Jobs. Job Suites contain the schedule, schedule exceptions, missed run time options, job history purge options, and prerequisites for all Member Jobs assigned to the Job Suite.

The job flow in a Job Suite may be set up in multiple ways: serial, parallel, complex. Regardless of flow, all Member Jobs are tied directly or indirectly to the initiation of the Job Suite. Member Jobs can run immediately when the Job Suite is initiated or react to the completion of one or more other Job Members. This differentiates Job Suites from a grouping of jobs that are initiated independently, but referred to by one name.

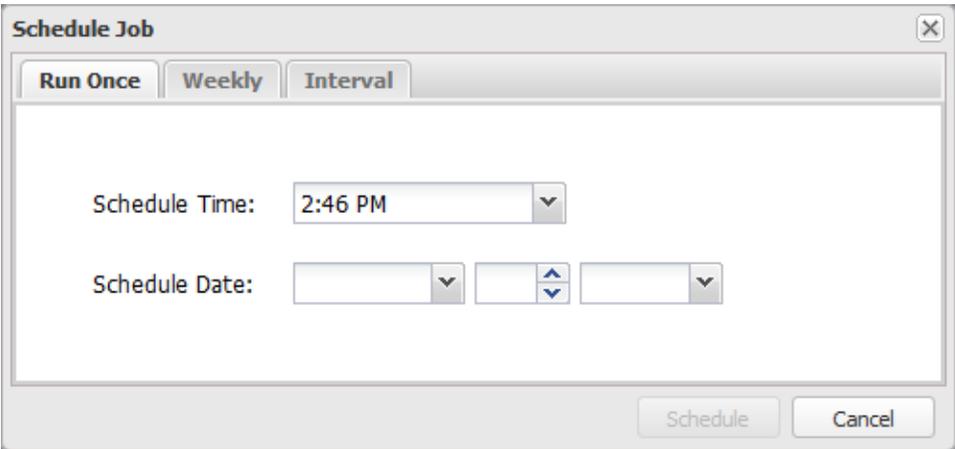
Set Run Times

When you finish with the Job definitions above, you will be presented with the Schedule Job screen to set the job's run options. Select the tab for the type of schedule you wish to create, fill in the required values, and press **Schedule** to continue.

To create the job as unscheduled, press the Cancel button. Either option will return you to the SWI Explorer.

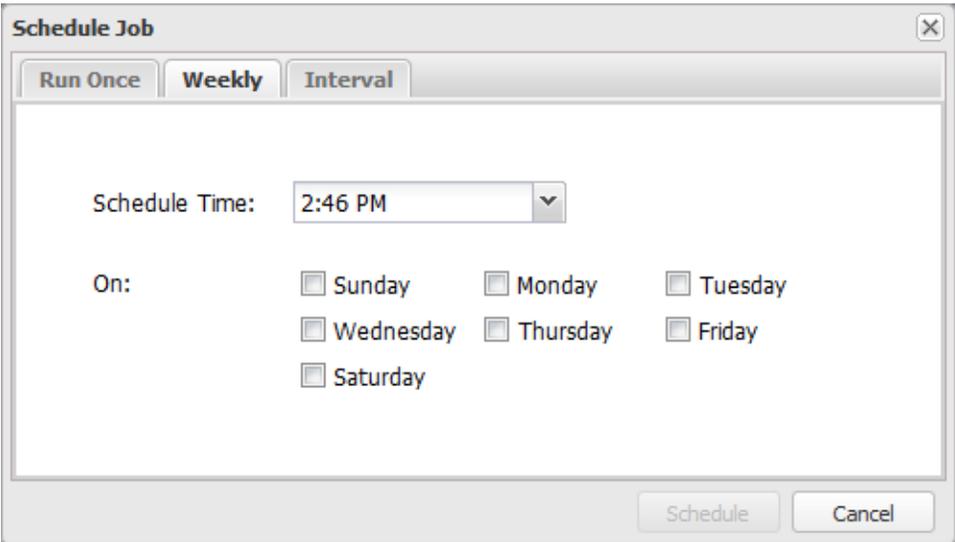
Run Once

Use the drop-down entries for time and date (month, day, and year) to schedule a job to run once.



Weekly

To set the job to run weekly, select a time along with a day(s)-of-the-week.



Interval

To set an interval, select a time along with an nth day of the Month, Quarter, Half-Year, or Year. Use the Counting Days option to select the direction to count (from the beginning or the end) for the selected period.

The screenshot shows a 'Schedule Job' dialog box with three tabs: 'Run Once', 'Weekly', and 'Interval'. The 'Interval' tab is active. The 'Schedule Time' is set to '2:00 AM'. The 'Run on' field is set to '5' with '(nth day)' next to it. The 'Of the:' field is set to 'Month'. The 'Counting days:' field is set to 'from the end (backwards)'. At the bottom, there are three buttons: 'Schedule', 'Clear schedule', and 'Cancel'.

In the example above the interval would read as, 'Run the job at 2 AM, on the 5th day of the month— counting from the end of the month'.

Output Options

Using one of two [Actions menus](#), you can work with and direct your results in many ways. With SWI Host mode you can:

- Display Viewpoint [views](#), [host tables](#) and [client tables](#), [host reports](#) and [client reports](#), and dashboards directly in separate tabbed windows.
- Save view and table results as [PC files](#), [physical files](#) or [IFS documents](#) on the System i, and [remote database tables](#).
- Save report results as PC files or IFS documents.
- Print view and report results [locally](#) or direct results to an [output queue](#).
- [Email](#) results as PC file attachments.
- Launch Viewpoint [dashboards](#), [scripts](#), and [drill down applications](#).

This table shows the various output options available for each Viewpoint object. Each of the output options is explained in the sections that follow.

	Display or Launch	PC File	Host File (PF)	IFS Doc ¹	Rmt DB Table	PC Print	Host Print	Email As...
View Host Table Script View	D	.pdf, .txt .rtf, .xls .xml	Y	.pdf, .txt .rtf, .xls .xml	Y	Y	Y	.pdf, .txt .xls, .xml .html
Dashboard	D	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Report	D	.pdf, .txt, .html	N	.rtf, .txt, .html, .pdf	N	Y	Y	.pdf, .txt, .html
Client Report	D	.pdf, .txt	N	N	N	Y	Y	.pdf, txt
Client Table	D	.xls, .html ²	N	N	N	Y	N	.html
Script	L	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Application	D	n/a	n/a	n/a	n/a	n/a	n/a	n/a

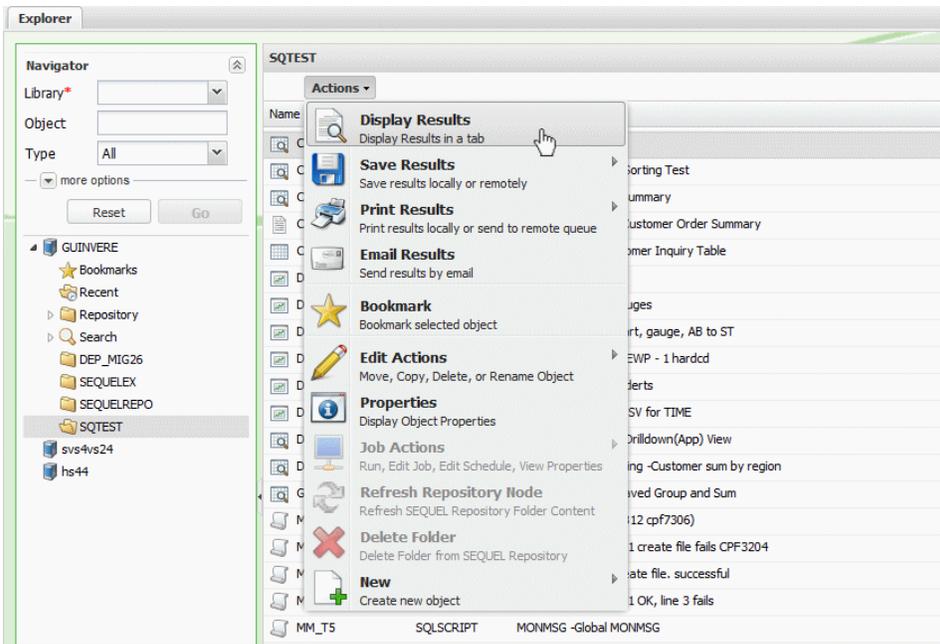
1 - Use the IFS Document process to navigate to and save objects to the Viewpoint Repository.

2 - Only with Sequel Web Server.

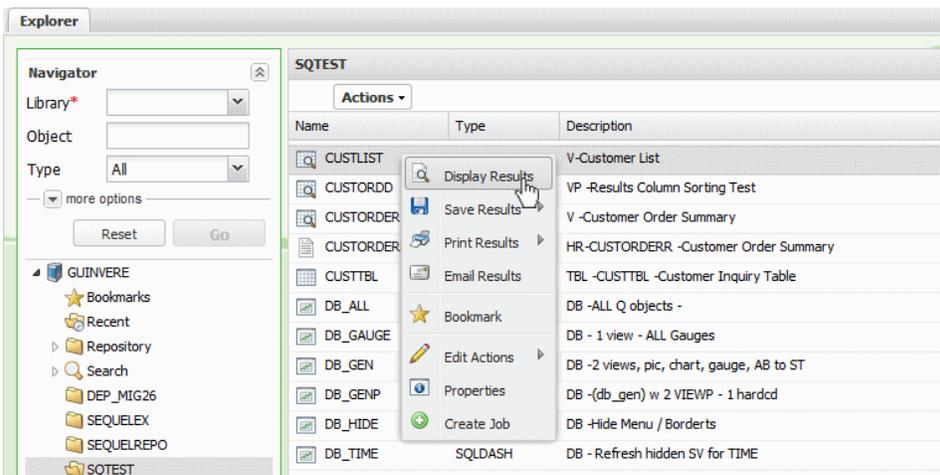
The Actions Menu

There are two Actions menus available in the [object list](#). One is shown at the top of the object list as a button and the other is a right-click contextual menu. Each provide options to [direct output](#), [edit objects](#), and view [object properties](#).

To use the Actions button, first select an object—it will highlight in grey—then click the Actions button to see the menu of options. If you press the Actions button before you select an object, all the options will be disabled.



You can access a similar list of actions by right-clicking any object in the list as show below.



Options will be available or grayed out depending on the object selected either in the Object Panel or the Navigation Panel. Some options are object sensitive—meaning the same option, like Properties, will show different information based on the object or item selected such as system node, folder, shortcut, host object, and so on.

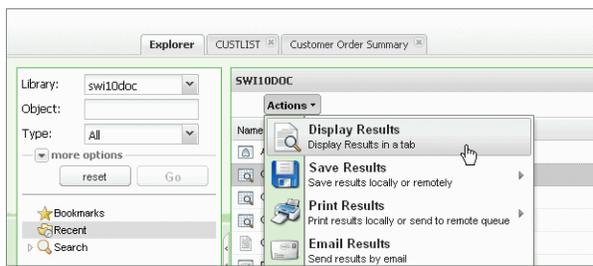
Many of the actions shown above are available in the tabbed results windows for the [displayed](#) Viewpoint objects.

Display Results

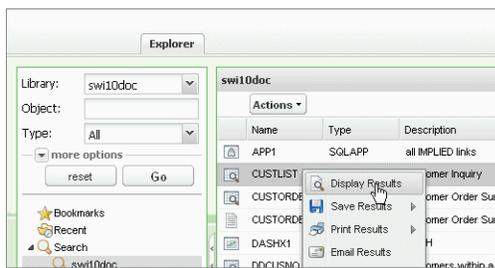
Quick and easy access to your System i data is what Sequel Web Interface is all about. All of your pre-built Viewpoint objects will display directly in the browser and launch a separate tab next to the Explorer tab. You can jump between each tab to review the results, drill-down and regroup (where applicable), create graphs and more. Let's look at how each Viewpoint object displays or launches in SWI.

Views, Script Views, and Host Table Views

There are three ways to display a view, script view, or host table view: Double-click the object (SQLVIEW, SQLSCRV, SQLTBLV) in the Explorer object list, select **Display Results** from the [Actions menu](#), or right-click and select **Display Results** from the menu.



Actions Button



Actions Drop-down Menu

The results open in a new tabbed display similar to the main Explorer [object list](#) display. The body of the display shows the data selected by the view with the column order and the row sorting based on the view definition.

Cust Number	Name	State	Telephone	Current Balance Due
100300	Obell Group Sales	NY	3154726442	543.21
100500	PCE Corp.	IA	3197530303	95.60
100600	UCE Corp.	IL	3124376112	1815.00
100800	State Corp.	IL	8155146252	808.80
101100	Que Company Inc.	LA	8072642463	1848.88
101200	Maple Leaf Cemetery	OR	5032480090	2016.96
101616	Sports Shop	AZ	5204425200	3025.14
102000	Optimum Corp	FL	4075259660	20.10
102100	Lim-Equipment Co.	ID	2082992960	3587.62
102311	Lawrence Design	TX	8176543221	8019.24
102600	Reay Corp		1017434446	1801.90
102800	Rider Corp.	MA	6175491240	9185.82
102900	Taehnrich Corp	IL	3123663231	9748.62
103100	Urus Corp.	WY	3076222914	9299.57
103506	Xegewisch Corp.	GA	9126462584	5892.87
103800	Kelly's Corp.	NY	7185238554	3832.22
104000	V&B Sporting Goods	MT	4064722138	80.40
104100	Lickton's City Corp.	IL	3123832130	341.12
104400	Mister C's	NV	7022252556	7711.00
105300	Quick Corp.	CO	9808713110	2026.70
105400	Rudy's Corp.	CA	8057364395	366.09

Use the buttons along the top of the result columns to direct results to the following output formats:

[Download to PC](#)

[Create a Physical file on the System i](#)

[Create an IFS Document on the System](#)

[Create a Remote Database Table](#)

[Print Locally](#)

[Submit to a System i output queue](#)

[Email as an attachment](#)

[Graph Results](#)

[Group and Sum](#)

There are many options available to [control the look and arrangement of the results display](#). These features are similar to those in the Explore object list. You can sort any

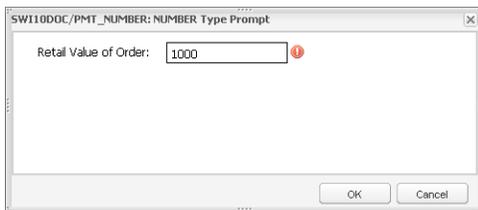
of the columns, and click and drag to move them (left or right) anywhere you like. You can re-size the width of each column and add or remove columns from the display.

Prompted Views

Prompted views (SQLVIEWP) run just like regular views, but contain substitution variables that require user input prior to displaying results.

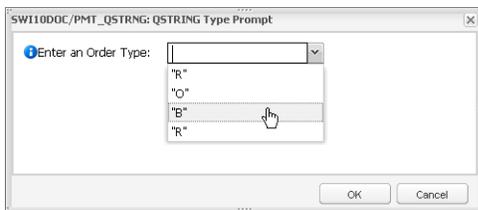
Prompts (or variables) are typically added to views in the WHERE clause for record selection purposes, but they can be used anywhere in the SQL statement that substitution is needed. Any other process or object (Report, Table, Report, Script) that uses a prompted view will prompt for input.

When a prompted view is run you will be presented with a screen similar to the following.



Depending on how the prompt is defined and the type of information required, you may see any of the following:

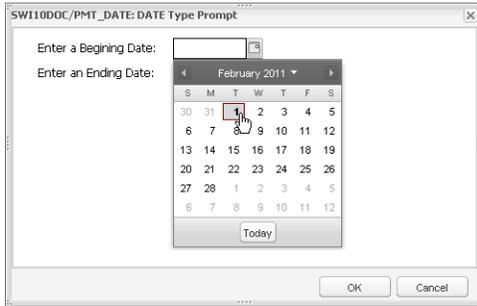
Drop-down lists.



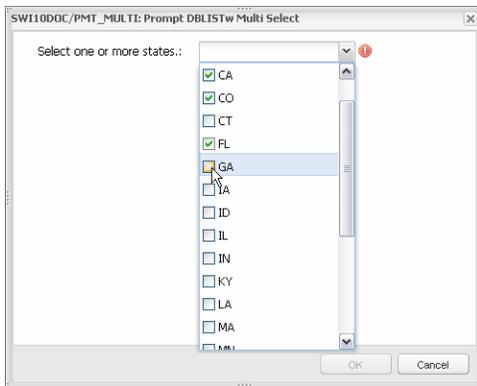
Informational prompt-related help.



Drop-down calendars.



Multi-select lists.



Fill in the required information and press OK to display the results.

For more information about prompted views-designing, defining, and different uses-see [Adding Prompts to a View in the Viewpoint User Guide](#).

Dynamic Drill-Down and Regrouping Views

Any grouping view, once displayed, can be regrouped using any of the fields from the file(s) in the view plus any derived fields. In addition to regrouping, you can 'drill into' the supporting detail (show details) for any grouped record. This is a powerful feature for end users. Data can be analyzed and re-displayed in endless ways-all without redesigning the view, or pre-building drill-down paths.

Regroup and Show Details are two options available by clicking on a summary (grouped) record. Grouping views will display a blue arrow on the left of each record.

SEQUEL Software Explorer PRODSUM

SWI110DOC/PRODSUM "Summary by Product"

Save Results Print Results Email Results Properties... Create Chart

Product Number	Quantity Ordered	Extended Price
BMX	970	9105.00
BMXCARTON	80	500.00
BMX100	1190	26630.00
BMX101	1190	26630.00
BMX400	475	1905.00
BMX800	365	3630.00
COVER	1250	23790.00
CYCLE	300	1340.00
DECAL	750	4140.00
FLAG	650	2330.00

Arrow icon indicates a grouping or summary view

Regroup

Regrouping starts by displaying a summary or grouping view. In the results display, click on any record (BMXCARTON in the example below) and select Regroup from the menu.

Explorer PRODSUM

SWI110DOC/PRODSUM "Summary by Product"

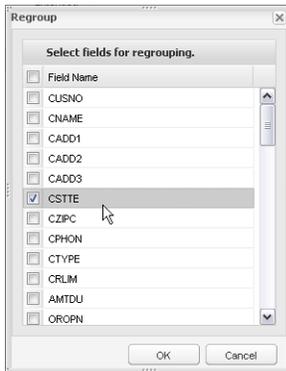
Save Results Print Results Email Results Properties... Create Chart

Product Number	Quantity Ordered	Extended Price
BMX	970	9105.00
BMXCARTON	80	500.00
BMX100	1190	26630.00
BMX101	1190	26630.00
BMX400	475	1905.00
BMX800	365	3630.00
COVER	1250	23790.00
CYCLE	300	1340.00
DECAL	750	4140.00
FLAG	650	2330.00

Regroup...
Show Details...

The Regroup window lists either all fields available from all files used in the view, or fields that have been added to the [Dynamic Drill Down Field List](#)¹. This field list is used to limit the number of available regrouping and detail fields.

Place a check next to any field(s) you want to use to regroup the data. Our example regroups using the state field.



Press OK to open a new tab with the regrouped results.

State	Quantity Ordered	Extended Price
	60	.00
⊕ AZ	330	900.00
⊕ CA	500	32500.00
⊕ CO	160	.00
⊕ FL	10	.00
⊕ GA	110	.00
⊕ IA	80	.00
⊕ ID	200	.00
⊕ IL	1650	39500.00
⊕ KY	440	5900.00
⊕ LA	110	.00
⊕ MA	250	375.00

The result of a regrouping will be another summary or grouping view-notice the arrows on each record. From here, or the starting view, you can continue to launch as many regrouping views as you like.

Show Detail

The Show Detail option displays the supporting detail for a selected grouped record; in effect allowing you to 'drill-into' the data that created the summary information.

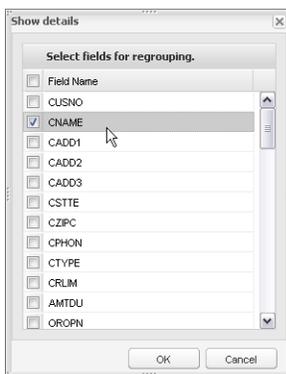
¹The Dynamic Drill Down Field list is a file (SEQUEL/VPTDYNFLTR) that is easily maintained using ViewPoint Administrator, or from a command line using UPDATE, INSERT, or DFU

Click on a record (Illinois) and select Show Details from the menu.

The screenshot shows a software window titled 'QTEMP/PRODSU0001'. It contains a table with columns: State, Quantity Ordered, and Extended Price. The data is grouped by state. The Illinois (IL) record is selected, and a context menu is open with 'Show Details...' highlighted.

State	Quantity Ordered	Extended Price
GA	110	.00
IA	80	.00
ID	200	.00
IL	1650	39500.00
KV		5900.00
LA		.00
MA	250	375.00
MN	880	1660.00

In the Show Details window, select any field you want to display. As with the Regroup feature, the field list will contain either all fields available from all files used in the view, or be limited to fields that have been added to the Dynamic Drill Down Fields List.



The original summary columns (quantity ordered and extended price in our example) will automatically be added to the new display. The original data set is filtered based on the starting grouped record- customers in IL.

The screenshot shows the same software window, but now the data is grouped by customer name. The columns are Name, Quantity Ordered, and Extended Price. The data is filtered to show only customers from Illinois.

Name	Quantity Ordered	Extended Price
Lickton's City Corp.	110	2950.00
NBCO Corporation Inc.	830	31600.00
Sauganash Inc.	200	.00
Taehnrnich Corp	430	4950.00
Town & Country Sports	80	.00

Remote Database View Considerations

Although you can link and drill to views that retrieve data from a non-DB2 database (MySQL, Oracle, SQL Server, and so on), there are some limitations to keep in mind when designing these views for use in Dynamic Drill-down.

- **Field names** are limited to 30 characters. If the field is defined longer than 30 characters, you can use 'AS xxx' (where xxx is the new name) to rename the field.
- All **file names** must be upper case or quoted like: "installed_products" (this causes problems in MySQL at it uses non-standard quoting syntax. see item four below).
- All ***SERVER** views must be able to translate to *SEQUEL syntax. This should not be a problem with most view.
- **MySQL Note:** MySQL allows lower case file names and will not recognize a quoted file name—they use a non-standard back-tick or grave accent character (`) to quote a file name--`file_name` instead of the ANSI-standard "file_name". You can override this behavior by altering the JDBC connection string. Use the MNTHOSTF (Maintain SEQUELHost File) command, or the Viewpoint Administrator's 'SEQUEL Host File' option and modify the connection to include the `?sessionVariables=sql_mode=ANSI_QUOTES'` string as show below:
`jdbc:mysql://hostname:portnumber/databasename?sessionVariables=sql_mode=ANSI_QUOTES`

Group and Sum

This feature allows for quick summing in the results window. The concept is similar to the host and client report designers where you 'break' the data on a logical group (like state, customer type, or region-usually based on how you sort the data), perform an aggregate function on a specified field (like SUM on amount due), and display the result at the break level.

In the results display, subtotals can be displayed before and/or after a break level and a Grand total (on the selected field) can be displayed at the top and/or the bottom of the results window.

To access the feature, run any view and press the Subtotals button on the result display toolbar to access the Subtotals [properties dialog](#).

Sales Region	Name	Address	Address	Address	State	Current Balance Due	Cust Type
Grand Total						327811.36	
10 Total						73177.02	
10	K. Redford's Inc.	318 Wall Road		ville	AZ	16135.65	DS
10		8335 Ogden		caff	AZ	3025.14	RT
10		85 N. Palm Street		ngelos	CA	3000.00	CS
10		4500 West Vine .		Orlando	CA	3883.67	DS
10		5711 West Irving Park		Napa	CA	366.09	MI
10	Walmart	Billing Office	50 south Chris Way	San Francisco	CA	26250.00	NA
10	MNB Corp.	150 N. Clark		Las Vegas	NV	323.51	CS
10	Mister C's	3109 South Wallace		n City	NV	7711.00	DS
10	Maple Leaf Cemetery	2329 West Belmont		le	OR	2016.96	DS
10	Silk and Gravy Gifts	3000 North Wallace		nd	CA	10465.00	DS
20 Total						60570.33	
20	Reay Corp	6322 N. Broadway	Toronto	Ontario,CANADA		1801.90	DS
20	Maple Syrup, Inc.	145 East Montgomery		Hartford	CT	4770.96	DS
20	Rider Corp.	4119 N. Lincoln		Boston	MA	9185.82	DS
40 Total						112024.61	
40	Penn Sports	6700 Penn Avenue S.E.		field	MN	16227.46	CS
40	NBO Inc.	County Line Road		a	MN	2842.13	DS
40	NBO	County Line Rd.		a	MN	3543.51	DS
50 Total						19612.77	
50	Quick Corp.	1113 West Webster		Fort Collins	CO	2026.70	MI
50	Lim-Equipment Co.	2412 Far Hills Ave.		Dannon	ID	3587.62	DS
50	V&B Sporting Goods	535 S. Front Street	P.O. Box 313	Russell	MT	80.40	DS
50	Sports and More	1500 Thomas Street	P.O. Box 313	Russell	MT	2834.40	DS
50	TBA Corp.	1001 Alphanum Road			NM	1784.08	CS
50	Urus Corp.	7121 West Grand			WY	9299.57	DS
50 Total						19612.77	
Grand Total						327811.36	

Subtotals Dialog

Use the Subtotals dialog to show or hide grand totals, select the break field, and apply an aggregate function (SUM, Average, Count, MIN or MAX) to an available field. Also, you can select to display subtotals above and/or below the break group.

Subtotals

Show Grand Totals

Show subtotals at change in:

Sales Region

Field	Function
<input type="checkbox"/> Sales Region	Sum
<input type="checkbox"/> State	Sum
<input type="checkbox"/> Name	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> Address	Sum
<input type="checkbox"/> Current Balance Due	Sum
<input type="checkbox"/> Cust Type	Sum

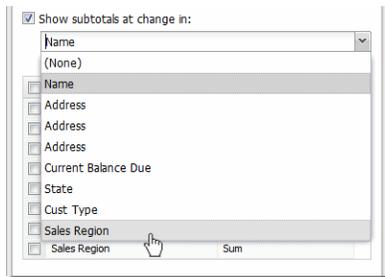
Show totals: Above data Below data

Clear Subtotals OK Cancel

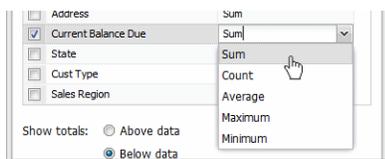
Screen Options

Show Grand Totals - Check to display grand totals for the select field(s).

Show Subtotals at Change in - Select to show Subtotals and use the drop-down to select 'when' to show the subtotal (the break level).



Field and Functions - Select the field from the list and the Function (SUM, Average, Count, MIN and MAX) to apply using the drop-down list.



Show Totals: Above Data - Select to display subtotals above the break group. This also displays the Grand total at the top of the results if the Show Grand Totals option is selected.

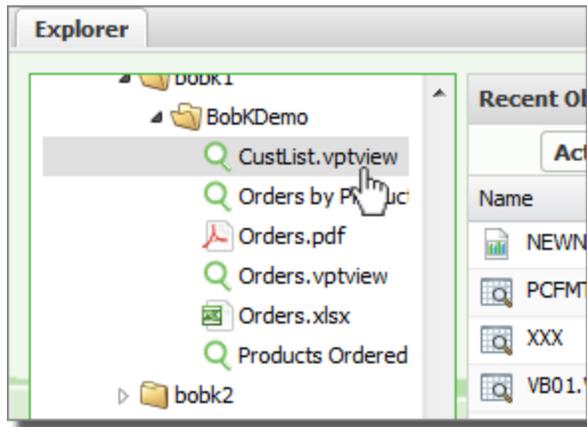
Below Data - Select to display subtotals below the break group. This also displays the Grand total at the bottom of the results if the Show Grand Totals option is selected.

Save with View Definition - This option is only available when displaying results from the view designer (open a view, display results, set subtotals, and save the view). Use this option to save any subtotal settings with the view definition.

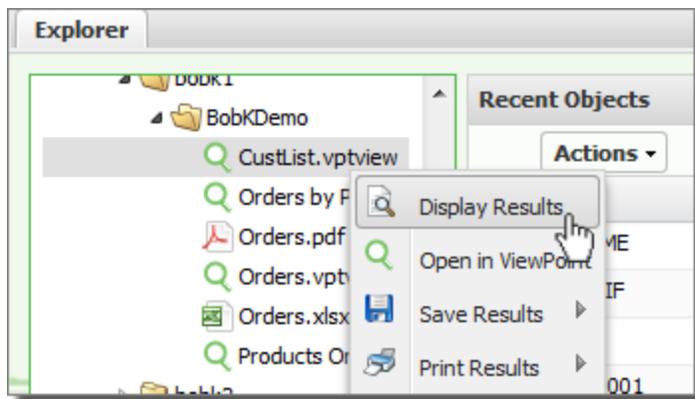
Clear Subtotals - Press to remove all subtotal settings from the results display.

Viewpoint Files in the Repository

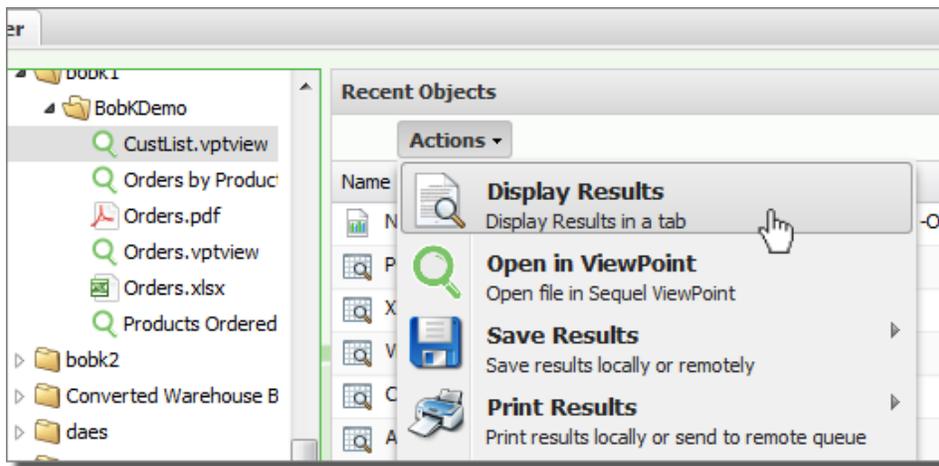
Viewpoint files-shortcut files that added to the repository that link to views, reports and scripts-are displayed just like their host object counter parts: Double-click, right-click and select an output option, or highlight and use the Actions button.



Double click



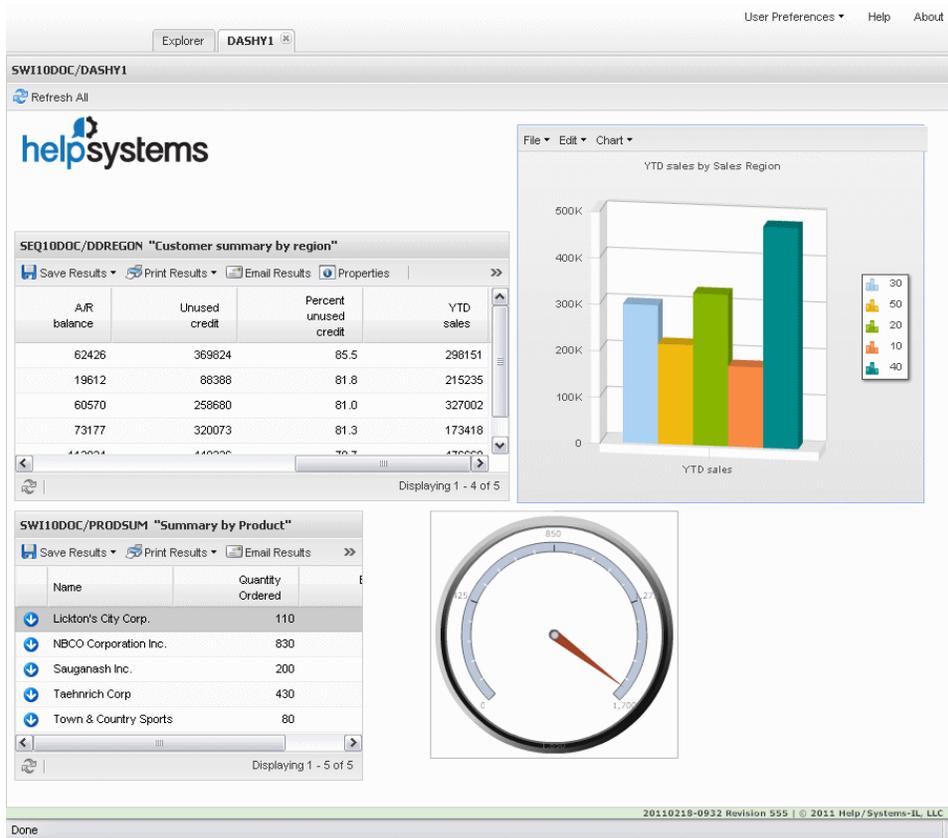
Right-click menu



Actions button

Dashboards

Dashboards can contain a collection of Viewpoint, Web, and Windows objects and act as a single point of access to common, or often-used inquiries, reports, charts, and more. Double click a dashboard (SQLDASH), or select Display Results from the [Actions menu](#) to open it in a separate SWI results tab. All the elements in the dashboard are 'turned on' and run.



All dashboard objects are supported in SWI, but some have minor limitations. Review the [Compatibility Chart](#) for more information.

Dashboard Web Compatibility

Dashboards can be displayed two ways: natively on your PC using Viewpoint (Explorer screen or Viewpoint shortcut), or using a web browser in conjunction with Sequel Software's Sequel Web Interface (SWI) product.

Dashboards must be saved as user space objects (USRSPC) to display them in SWI.

All dashboard objects are supported in SWI-some with limitations. Special consideration is required when designing dashboards for use in SWI.

Dashboard Object:	Support:
Views	✓
Tables	✓
Host Reports	✓
Client Reports (CRO)	✓

Client Tables	
Scripts	 <i>Via an Action Button.</i>
Drill-down Application	
Charts	
Excel Files	 <i>Only in IE.</i> <i>See note about file location.</i>
Graphics	 <i>See note about file location.</i>
Text	
Web Pages	
Windows Objects	 <i>Not executables.</i> <i>See note about file location.</i>
Action Buttons	 <i>To launch views and tables, or to refresh and reprompt. (will not launch .exe files)</i>
Gauges	

File Location

Files used in dashboards designed for web access (using SWI) must be stored on the IFS of the System i. This includes:

- Excel files
- Graphics (.png, JPG)

When creating your dashboards for the web, copy these files to the IFS - **\\systemi\root\sequel\swi\dashboards** - and add them to your dashboard from this location.

Host Reports

Double-click a host report (SQLRPT), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

Customer Name	Number of orders	Amount on order	Page
K. Redford's Inc.	2	\$17,109.47	1
Kelly's Corp.	1	\$16,807.97	
L.M. Corp.	1	\$201.00	
Lawrence Design	2	\$44,430.40	
Lickoon's City Corp.	1	\$16,807.97	
Lin-Equipment Co.	2	\$17,082.92	
LEC Supplies	4	\$67,231.88	
Maple Leaf Cemetery	1	\$16,807.97	
Mister C's	1	\$16,807.97	
MMB Corp.	6	\$52,838.39	
MECO Corporation Inc.	7	\$71,008.83	
ME0	1	\$6,930.40	
ME0 Inc.	2	\$18,759.95	
Obell Group Sales	3	\$27,632.39	
Optimum Corp	1	\$100.50	
Penn Sports	7	\$58,571.08	
PCE Corp.	1	\$1,911.98	
Que Company Inc.	1	\$16,807.97	
Quick Corp.	2	\$2,822.96	
Reay Corp	1	\$6,930.40	
Rider Corp.	3	\$32,917.44	
Ruddy's Corp.	5	\$50,791.15	
Sauganash Inc.	1	\$14,918.69	
Sports Shop	2	\$18,719.95	
Taehnrich Corp	4	\$52,275.89	
Town & Country Sports	1	\$1,911.98	
Toys R'Us	1	\$16,807.97	
TFA Corp.	3	\$19,021.45	
Virus Corp.	6	\$30,274.57	
V&B Sporting Goods	1	\$201.00	
Xegewisch Corp.	1	\$16,807.97	
Xoba Inc.	1	\$6,930.40	
Total	76	\$741,282.86	

Use the buttons along the top of the result page to direct results to the following output formats:

[Download to PC](#)

[Print Locally](#)

[Email as an attachment](#)

Client Reports

Double-click a client report (SQLRPTC), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

2/11/2011 2:18:47PM Order Acknowledgements

Customer MNB Corp.
150 N. Clark
100112
Las Vegas NV 54511-4411 **Phone** 823/640-1258

Order 110010 **Date** 4/9/1999 **Cust. P.O.** S-T5-506 **Ship Via** OVERTON **Terms** N1 2% 10 NET 30

Line	Product	Quantity Ordered	List Price	Selling Price	Extended Amount	Unit Weight	Extended Weight
1	BMX BMX Model 1833-F/O	30	110.600	110.600	\$3,317.97	23.250	697.50
2	BMX100 BMX Formula 3 Power	30	85.000	84.000	\$2,520.00	27.000	810.00
3	BMX101 BMX Formula 3 Delux	30	99.000	99.000	\$2,970.00	30.000	900.00
4	BMX400 BMX Tandem Cycle	15	200.000	200.000	\$3,000.00	45.000	675.00
5	BMX800 BMX Silver Plated E	5	1000.000	1000.000	\$5,000.00	37.000	185.00

20110210-1553 Revision 511

Use the buttons along the top of the result page to direct report results to the following output formats:

[Download to PC](#)

[Print Locally](#)

[Email as an attachment](#)

Client Tables

Double-click a client table (SQLTBLC), or select **Display Results** from the [Actions menu](#) to display it in a separate SWI results tab.

If SWI is configured to use the Power i to process requests, a static result is displayed as shown below.

[Dynamic \(interactive\) Client Tables](#) are available using a configured Sequel Web Server.

State	10	20	30	40	50	Total
		1801.90				1801.90
AZ	19160.79					19160.79
CA	33499.76					33499.76
CO					2026.70	2026.70
CT		4770.96				4770.96
FL			20.10			20.10
GA			5892.87			5892.87
IA				3215.69		3215.69
ID					3587.62	3587.62
IL				83441.82		83441.82
IN				2754.00		2754.00
KY			4854.14			4854.14
LA			21920.50			21920.50
MA		9185.82				9185.82
MN				22613.10		22613.10
MT					2914.80	2914.80
NJ		40436.22				40436.22
NM					1784.08	1784.08
NV	8034.51					8034.51
NY		4375.43				4375.43
OR	12481.96					12481.96
TX			29739.02			29739.02
WY					9299.57	9299.57
Total	73177.02	60570.33	62426.63	112024.61	19612.77	327811.36

Use the buttons along the top of the result page to direct report results to the following output formats:

[Print Locally](#)

[Email as an attachment](#)

Scripts

Viewpoint Scripts are used to combine multiple steps or processes together in a simple-to-execute 'program'. Many times, data needs to be massaged, or work files must be built before achieving a final result. With Viewpoint Scripts you avoid the technical requirements of writing CL programs.

In SWI, scripts are simply launched. Either double-click a script (SQLSCRIPT), or select Run Script from the [Actions menu](#). Scripts designed to display views, tables, or reports will open these results in a separate SWI results tab. Otherwise, a blank tab will open displaying just the name of the script.

Script Views

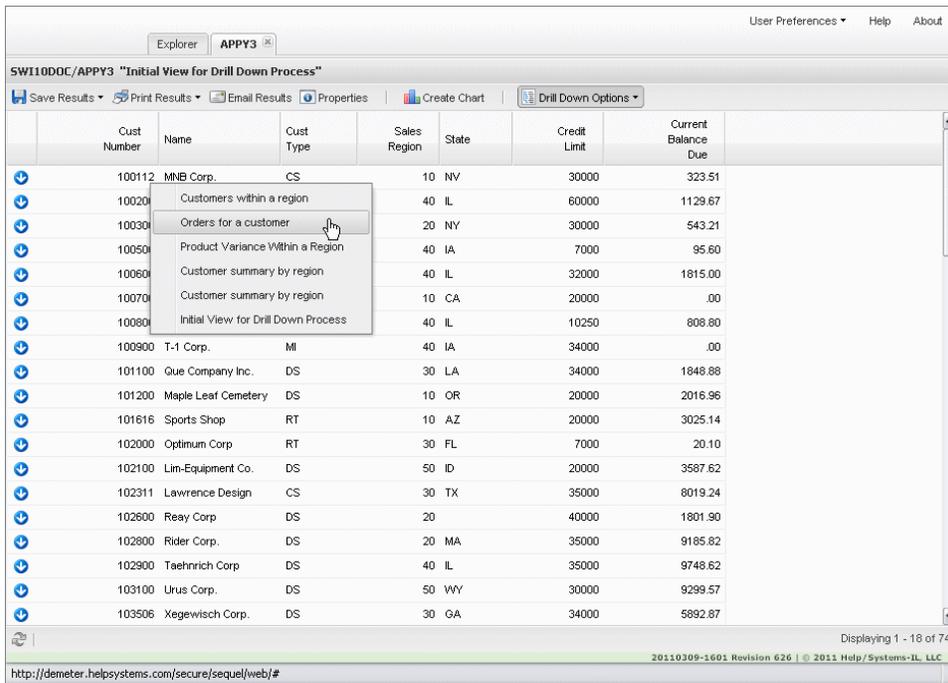
A script view is processed and displayed just like a standard view. See the [View section](#) above to review how to display and work with script view results.

Drill-Down Applications

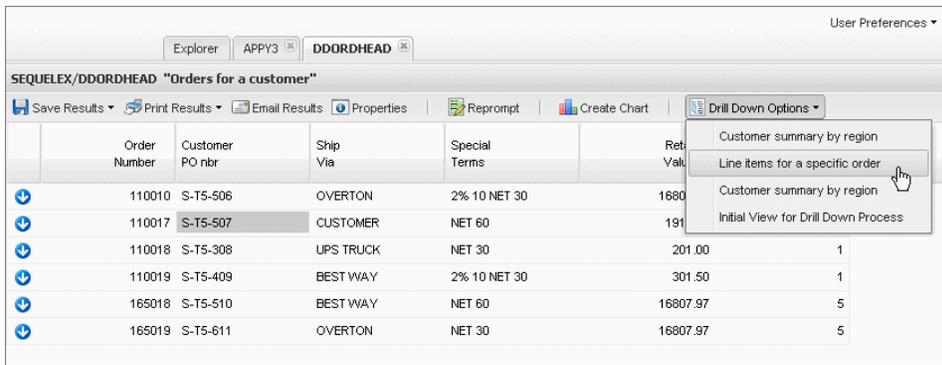
A Viewpoint Drill Down Application is a collection of views and/or tabling views along with an option file stored as single Viewpoint object on the System i.

Unlike [Dynamic Drill-Down and Regrouping views](#), Drill Down Applications can start with summary or detail views, they can link to many different types of objects (Reports, Scripts, views, Windows objects, and more), and can be linked together with pre-defined options.

Like other Viewpoint objects in SWI, double click the application (SQLAPP), or select **Display Results** from the [Actions menu](#). The object designed as the starting object for the application (usually a view) will open in a separate SWI results tab.



Right-click any row, as shown above, and select a drill down option to display new results in a separate tabbed window.



Use the buttons along the top of the result columns to direct results to the following output formats:

[Download to PC](#)

[Create a Physical file on the System i](#)

[Create an IFS Document on the System](#)

[Create a Remote Database Table](#)

[Print Locally](#)

[Submit to a System i output queue](#)

[Email as an attachment](#)

[Graph Results](#)

[Group and Sum](#)

Drill Down Application implied links are not supported in SWI. You can convert your implied links to explicit links in the Application Designer by right-clicking each object and selecting the Create Option option. For more information on Drill Down Application link types, refer to the ViewPoint User Guide.

Client Tables and Sequel Web Server

Newer versions of SWI can be configured to use and process requests from a Sequel Web Server (SWS).

Using a single program, a Java server, an HTTP server and Sequel software are installed and configured on a PC within your network. The SWS provides improved performance, multi-system access in the Explorer, multi-system object support in Dashboards, access to the [Viewpoint Repository](#), and interactive client tables.

Once a Client Table is displayed, users can perform as much interactive analysis as they need locally including [data filtering](#), [drill-down](#), [data pivoting](#), print/preview, and graphing.

Rows	Columns	Available Fields			
Sales Region	Cust Type	Available Fields			
	All Cust Type	CS	DS	NA	
	Current Balance Due	Current Balance Due	Current Balance Due	Current Balance Due	
10	292292.45	52093.59	180098.86	60100.00	
20	69785.79	3323.51	40212.28	26250.00	
30	60027.12	10418.44	15758.68	33850.00	
40	40673.65	16436.18	24237.47		
50	104219.82	20131.38	84088.44	.00	
	17586.07	1784.08	15801.99		

The Client Table is very similar to its Viewpoint counterpart. In the example above, you can see how Row fields create groups on the left-side of the display, Column fields spread the data across the screen, and Data Fields show the aggregate value (sum, max, min, and so on).

Available fields from the view are displayed above the table and can be dragged to the column or row sections to change the level of grouping. See the sections that follow to learn more about these features.

Filter Results

Filtering is easily applied to the Row and Column groups as well as the View fields in the table results display. Simply click the down arrow for any field, and select or de-select the desired values. The table will instantly change to show the new filtered results.

At the bottom of each drop-down filter list is a row of functions.



Select the appropriate function to:

+ Check All items in the list.	- Check None of the items in the list.
* Toggle Checked items in the list.	✓ Accept Checked items in the list.
✗ Cancel any selections/changes.	

Any field that has a filter applied is highlighted in the display as in this example:

Rows	Columns
Sales Region ▾	Cust Type ▾
	<input type="checkbox"/> All Cust Type
	Current Balance Due
<input checked="" type="checkbox"/> All Sales Region	292292.45
10	32781.36

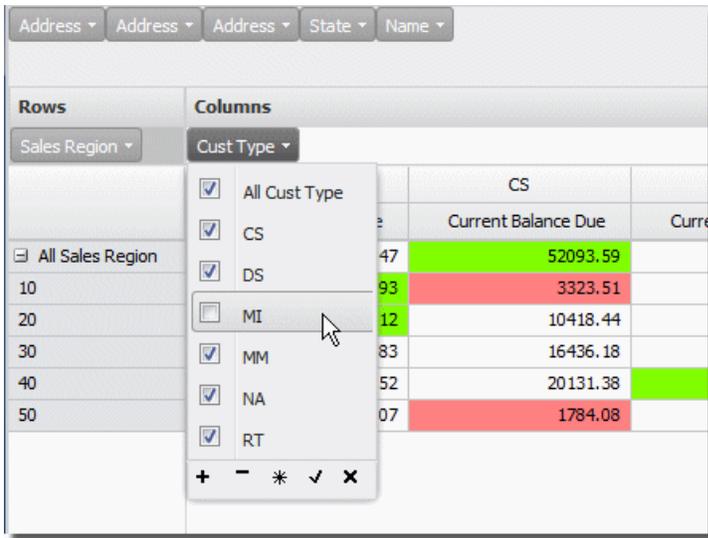
Row Fields

Filter any of the Row fields to control the table groups. Click the arrow next to the field name to access the list of values.

Rows	Columns
Sales Region ▾	Cust Type ▾
<input checked="" type="checkbox"/> All Sales Region	<input checked="" type="checkbox"/> All Cust Type
<input checked="" type="checkbox"/> 10	CS
<input type="checkbox"/> 20	Current Balance Due
<input checked="" type="checkbox"/> 30	Current Balance Due
<input checked="" type="checkbox"/> 40	Current Balance Due
<input checked="" type="checkbox"/> 50	Current Balance Due
	Current Balance Due
	32781.36
	73177.02
	60570.33
	62426.63
	112024.61
	19612.77
	52093.59
	3323.51
	10418.44
	16436.18
	20131.38
	1784.08

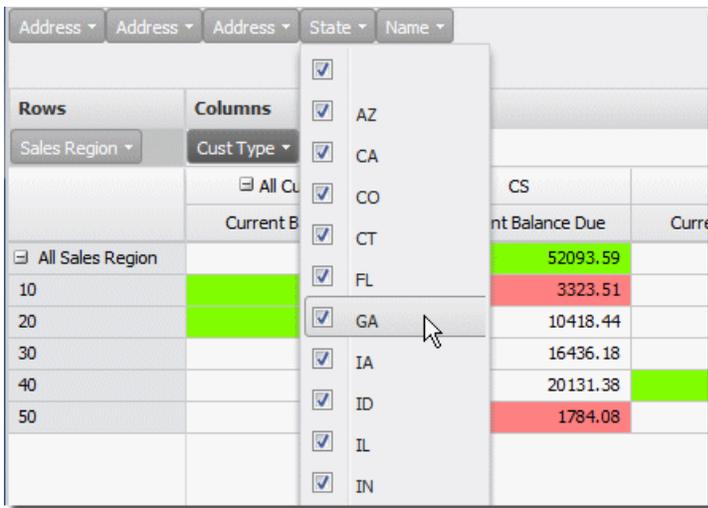
Column Fields

Filter any of the current Column fields to control the number of columns across the display.



View Fields

Even View fields that are not in the Row or Column sections, can be used to filter the data that is displayed in the table.



Data Pivots

One of the most powerful features of the Client Table is the ability to 'pivot' the displayed data. By moving the Row and Column fields, or swapping Row with Column fields, and vice versa, the data can be analyzed and displayed in a multitude of ways.

This, in conjunction with the ability to add and remove Row and Column fields, allows the table to be completely and instantly reconfigured - from high-level summary down to the most detail data point.

Simply click and drag any field from the View, Row, or Column sections, and drop anywhere. A green insertion bar will indicate where the field will be placed. Some examples follow:

Row to Column

In the example below, the State field is moved to the Column section next to the Cust Type field. Notice the green insertion point.

The screenshot shows a software interface with a table. The 'Columns' section contains 'Cust Type' and 'State'. A green arrow points from the 'State' field in the 'Columns' section to a green insertion bar between 'Cust Type' and 'State' in the 'Columns' section. The table below shows data for 'Current Balance Due' grouped by 'Cust Type' (All State, AZ, CA, NV, OR) and 'Sales Region' (10, 20).

		Current Balance Due	Current Balance Due
10	All State	69785.79	3323.51
	AZ	16135.65	
	CA	33133.67	3000.00
	NV	8034.51	323.51
	OR	12481.96	
20	All State	60027.12	10418.44
		1801.90	

When the field is dropped in place, the data is instantly rearranged and we see states within customer type.

The screenshot shows the same software interface after the 'State' field has been moved to the 'Columns' section next to 'Cust Type'. The table is now grouped by 'Sales Region' and 'Cust Type', with sub-columns for 'State' (KY, LA, MN). The data is rearranged to show states within customer type.

		CS		
		KY	LA	MN
		Current Balance Due	Current Balance Due	Current Balance Due
	All Sales Region	4854.14	3562.80	16227
10				
20				
30		4854.14	3562.80	
40				16227
50				

Column to Row

Here the State is moved back to the Row section next to the Sales Region field. Again, the green insertion bar indicates the placement of the field.

The screenshot shows a data table with the following structure:

Rows	Columns	Available		
Sales Region	Cust Type	State		
		CS		
		KY	LA	MN
		Current Balance Due	Current Balance Due	Current Balance
☐ All Sales Region		4854.14	3562.80	16
10				
20				
30		4854.14	3562.80	
40				16
50				

Now we see again states within sales region.

The screenshot shows a data table with the following structure:

Rows	Columns	Available		
Sales Region	State	Cust Type		
		☐ All Cust Type	CS	
		Current Balance Due	Current Balance Due	Cur
10	☐ All State	69785.79	3323.51	
	AZ	16135.65		
	CA	33133.67	3000.00	
	NV	8034.51	323.51	
	OR	12481.96		
20	☐ All State	60027.12	10418.44	
		1801.90		
	CT	4770.06		

Add or Remove Row and Column Groups

Another useful way to change and analyze the table data is by adding or removing fields in the display.

To add a field, click and drag a View field (in the Available Fields section) to place it in either the Row or Column section. A green insertion bar will indicate where the field will be placed.

To remove, click and drag a Row or Column field to drop it onto the Available Fields section.

Drill to Detail Data

Most table results are displayed as summary data-many detail records added up and grouped together based on Row and Column fields. The underlying records that support the summary values can easily be displayed ('drilled into') in a separate result window.

Simply choose the summary value at the intersection of a given Row and Column and double click, or right-click and select Show Detail on the menu. A separate view result window will display the underlying detail data.

In the example below, the detail for all customers outstanding balance due in region 10 of California with customer type DS, is displayed by double clicking on the summary value at the intersection of the column and row-in this case \$3,883.67. A second window opens to show the five detail records that support this summary amount.

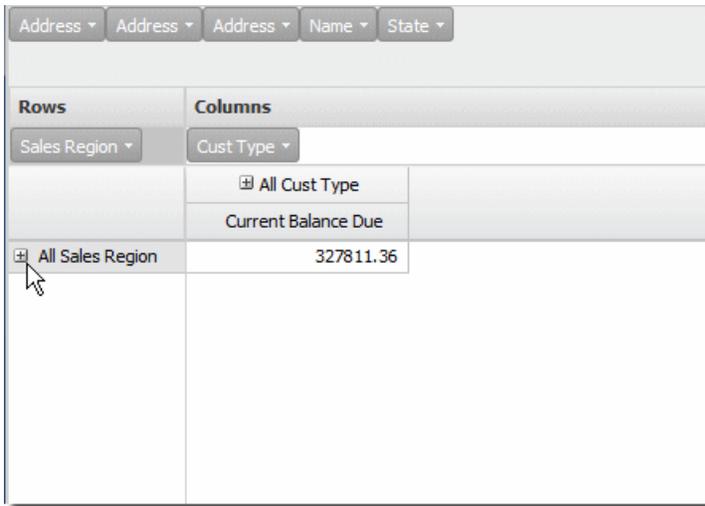
The screenshot shows a software interface with a summary table and a detailed view window. The summary table has columns for 'Current Balance Due' under categories CS, DS, and NA, and rows for states AZ, CA, NV, OR, and an 'All State' total. The value 3883.67 is highlighted in the CA row under the DS column. A green arrow points from this value to a 'Client Table Details' window that lists five customer records with their respective details.

Rows		Columns		
Sales Region	State	Cust Type		
		CS	DS	NA
		Current Balance Due	Current Balance Due	Current Balance Due
	AZ		16135.65	
	CA	3000.00	3883.67	26250.00
	NV	323.51	7711.00	
	OR		12481.96	
20	All State	10418.44	33758.68	33850.00

Sales Region	Name	Address	State	Current Balance Due	Cust Type
10	Xome Corp.	Los Angeles	CA	0.00	DS
10	Maxwell House Repairs	Orlando	CA	3883.67	DS
10	Puzzles Galore	Los Angeles	CA	0.00	DS
10	Dietzgen Donuts, Inc.	Los Angeles	CA	0.00	DS
10	Jupiter Hauling & Bak...	San Francisco	CA	0.00	DS

Show and Hide Detail Levels

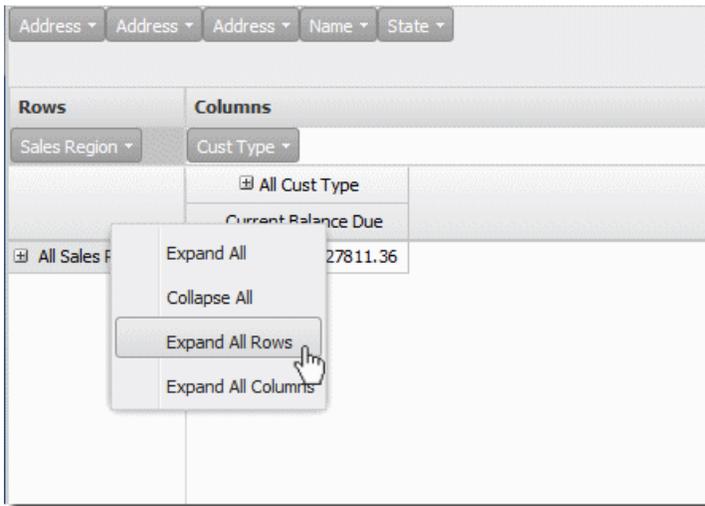
By default all client tables are displayed fully collapsed based on their column and row definition. The different levels for both rows and columns can easily be expanded or collapsed to show more or less data using the plus control displayed to the left of the row or column field,



The screenshot shows a data table with a context menu open over the 'All Sales Region' row. The table has a header with columns for 'Sales Region' and 'Cust Type'. The 'All Sales Region' row shows a value of 327811.36 under the 'Cust Type' column.

Sales Region	Cust Type
All Sales Region	327811.36

or by right-clicking the gray area just above the row fields, or to the right of the column fields to access a menu of options like so:



The screenshot shows the same data table as above, but with a context menu open over the 'All Sales Region' row. The menu options are: 'Expand All', 'Collapse All', 'Expand All Rows', and 'Expand All Columns'. The 'Expand All Rows' option is highlighted by the mouse cursor.

Sales Region	Cust Type
All Sales Region	327811.36

Here we chose to expand all rows.

Address		Address		Address		Name		State	
Rows					Columns				
Sales Region					Cust Type				
					All Cust Type				
					Current Balance Due				
All Sales Region					327811.36				
10					73177.02				
20					60570.33				
30					62426.63				
40					112024.61				
50					19612.77				

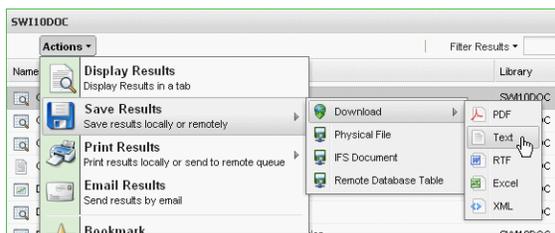
Create Local Results

Next to displaying results in SWI, downloading data is almost as important. Viewpoint views, tables and reports are all able to generate PC file results that can be saved locally in many popular formats.

Views and Tabling Views

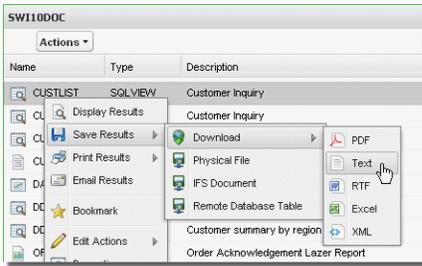
You can download view and tabling view results in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Save Results\Download\Type**,



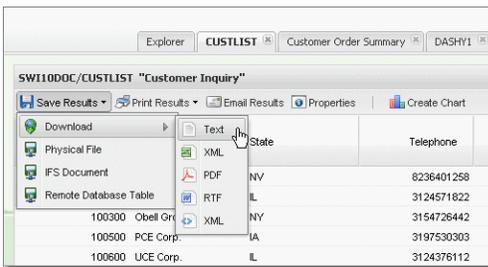
Actions Button

or, right-click a view or tabling view and select **Save Results\Download\Type**.



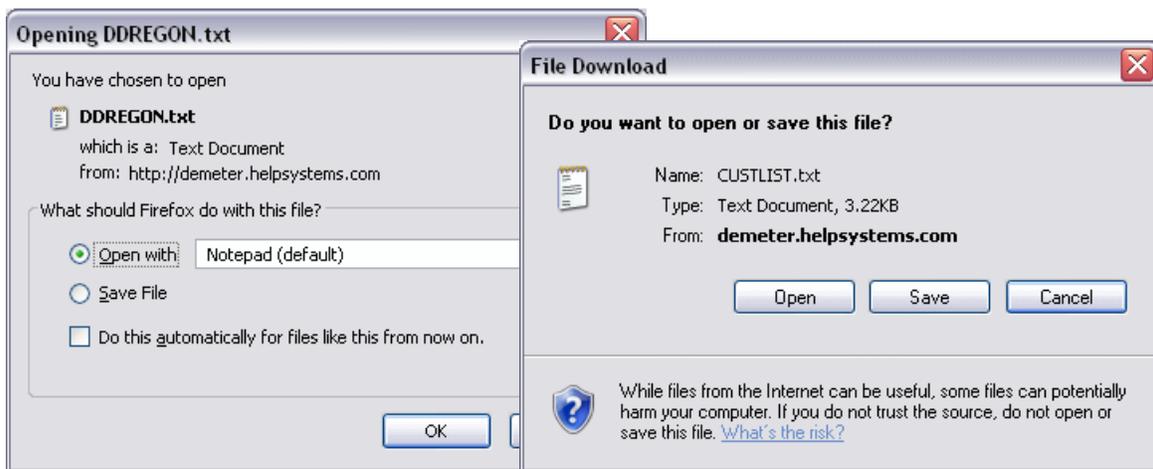
Actions Drop-down Menu

You can also press **Save Results\Download\Type** in the [results display](#) for views, and tables.



Results Display

All of these options display an Opening (Firefox), or File Download (IE) dialog. You can open the results using the default program associated with the file type, or save it to your PC.



Firefox

Internet Explorer

Host Reports

You can download host report results in two PC formats: Text (.txt), and Adobe PDF (.pdf).

From the Explorer object list press the Actions button, or right-click a host report and select **Save Results\Download\Type**. You can also press **Save Results\Download\Type** in the [results display](#) for a host report.

All of these options display an Opening (Firefox), or File Download (IE) dialog. You can open the results using the default program associated with the file type, or save it to your PC.



Firefox

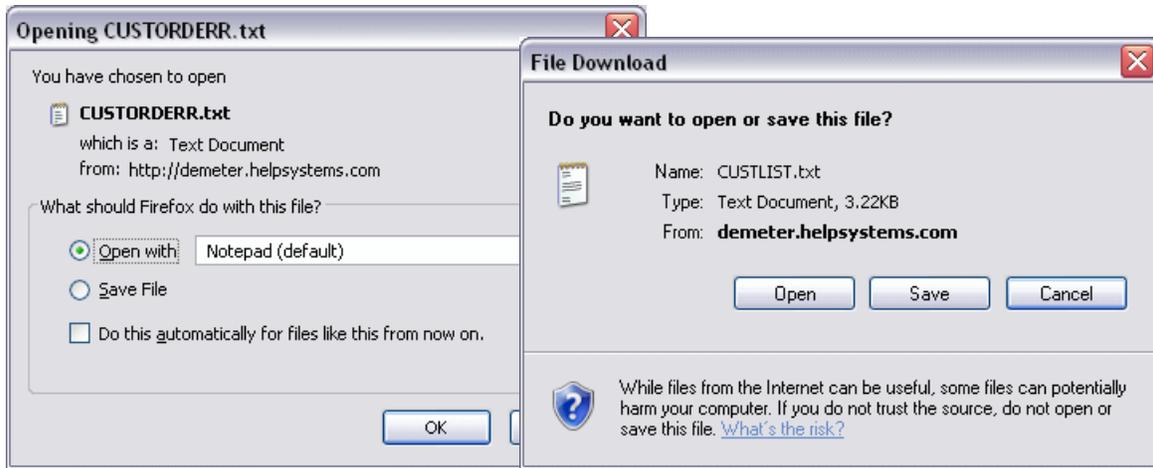
Internet Explorer

Client Reports

You can download client report results in two PC formats: Text (.txt), and Adobe PDF (.pdf).

From the Explorer object list press the Actions button, or right-click a host report and select **Save Results\Download\Type**. You can also press **Save Results\Download\Type** in the [results display](#) for a client report.

All of these options display an Opening (Firefox), or File Download (IE) dialog. You can open the results using the default program associated with the file type, or save it to your PC.



Firefox

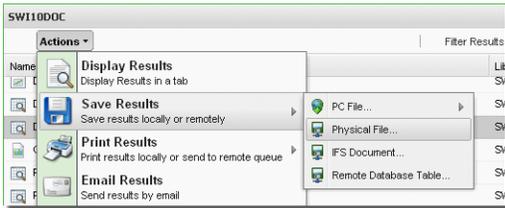
Internet Explorer

Create System i Physical File

Occasionally you may have the need to create work files from your views. With SWI you can save the results of views and tabling views as a physical file on the System i.

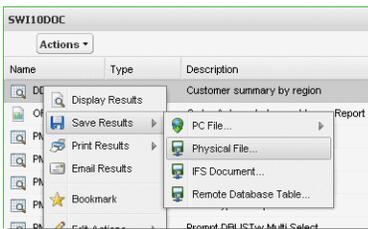
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Save Results\Physical File**,



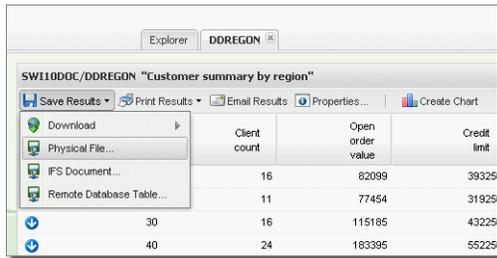
Actions Button

or right-click a view or tabling view and select **Save Results\Physical File**.



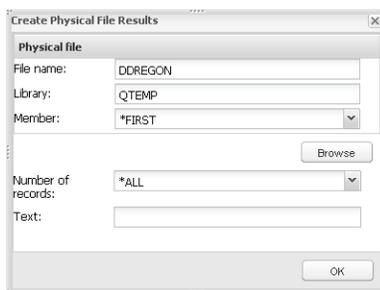
Actions Drop-down Menu

You can also press **Save Results\Physical File** in the [results display](#) for views or tables.



Results Display

All of these options display the Create Physical File Results screen. At a minimum, give the file a name and specify the library to save the file into. Press **OK** to create the file.



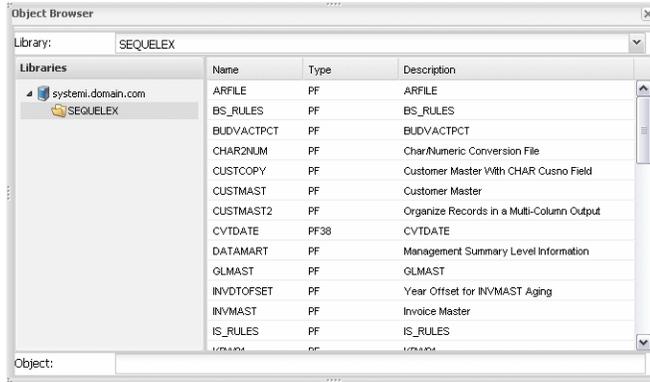
Options

File Name - Specify a name for the file (up to 10 characters). The starting view or table name is used by default.

Library - Choose a library for the new file. QTEMP is the default.

Member - Specify a member name or leave the default value.

Browse - Open the Browse Dialog and navigate to a location for the file or replace an existing file.



Number of Records - Choose the number of records to place into the new file. All records (*ALL) is the default.

Text - Enter text (optional) to describe the file.

OK - Press OK to create the file.

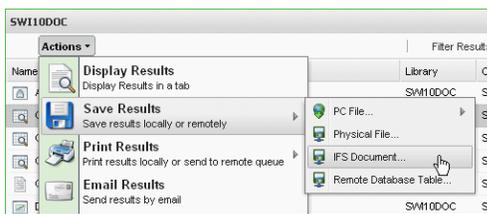
Create System i IFS Document

An IFS document is a PC file that is saved on the System i. This allows the file to be shared by anyone who has access to the IFS location containing the file.

Views and Tabling Views

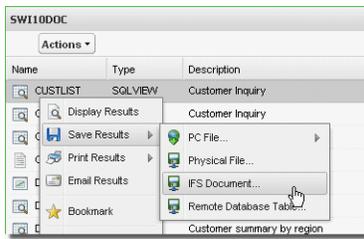
View and tabling views results can be saved in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Save Results\IFS Document**,



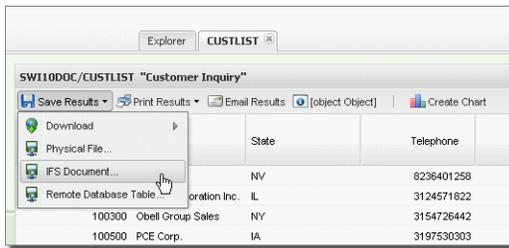
Actions Button

or right-click a view or tabling views and select **Save Results\IFS Document**.



Actions Drop-down Menu

You can also press **Save Results\IFS Document** in the [results display](#) for views, and tables.



Results Display

All of these options display the Create IFS Results screen. Give the file a name and press **OK** to create the file.



Options

File Name - Specify a name for the new file.

Format - Select a format using the drop-down list.

OK - Press OK to create the file.

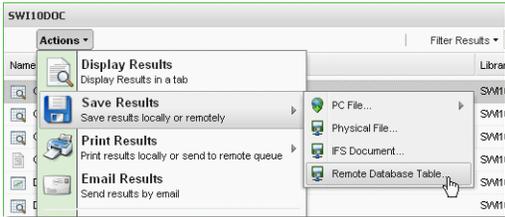
Browse - Press Browse to navigate to the location for the file.

Create Remote Database Table

Similar to creating physical files locally on the System i, you can create work files (tables) on defined and available remote database servers.

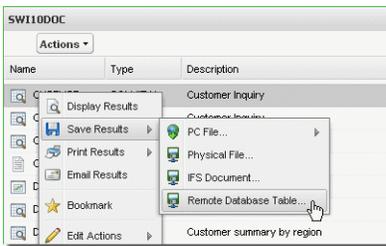
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Save Results\Remote Database Table**,



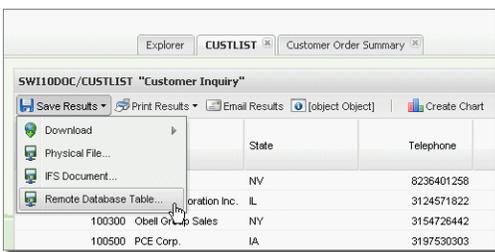
Actions Button

or right-click a view or tabling view and select **Save Results\Remote Database Table**.



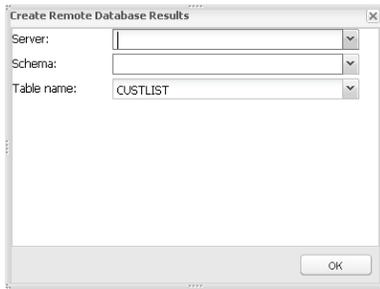
Actions Drop-down Menu

You can also press **Save Results\Remote Database Table** in the [results display](#) for views or tables).



Results Display

All of these options display the Create Remote Database Results screen. Choose a server, a schema, and give the file a name. Press **OK** to create the file.



Options

Server - Use the drop-down menu to choose a remote database server.

Schema - Use the drop-down list to select a schema to save the new table.

Table Name - Give the new table a name. The default is based on the starting view or table name.

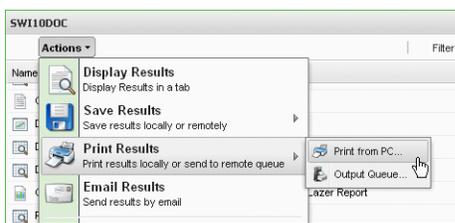
OK - Press OK to create the table.

Print Results Locally

Views, tabling views and reports can all be printed to your local PC Printer. In addition, host reports can be submitted to an output queue on the System i.

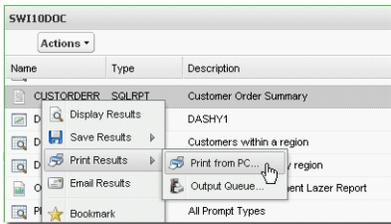
Views and Tabling Views

From the Explorer object list press the [Actions button](#) and select **Print Results\Print from PC**,



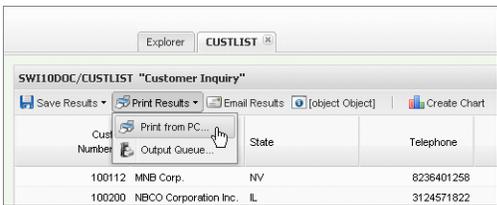
Actions Button

or right-click a view or tabling views and select **Print Results\Print from PC**.



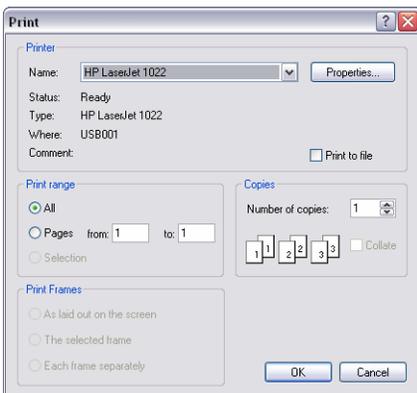
Actions Drop-down Menu

You can also press **Print Results\Print from PC** in the [results display](#) for views or tables.



Results Display

All of these options display a Print screen. Select your printer and press **OK**.



Host Reports

You can print host reports on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a host report and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a host report.

All of these options display a Print screen. Select your printer and press **OK**.

Client Reports

You can print client reports on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a client report and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a client report.

All of these options display a Print screen. Select your printer and press OK.

Client Tables

You can print a client table on your local PC printer in the same manner as views and tables.

From the Explorer object list press the Actions button, or right-click a client table and select **Print Results\Print from PC**. You can also press **Print Results** in the [results display](#) for a client table.

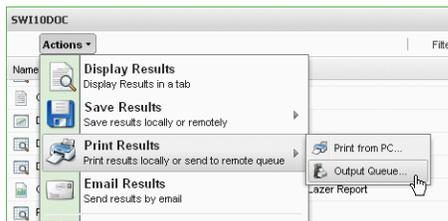
All of these options display a Print screen. Select your printer and press OK.

Submit to Output Queue

In addition to printing to a local PC, views, tabling views, and host reports can be sent to print on the System i.

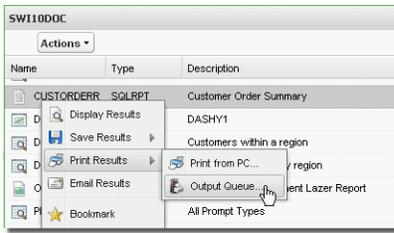
Views, Tabling Views, Host Reports

From the Explorer object list press the [Actions button](#) and select **Print Results\Output Queue**,



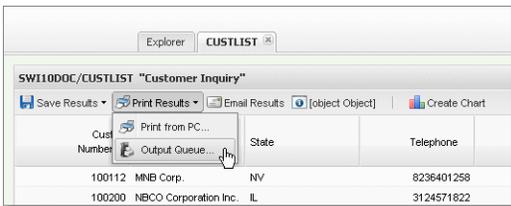
Actions Button

or right-click and select **Print Results\Output Queue**.



Actions Drop-down Menu

You can also press **Print Results\Output Queue** in the [results display](#) for views and tabling view, or host reports.



Results Display

All of these options will submit the request to the SWI job's output queue as defined in the product defaults (SWISETDFT). See the section [Set Product Defaults on page 334](#) for more on product defaults.

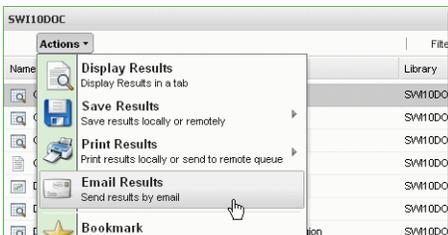
Email Results

Email is another great way to share Viewpoint results with others. Using SWI, view, table, and report results can be sent as an e-mail attachment in many popular PC formats.

Views and Tabling View

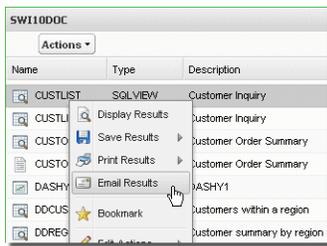
You can create an e-mail attachment with view and tabling results in one-of-five PC formats: Text (.txt), Adobe PDF (.pdf), Microsoft Excel (.xls), Rich Text (.rtf), and Extensible Markup Language (.xml).

From the Explorer object list press the [Actions button](#) and select **Email Results**,



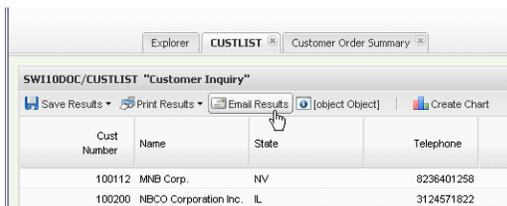
Actions Button

or right-click a view or table and select **Email Results**.



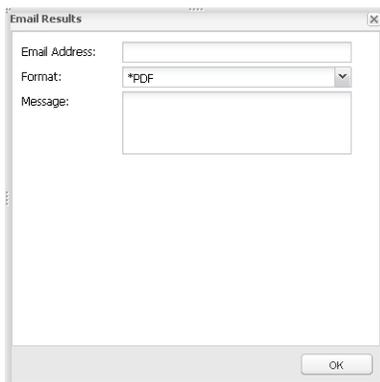
Actions Drop-down Menu

You can also press **Email Results** in the [results display](#) for views, and tables.



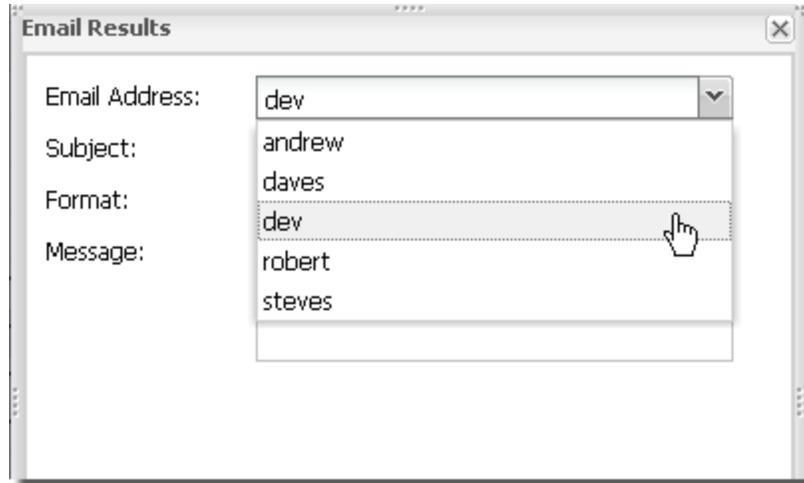
Results Display

All of these options display the Email Results screen.



Options

Email Address - Enter the recipient's e-mail address. You can also use the drop-down to select a recipient from the ESEND address book.



Format - Use the drop-down list to select a PC format.

Message - Enter text to appear in the body of the e-mail.

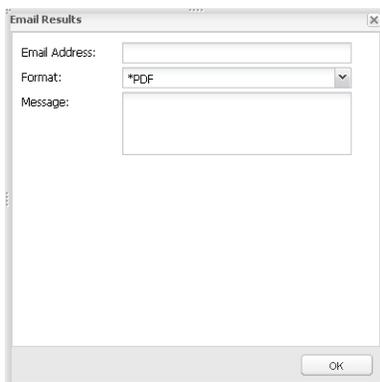
OK - Press OK to send the file.

Host Reports

You can create e-mail attachments with host report results in three PC formats: Text (.txt), Hypertext (.html), and Adobe PDF (.pdf).

From the Explorer object list press the Actions button, or right-click a host report and select **Email Results**. You can also press **Email Results** in the [results display](#) for a host report.

All of these options display the Email Results screen.



Options

Email Address - Enter the recipient's e-mail address.

Format - Use the drop-down list to select a PC format.

Message - Enter text to appear in the body of the e-mail.

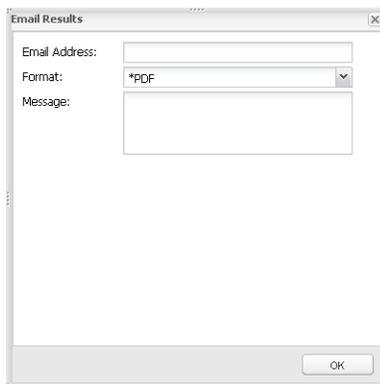
OK - Press OK to send the file.

Client Reports

You can create e-mail attachments with client report results as Text (.txt), or Adobe PDF (.pdf).

From the Explorer object list press the Actions button, or right-click a client report and select **Email Results**. You can also press **Email Results** in the [results display](#) for a client report.

All of these options display the Email Results screen.



Options

Email Address - Enter the recipient's e-mail address.

Format - Use the drop-down list to select a PC format.

Message - Enter text to appear in the body of the e-mail.

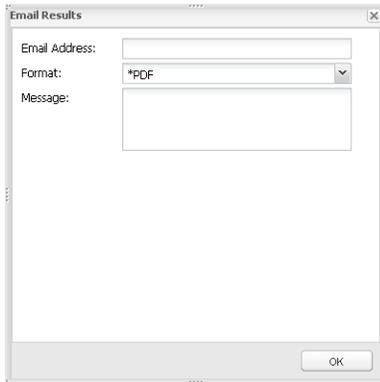
OK - Press OK to send the file.

Client Tables

You can create e-mail attachments with client table results as Hypertext Markup (.htm).

From the Explorer object list press the Actions button, or right-click a client table and select **Email Results**. You can also press **Email Results** in the [results display](#) for a client table.

All of these options display the Email Results screen.



Options

Email Address - Enter the recipient's e-mail address.

Format - Use the drop-down list to select a PC format.

Message - Enter text to appear in the body of the e-mail.

OK - Press OK to send the file.

Graph View and Table Results

Once displayed, view and tabling view results are very simple to graph.

First, click and drag to highlight the data you want to graph.

Sales Region	SALES	COSTS	MARGIN	Margin Percent
10	16811718	9882138	6929580	41.21
20	18820835	9194540	9626295	51.14
30	18226613	11381488	6845125	37.55
40	26636125	13445175	13192950	49.52
50	9200222	4922339	4277883	46.49

Alternate Method for Mobile

Click any cell. Notice the **Select Range** button is highlighted.

Sales Region	Client count	Open order value	Credit limit	A/R balance	Unused credit	Percent unused credit	YTD sales
10	16	82,099	393,250	73,177	320,073	81.3%	173,418
20	11	77,454	319,250	60,570	258,680	81.0%	327,002
30	16	115,185	432,250	62,426	369,824	85.5%	298,151
40	24	183,395	552,250	112,024	440,226	79.7%	476,669
50	7	64,491	108,000	19,612	88,388	81.8%	215,235

Press the **Select Range** button, then click another cell to complete the range.

	Sales Region	Client count	Open order value	Credit limit	A/R balance	Unused credit	Percent unused credit	YTD sales
↓	10	16	82,099	393,250	73,177	320,073	81.3%	173,418
↓	20	11	77,454	319,250	60,570	258,680	81.0%	327,002
↓	30	16	115,185	432,250	62,426	369,824	85.5%	298,151
↓	40	24	183,395	552,250	112,032	440,226	79.7%	476,669
↓	50	7	64,491	108,000	19,612	88,388	81.8%	215,235

Then, press the **Create Chart** button in the results display.

The screenshot shows a window titled "SWI10DDC/SALESRGN 'Sales by Region'". It contains a table with columns: Sales Region, SALES, COSTS, MARGIN, and Margin Percent. The 'Create Chart' button is highlighted with a mouse cursor.

Sales Region	SALES	COSTS	MARGIN	Margin Percent
10	16811718	9882138	6929580	41.21
20	18820835	9194540	9626295	51.14
30	18226613	11381488	6845125	37.55
40	26638125	13445175	13192950	49.52
50	9200222	4922339	4277883	46.49

Using the Chart Attributes screen select a chart type and series order.

The 'Chart Attributes' dialog box shows two dropdown menus: 'Chart Type' set to 'Column 3D' and 'Series order' set to 'Column order'. There are 'OK' and 'Cancel' buttons at the bottom.

Options

Chart Type - Select one of ten [chart types](#) from the drop-down list.

Series Order - The option to choose row or column order is only available if multiple columns are selected. If only one column of data is selected, the chart defaults to Row order.

OK - Press OK to create the chart.

Cancel - Press to cancel the operation.

The graph opens in a separate tab with a name based on the starting view or table.

Along with the graph, there is a menu of functions and options that allow you to copy, save, and print the chart as well as alter the series order and the chart type-switch from bar to pie.

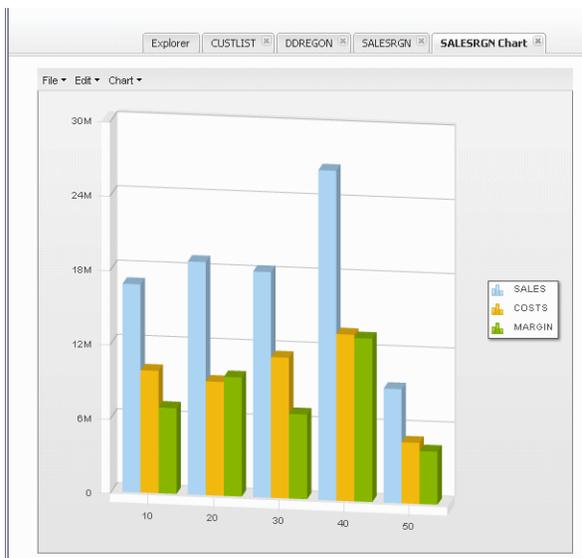
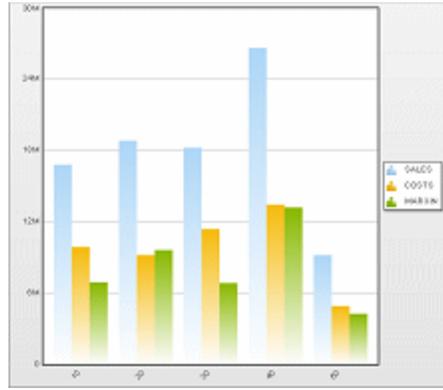
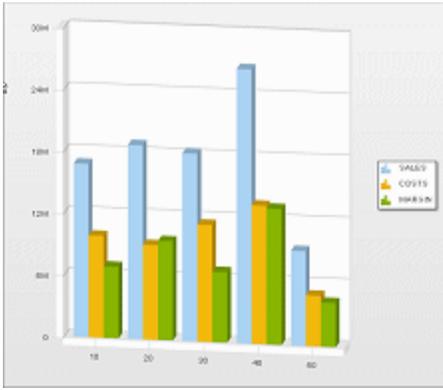


Chart Types

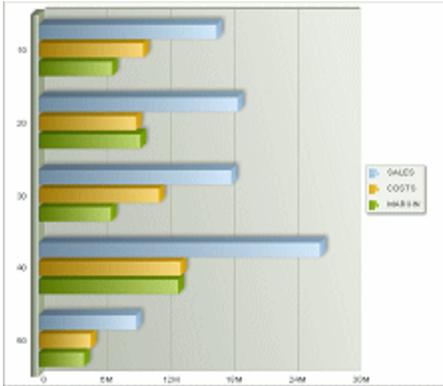
When creating a chart, you can select any one of the following ten chart types:

3D Column

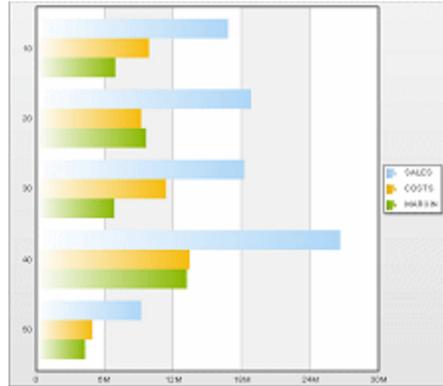
2D Column



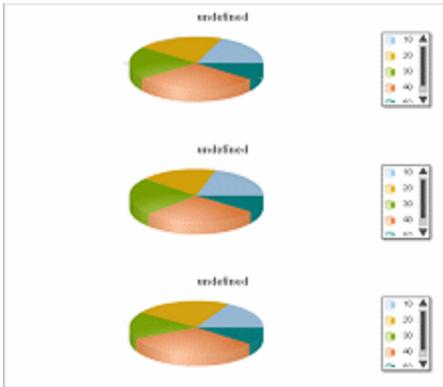
3D Bar



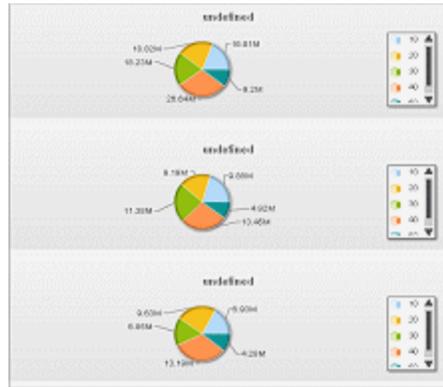
2D Bar



3D Pie with text, values, or percentages

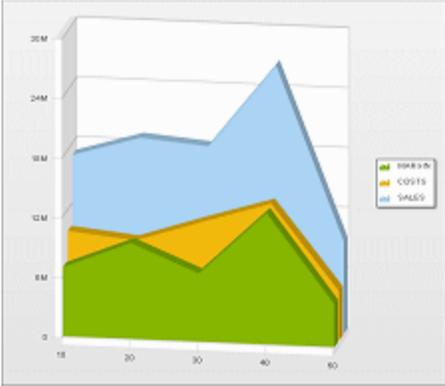
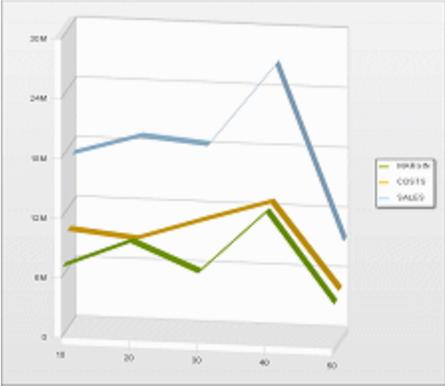


2D Pie with text, values, or percentages

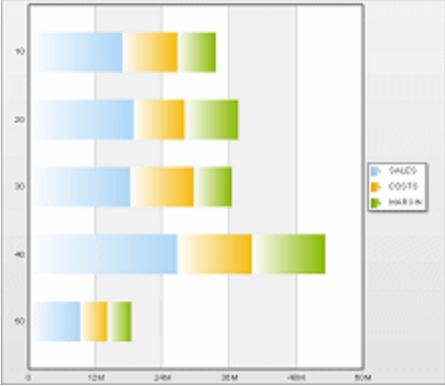


Line

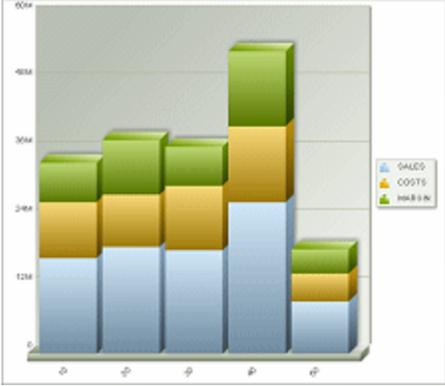
Area



Stacked Horizontal



Stacked Vertical



Setup Host Mode

Sequel Web Interface (SWI) can be configured to use and process requests from a Sequel Web Server (SWS). This server operates in conjunction with the SWI Apache server on the IBM i and provides improved performance, multi-system access in the Explorer, multi-system objects in Dashboards, access to the Viewpoint Repository, and interactive client tables. The use of a configured Sequel Web Server is what differentiates Host from Classic mode.

The process starts with a single program that installs the necessary Sequel software and configures a Java server, and an HTTP server on a selected PC within your network. You must have Sequel and SWI installed and authorized on your IBM i before you can use SWS.

NOTE:
SWS is compatible with Sequel version R10M30 and SWI version R10M18.

[Install a Sequel Web Server on page 247](#)

[Set SWI Viewpoint Defaults - SWIVPDFT on page 251](#)

[Job Scheduling with Automate Schedule on page 254](#)

[SWS Global Date Function on page 255](#)

[JDE Reporting Interoperability on page 256](#)

Install a Sequel Web Server

Steps

1. Download the SWS executable using the link provided by your sales representative and save it to the PC that you will use as a server.
2. Double-click the executable (setupSequelWebServer.exe) to start the install. The first three steps will ask you to:
 - Confirm the install (press Next).
 - Specify the program destination folder (use the default, and press Next).
 - Create a desktop and/or Quick Launch panel shortcut and press Install.
3. The Sequel Web Server Setup screen only displays the first time SWS is installed. Specify (to create) the Windows user and password under which the servers will run. Press **Create** once the password is accepted.

The Tomcat Username and Password defaults to *admin / adminpwd*. Change them if you wish.

SEQUEL Web Server Setup

Create Windows User

Windows User

User Name:

Password:

Retype Password:

Tomcat User for having permission to Settings

Username:

Password:

Information

The windows user sequelweb does not exist.

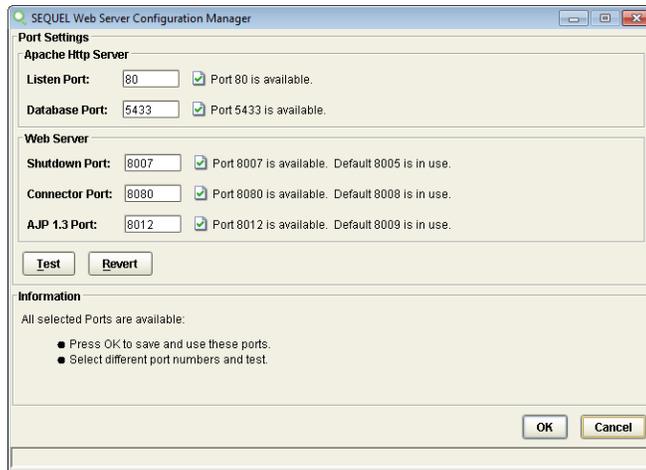
- Enter the desired password, then click Create.
- Upon successful creation, click OK to continue the installation.

The tomcat user exists.

- Enter new username and password to override the existing username and password.
- Click OK to save and continue the installation.

Press **OK** to continue.

- The Sequel Server Configuration Manager screen assigns ports for the Apache and Web servers. The installer shows you the default ports if they are available. If a port is not available, enter a new port number and click **Test** to see if it is available.



Once all ports are available, press **OK** to save the ports and continue installation.

NOTE:

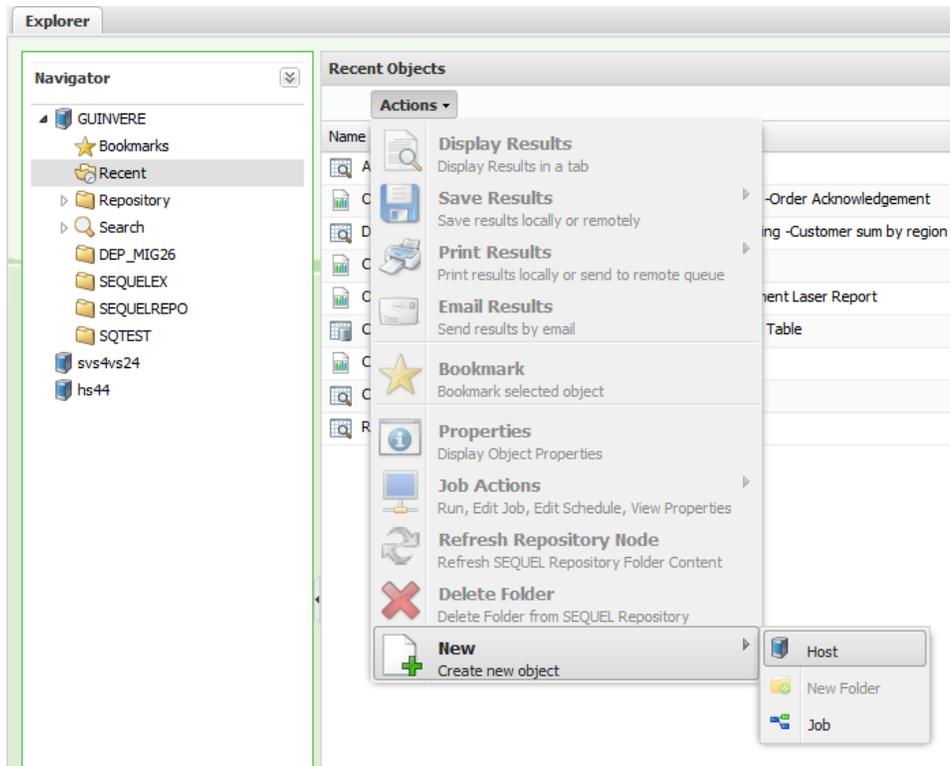
To access this screen in the future, run the application, **Sequel Web Server Configuration**, located in the **All Programs\Sequel Web Server** folder. You can also use Windows Search to locate the application.

- On the final screen press **Finish** to complete the install.
- To test, select **Start\All Programs\Sequel Web Server\Sequel Web Server Home**.
- If you are configuring SWS for Host mode, add a Host Connection using the steps described below.
If you are configuring SWS for Repository mode, skip the next section and continue with the topic [Configure Hosts on page 109](#) to add a host connection.

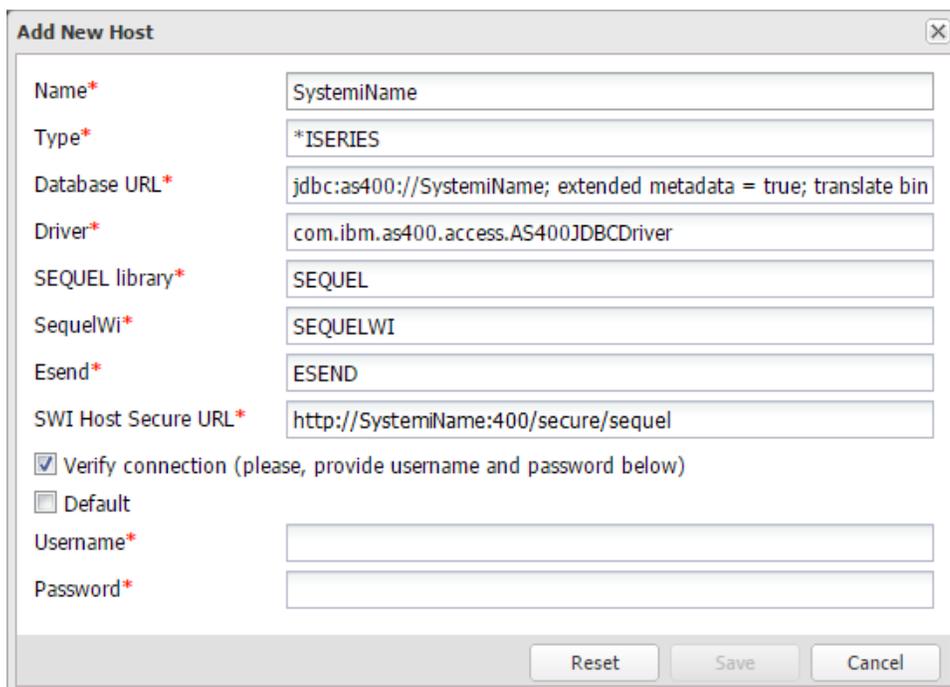
Add a Host Connection

Use the steps below to add connections to your Power i hosts. Each host defined requires a current version of Sequel and Sequel Web Interface with a valid product license.

- Navigate to the address of the Sequel Web Server (typically **http://SWSname/sequel/web/index.html**), or use the shortcut described in step 6 above.
- Use the **Actions** button to select the **New\Host** option.



- When the Add New Host screen displays, enter the host name (network resolvable) to define the connection to the Power Systems server. Press **Tab**, and all the remaining fields will auto-fill with default values based on the host name.



You should not have to change any of the values except for the **SWI Host Secure** URL string to add the port number (usually 400) for the Power Systems Apache server into the URL as shown.

4. (Optional) Check the **Default** option, and enter a valid Power i Username and Password to be used for anonymous SWI access.

NOTE:

- Anonymous users have limited functionality in SWI.
- Leave this option unchecked to force users to sign on securely (recommended).

5. To save the definition and verify the connection, leave the **Verify Connection** option checked, enter a valid Power i Username and Password (or use the values specified in step 4), and press **Save**.

To save without verification, uncheck the **Verify Connection** option (Username and Password will disappear, unless Default is checked), and press **Save**.

6. A message indicating a successful connection will display along with a new host icon in the Navigation panel of the SWI Explorer.

Configure SWS Viewpoint Settings

1. To set the link between SWS and Viewpoint, first add the string '*?secure=true*' to the current browser URL (so it reads **http://SWSSVR/sequel/web/index.html?secure=true**). This exposes the Settings button.

Select **Settings\Viewpoint Server** in the upper-right of the SWI explorer. If prompted for a SWS/Tomcat server credential enter the default user and password of admin and adminpwd, or the password created during the SWS install and press **Enter**.

2. Specify the following values:
 - Use the drop-down to select a *Default Result (file) Type*.
 - For the *Result Folder Name* use the folder created by the install 'C:\SequelTemp\EmailTemp'.
 - The *Viewpoint Path* defaults to the Viewpoint program directory (C:\Program Files (x86)\SEQUEL ViewPoint\viewpoint.exe).
 - If your Viewpoint server is on a different machine, check the *Remote Viewpoint* box, and enter the Host, Username, Domain, and Password values for this server.

3. Press **Save** when the values are correct.

Set SWI Viewpoint Defaults - SWIVPDFT

Use this command to specify the communication method and name the configured Viewpoint Server that will process Client Report (CRO) and Client Table requests through SWI in Host mode. This command uses the following parameters:

Communication Method (COMMTHD) - Specify which communication method will be used to send Client Report and Client Table requests to the configured Viewpoint Server. Alternatively for client reports you can bypass the server/listener set-up and use the Sequel Java Server (see the USESQJ parameter below).

***RMTCMD** – Specify to use the Run Remote Command (RUNRMTCMD) method.

NOTE:

The use of RUNRMTCMD to communicate with Viewpoint Server is deprecated, and is only supported for compatibility purposes when updating from prior releases. This method is not supported under Windows 10 (and later).

***DATAQ** - Specify to use the ViewPoint Remote Command (VPTRMTCMD) method.

NOTE:

Microsoft requires a user to be signed on to the PC for Viewpoint to be run from the Listener Service.

Remote PC Name (REMOTEPG) - Name of the configured Viewpoint server.

Data Queue Name (VPTDTAQ) - Specify the name of the data queue that communicates with the configured Viewpoint Server when the specified Communication Method is *DTAQ.

Output Type (OUTTYPE) - Specify the output type for the CRO report.

*PDF - Create as pdf file.

*HTML - Create as html file.

User Profile (USRPRF) - This parameter is only applicable when *RMTCMD is specified as the Communication Method. Enter the user identifier (ID) for the target System i. If a user ID is specified for this parameter and password security is active on the target system, RMPWD(*NONE) is not valid.

Name - Specify a user ID to use that exists on the target system. If a user ID is specified and password security is active on the target system, a password must be specified.

*NONE - No user ID is sent. If security on the target system is configured to require a user ID, the command will fail.

Password (PASSWORD) - This parameter is only applicable when *RMTCMD is specified as the Communication Method. Enter the password for the user profile selected above.

Value - Specify a password sent to the target system to verify the sign-on of the user ID specified in the RMTUSER parameter.

NOTE:

The password is not stored in encrypted form, therefore it is highly recommended that *RMTCMD is not used as the Communication method.

*NONE - The system does not send a password. If a user identifier (ID) is specified on the RMTUSER parameter and password security is active on the target system, the command will fail.

Target Path (TARGET) - Specify the target path on the IFS for the output file (the configuration file requires an extra directive to point to this target path. See [SWIVPDM Target on page 331](#)). This is a file share specified on the configured Viewpoint Server. The file share must look like \\SYSTEM\tmp, and be mapped to the /tmp directory in the IFS of system SYSTEM.

Program File Directory (PGMFILEDIR) - Specify the Viewpoint install directory on the Viewpoint sever (see the REMOTEPC parameter above). For Viewpoint it is usually '\program files\sequel viewpoint'.

Use the Sequel Java Server (USESQJ) - Specify whether to use the Sequel Java Server on the host to handle output from CRO reports.

N - Do not use the Sequel Java Server. (use *RMTCMD or *DTAQ specified by COMMTHD above)

Y - Use the Sequel Java Server if possible.

NOTE:

- If the sequel object type is SQLTBLC (client table), the table is created on the Viewpoint server via the *RMTCMD or *DTAQ.
- For SQJCRO processing, all fonts must be placed in:
 /QOpenSys/QIBM/ProdData/JavaVM/jdk80/64bit/jre/lib/fonts
 or
 /QOpenSys/QIBM/ProdData/JavaVM/jdk80/32bit/jre/lib/fonts

Wait Time (WAITTIME) - Specifies the maximum time in seconds, to wait for a successful return from Viewpoint when using SQJCRO or the *DTAQ Communication Method.

***NOMAX** - The system waits forever.

***NOWAIT** - The system returns immediately.

2-3600 - Specify the number of seconds to wait.

WARNING:

Use *NOWAIT with caution in a *PGM, with SQJCRO (to run a CRO report on the Sequel Java Server), or a SEQUEL Script that uses a repetitive process (a loop) to send many requests to the ViewPoint server in a short time-frame. This can cause the ViewPoint server PC to reach resource limits when attempting to process many simultaneous requests, resulting in lost or corrupted output. Specify a wait time of 10 to 60 seconds to spread out the requests over time.

Job Scheduling with Automate Schedule

This section is reproduced from the Automate Schedule document, *"Installing or Updating Automate Schedule Agents on the IBM i"*, Fortra, LLC. 2017.

Running an Automate Schedule IBM i Agent

The Automate Schedule agent process runs as jobs in the Automate Schedule subsystem (SKYAGENT by default). You can start and stop the agent process with the SKYSTOP and SKYSTART commands in the product library (SKYAGENT by default).

Run the command, **WRKACTJOB SBS(SKYAGENT)**, to view the Automate Schedule subsystem.

Setting the Automate Schedule Agent to Start on IPL

The Automate Schedule agent starts each time the SKYAGENT subsystem starts. Add the following command to your initial program load (IPL) procedures to start the SKYAGENT subsystem each time you IPL:

STRSBS SBSD(SKYAGENT/SKYAGENT)

The Automate Schedule agent should be shut down whenever you power down your system. To make sure this occurs, insert the following command in your power-down or save program procedures:

CALL PGM(SKYAGENT/SKYSTOP)

Automate Schedule Authorization

When installed by default, the Automate Schedule agent creates two user profiles:

SKYBOTUSR

- Limited authority *PGMR user class profile.
- Owns most of the Automate Schedule objects.
- Runs the agent processes.

Most programs adopt the SKYBOTUSR authority to access Automate Schedule data.

SKYBOTADM

- *SECOFR user class with high authority.
- Owns the SKY163 program that submits the user jobs.
- The SKY163 program adopts the authority of SKYBOTADM to allow it to submit jobs using any configuration in the product.

NOTE:

Installing into an ASP group creates an additional user profile that is configured specifically to reference the ASP group. The Automate Schedule agent process runs as that user profile. That user profile references the SKYBOTUSR user profile as a group profile to have authority to access the Automate Schedule objects.

If you're concerned about how much authority SKYBOTADM has on your system, you can reduce the authority of that profile and selectively grant authority to the system objects required to submit user jobs. To reduce the authority, use this command:

```
CHGUSRPRF USRPRF(SKYBOTADM) USRCLS(*USER) SPCAUT(*USRCLS)
```

If you reduce the authority of SKYBOTADM, you should make SKYBOTADM reference SKYBOTUSR as a group profile so it has access to all Automate Schedule objects. Use this command to do so:

```
CHGUSRPRF USRPRF(SKYBOTADM) GRPPRF(SKYBOTUSR)
```

After reducing the SKYBOTADM authority, you will need to provide SKYBOTADM with appropriate authority to any/all objects specified by the IBM i agent environments you define in Automate Schedule for running user jobs. Automate Schedule will not be able to submit jobs that reference any objects on the SBMJOB command that SKYBOTADM is not authorized to use.

SWS Global Date Function

The SWS global default date format can be modified to control how a date value displays in the results grid and in a prompt dialog. Use the following steps to make this change:

1. Connect and log onto the Sequel Web Server.
2. Right-click an existing host connection, and select **Edit Properties**.
3. In the Host Properties display, add the following string to the end of the *Database URL* value:

```
; date format = FFFFF
```

(where **FFFFF** is: *mdy, dmy, ymd, usa, iso, eur, jis, or julian*)

Host Properties

Name* HS44

Type* *ISERIES

Database URL* extended metadata = true; translate binary = true; date format = iso

Driver* com.ibm.as400.access.AS400JDBCdriver

SEQUEL library* SEQUEL

SequelWi* SEQUELWI

Esend* ESEND

SWI Host Secure URL* http://HS44:400/secure/sequel

Verify connection (please, provide username and password below)

Default

Username* user1

Password*

Reset Save Cancel

4. Press **Save**.

JDE Reporting Interoperability

After using the SEQUEL/SETJDEOWE command to configure reporting interoperability on the Power Systems, four files are created in the '**rio/lib**' folder of the IFS.

For SWI and Sequel Web server to work correctly with JDE, the following four files must be copied from the 'rio/lib' folder on the IFS to the

C:\Program Files
(x86)\SEQUEL\SEQUELWebServer\webapps\Sequel\WEB-INF\classes\jdeConfigs folder.

- JDBJ.ini
- JDEDRIVER.cfg
- JDEOW.cfg
- SSINEROP.ini

Much more detail about JDE connections and settings is explained in the Appendix B of the Viewpoint User Guide.

SWI Classic Mode

SWI Classic mode is defined by installing and using SWI in its most basic configuration. Using just the installed host software, a properly configured Apache HTTP server on the IBM i, and a browser users can access Viewpoint objects to display results and direct output.

Sequel Web Interface has become a very robust product. When first introduced, SWI used a very simple list and action oriented 'start page' interface—now referred to as the Classic Interface. Over time, the interface evolved into the current Explorer Interface.

Many of the functions available through the classic interface are highly technical and meant for a very specific audience: operators, programmers, and advanced end-users. The Sequel Explorer Interface is meant for a more end-user audience.

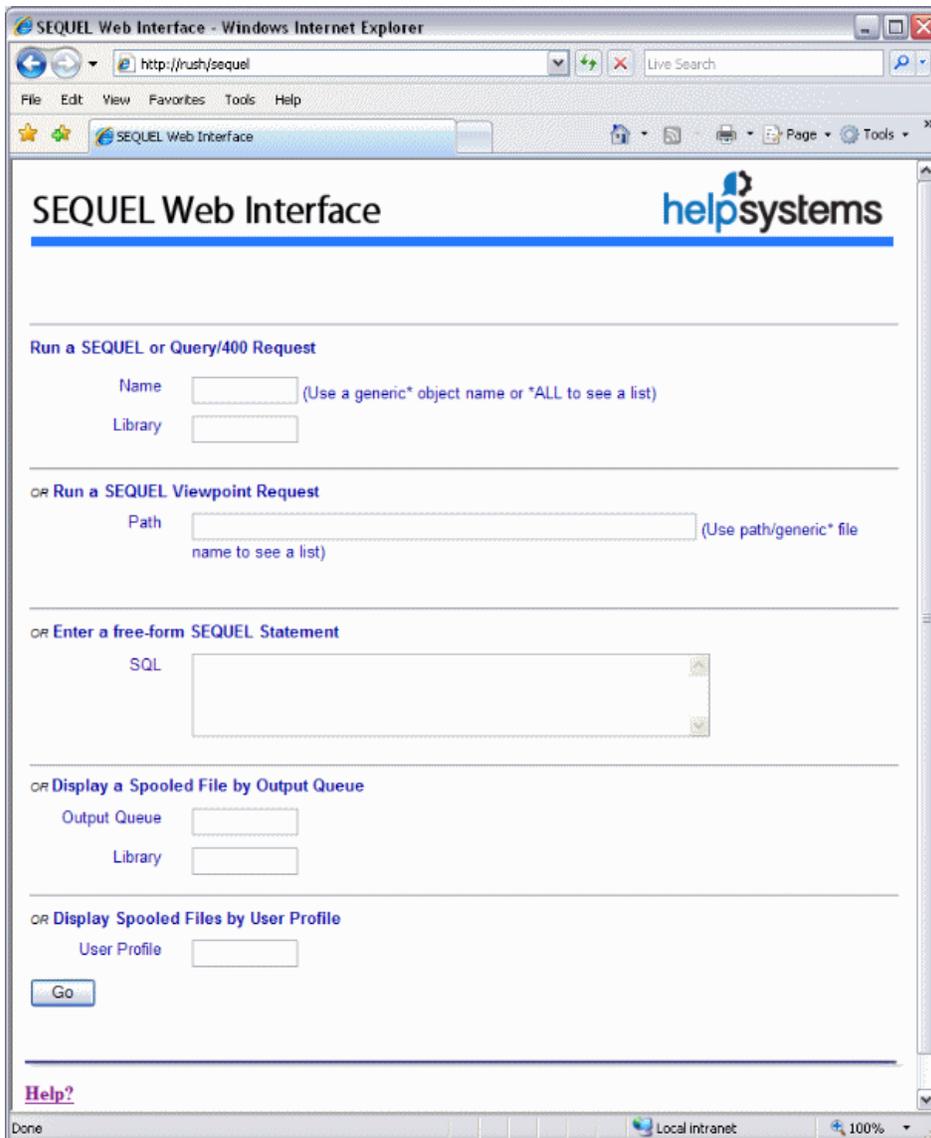
The Classic Interface

The Sequel Web classic interface (also referred to the Start Page) has been in use by many companies since its introduction in 2000. It was originally designed as a quick and easy way to access the functions available in a list / feature structure, and to give Sequel clients a way to share System i data with users (internal and external) using only a Web browser. Both query objects and Viewpoint objects (views, tables, reports, and so on) can be accessed and run with a single click of the mouse.

Start the Classic Interface

Enter an address similar to the following to open the SWI Classic Interface:

```
http://SystemiName/secure/SEQUEL
```



Start Page Options

A [start page](#) source file on the Power Systems server controls the available entry boxes displayed on the page. Depending on how your start page has been configured you may have access to some or all of the following items.

[Run a Sequel or Query/400 Request](#) or [Display a list of Sequel Objects](#).

[Run a Sequel Viewpoint Request](#).

[Enter a free-form Sequel Statement](#).

[Display a Spooled File by Output Queue](#).

[Display Spooled Files by User Profile.](#)

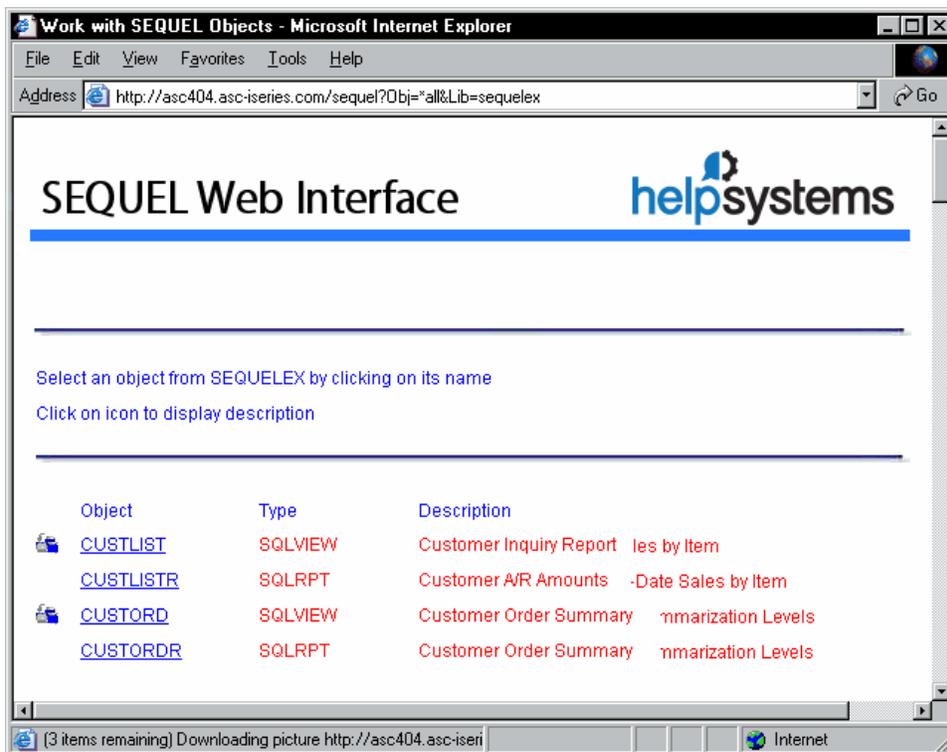
Display a List of Sequel Objects

Specifying *all or generic* for an object name on the [Run a Sequel or Query/400 Request](#) screen, will generate a list of Sequel objects like the one below.

The object name, object type, and description is listed.

The icon next to each object is a link to either a [View Definition](#), [Report Definition](#), or [Script Definition](#). These icons can be turned on or off at the package default level.

Any object may be selected to run with a mouse click on the hyperlinked object name.



Run a Sequel or Query/400 Request

This option will allow you to select a Sequel View, Report, Script, or a Query400 object to display. Specify an object name and library.

Use generic* or *ALL to see a [list of Sequel Objects](#).

On most browsers pressing the Enter key will run the request. If not, page down to the bottom of the display and press the GO button.

SEQUEL Web Interface

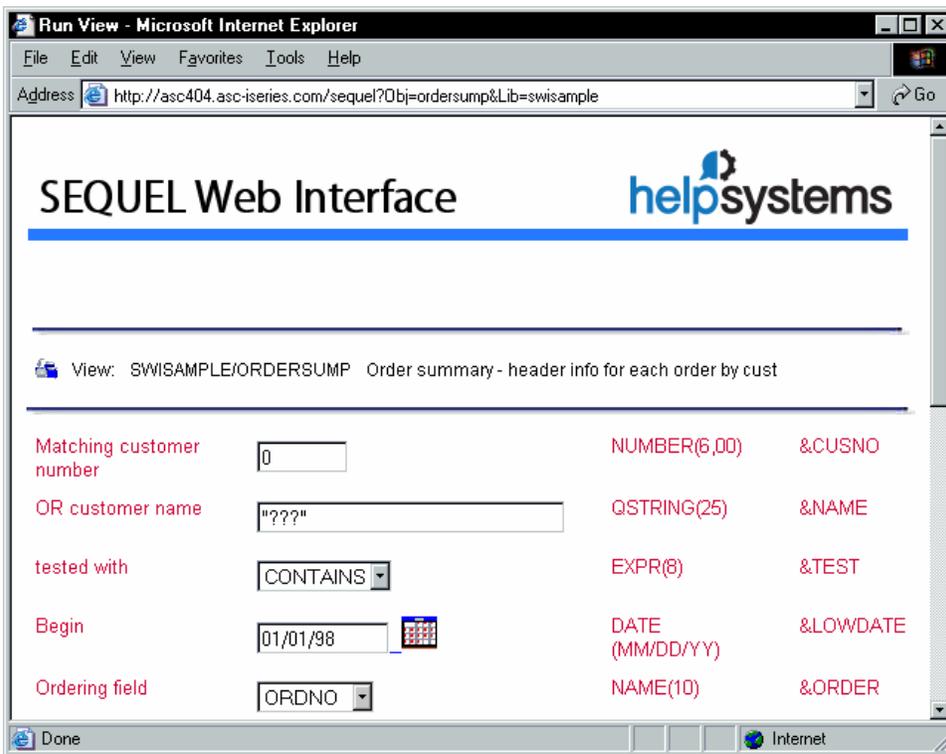

Run a SEQUEL or Query/400 Request

Name (Use a generic* object name or *ALL to see a list)

Library

Prompted Views

If a View is a run-time prompted Sequel View (type=SQLVIEWP), the prompt displays first, as shown here:



The screenshot shows a browser window titled "Run View - Microsoft Internet Explorer" with the address bar containing "http://asc404.asc-iseries.com/sequel?Obj=ordersump&Lib=swisample". The page content includes the "SEQUEL Web Interface" header and the "helpsystems" logo. Below the header, the view name is "View: SWISAMPLE/ORDERSUMP Order summary - header info for each order by cust". The main form contains the following fields and their corresponding data types and prompts:

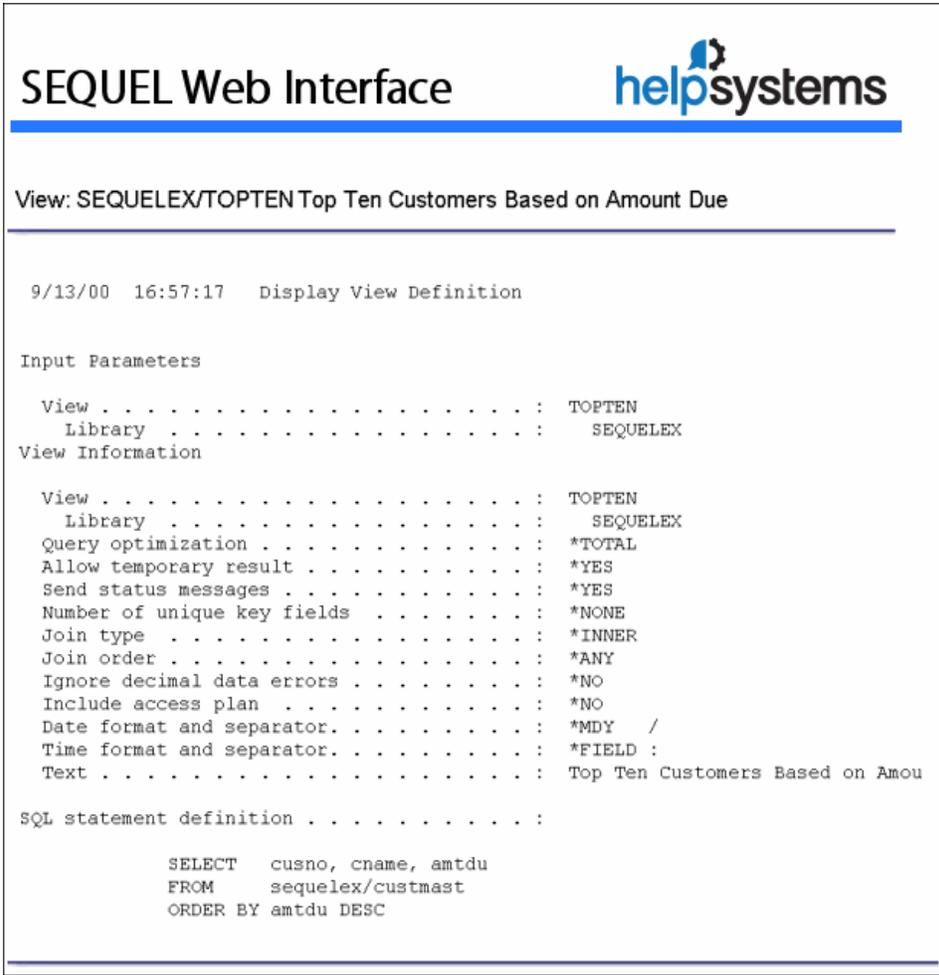
Matching customer number	<input type="text" value="0"/>	NUMBER(6,00)	&CUSNO
OR customer name	<input type="text" value="???"/>	QSTRING(25)	&NAME
tested with	<input type="text" value="CONTAINS"/>	EXPR(8)	&TEST
Begin	<input type="text" value="01/01/98"/> 	DATE (MM/DD/YY)	&LOWDATE
Ordering field	<input type="text" value="ORDNO"/>	NAME(10)	&ORDER

All prompted values must be supplied for the request to complete.

Display View Definition

From the list of Sequel objects click the icon to the left of the object name to display the definition for the View. This is equivalent to issuing the `DSPVIEWD` command from a Power System command line.

You can print this definition locally for documentation purposes.



```

SEQUEL Web Interface
helpsystems

View: SEQUELEX/TOPTEN Top Ten Customers Based on Amount Due

9/13/00 16:57:17 Display View Definition

Input Parameters
View . . . . . : TOPTEN
Library . . . . . : SEQUELEX
View Information
View . . . . . : TOPTEN
Library . . . . . : SEQUELEX
Query optimization . . . . . : *TOTAL
Allow temporary result . . . . . : *YES
Send status messages . . . . . : *YES
Number of unique key fields . . . . . : *NONE
Join type . . . . . : *INNER
Join order . . . . . : *ANY
Ignore decimal data errors . . . . . : *NO
Include access plan . . . . . : *NO
Date format and separator. . . . . : *MDY /
Time format and separator. . . . . : *FIELD :
Text . . . . . : Top Ten Customers Based on Amou

SQL statement definition . . . . . :
SELECT cusno, cname, amtdu
FROM sequelex/custmast
ORDER BY amtdu DESC

```

Display Report Definition

From the list of Sequel objects click the icon to the left of the object name to display the definition for the Report. This is equivalent to issuing the `DSPRPTD` command from a Power System command line.

You can print this definition locally for documentation purposes.

SEQUEL Web Interface


Report: SEQUELEX/TOPTENR Top Ten Customers by Amount Due
 View: NEWSEQEX/TOPTEN Top Ten Customers Based on Amount Due

9/13/00 17:20:14 Display Report Definition

Input Parameters

```

Report . . . . . : TOPTENR
Library . . . . . : SEQUELEX
Report Information
Report . . . . . : TOPTENR
Library . . . . . : SEQUELEX
View . . . . . : TOPTEN
Library . . . . . : NEWSEQEX
Form type. . . . . : *STD
Page size(length width). . . . . : 66 80
Overflow line. . . . . : 60
Lines per inch . . . . . : 6
Characters per inch. . . . . : 10
Copy count . . . . . : 1
Hold on output queue . . . . . : *NO
Save on output queue after print . . . . . : *NO
Report title . . . . . : Top Ten Customers by Amount Due
  
```

SQL statement definition :

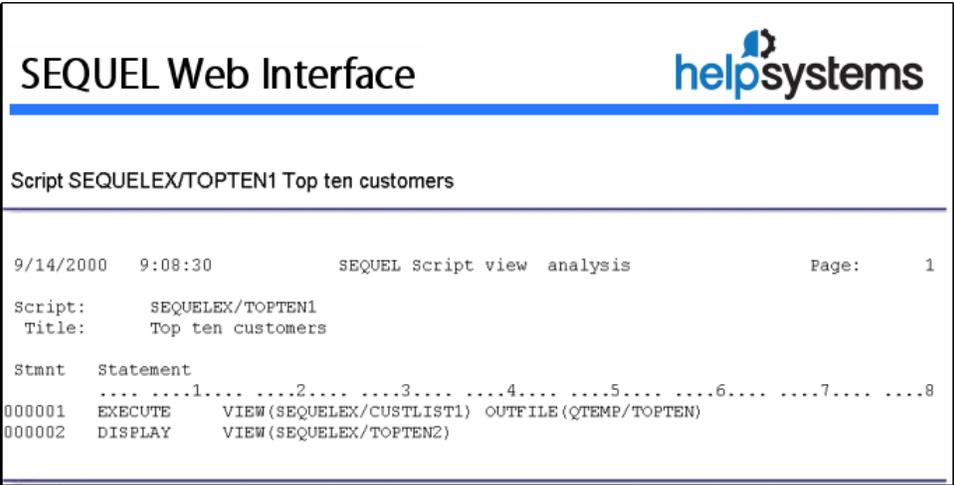
```

SELECT  cusno, cname, amtdu
FROM    sequelex/custmast
ORDER BY amtdu DESC
  
```

Display Script Definition

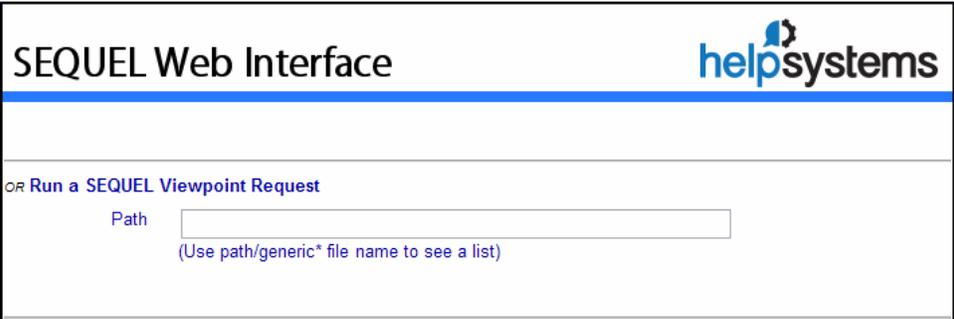
From the list of Sequel objects click the icon to the left of the object name to display the definition for the Script. This is equivalent to issuing the **DSPSCRIPTD** command from a Power System command line.

You can print this definition locally for documentation purposes.



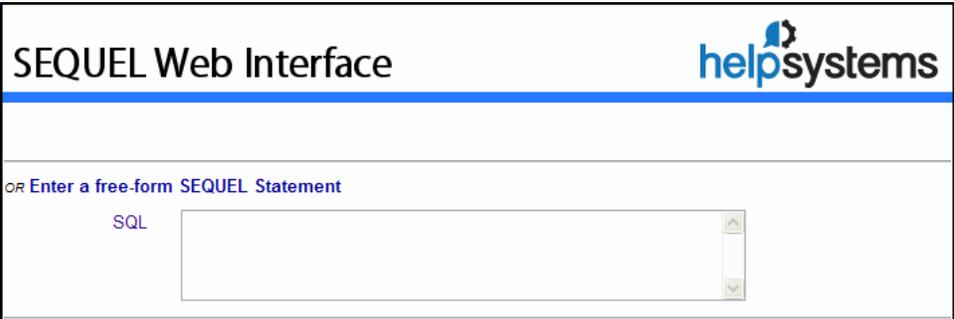
Run a Sequel Viewpoint Request

This entry will allow you to navigate to a folder on the IFS (usually tmp) to display a list of Viewpoint [shortcut](#) files. These shortcut files are created with Sequel Viewpoint and can be used to display data or graphs.



Enter a free-form Sequel Statement

Use this entry for ad-hoc requests. Enter the SQL statement and press the GO button to run the request.



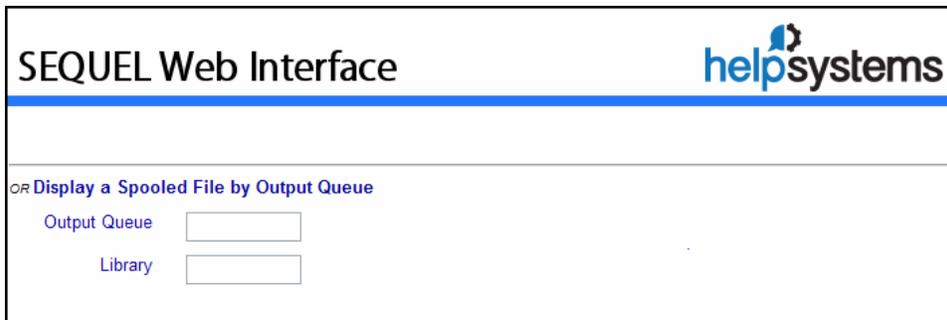
You may restrict the ability for users to run free-form 'SELECT' statements by changing package defaults on the Power Systems server. Please refer to [Setup Classic Mode on page 329](#) for more details.

There is no delete or update risk to System i data or objects. The System i HTTP server is a read-only server. It does not support the HTML PUT or DELETE methods. Also, Sequel Web Interface does not allow UPDATE or DELETE commands.

Display a Spooled File by Output Queue

This option will display a page listing all available spool files for the specified Output Queue and library.

Press **Enter** or the **Go** button to access the different [Spool Management Functions](#).

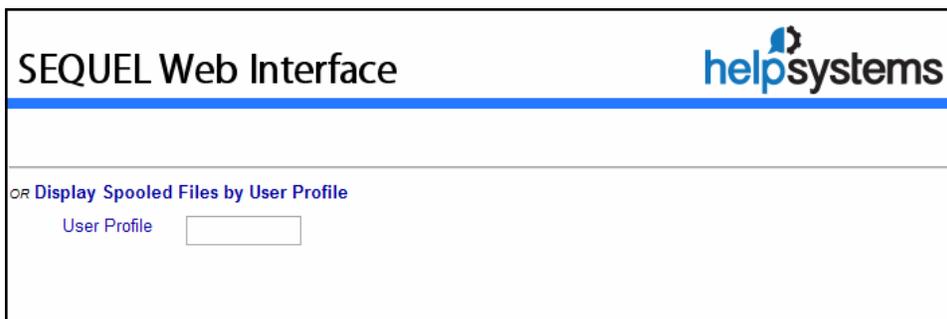


The screenshot shows the SEQUEL Web Interface header with the 'helpsystems' logo. Below the header, the text 'OR Display a Spooled File by Output Queue' is displayed. Underneath, there are two input fields: 'Output Queue' and 'Library', each with a text box.

Display Spooled Files by User Profile

This option will display a page listing all available spool files for the specified User ID.

Press **Enter** or the **Go** button to access the different [Spool Management Functions](#).



The screenshot shows the SEQUEL Web Interface header with the 'helpsystems' logo. Below the header, the text 'OR Display Spooled Files by User Profile' is displayed. Underneath, there is one input field: 'User Profile', with a text box.

Spooled File Listing

Displaying spool files by User ID or Output Queue will present a screen like the one below.

Click on a hyperlinked Job Name in the left hand column to display the contents.

Job Name	Job User	Job Number	Date	Time	File Name	File Number	Total Pages	Copies	User Data	OUTQ	OUTQ Library	Status
QPRTJOB	LYNNS	136441	2003/09/04	09:27:43	QPJOBLOG	44	1	1	QZDASOINIT	QPRINT	QGPL	*READY
QPRTJOB	LYNNS	136441	2003/09/04	15:15:04	QPJOBLOG	45	1	1	QZDASOINIT	QPRINT	QGPL	*READY
QZHQSSRV	QUSER	150454	2003/09/04	21:00:09	QPJOBLOG	1	5	1	QZHQSSRV	QPRINT	QGPL	*READY
QZHQSSRV	QUSER	150455	2003/09/04	21:00:14	QPJOBLOG	1	3	1	QZHQSSRV	QPRINT	QGPL	*READY
QZHQSSRV	QUSER	150335	2003/09/04	21:00:17	QPJOBLOG	1	7	1	QZHQSSRV	QPRINT	QGPL	*READY
QTCPMONTR	QTCP	149947	2003/09/04	21:00:19	QPJOBLOG	1	1	1	QTCPMONTR	QPRINT	QGPL	*READY
QZTELNET	QTCP	149956	2003/09/04	21:00:26	QPJOBLOG	1	1	1	QZTELNET	QPRINT	QGPL	*READY

Advanced Features

Classic mode offers the following advanced features:

[Viewpoint Graph Support](#)

[Import Data to a Spreadsheet](#)

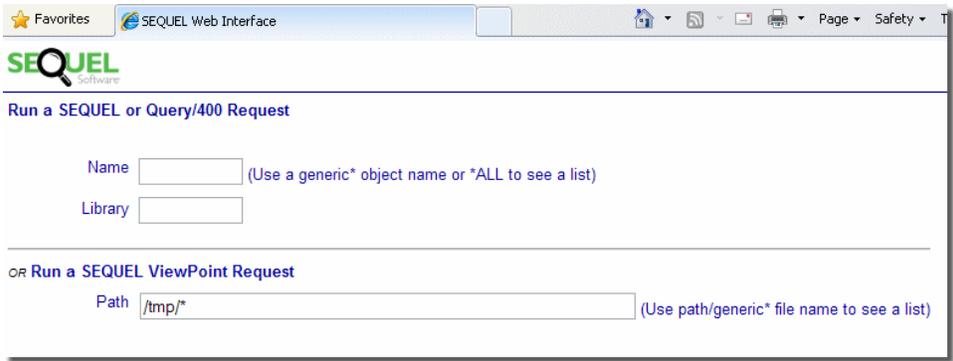
[Using XML/XSL](#)

[SWI Prompted Action](#)

Viewpoint Graph Support

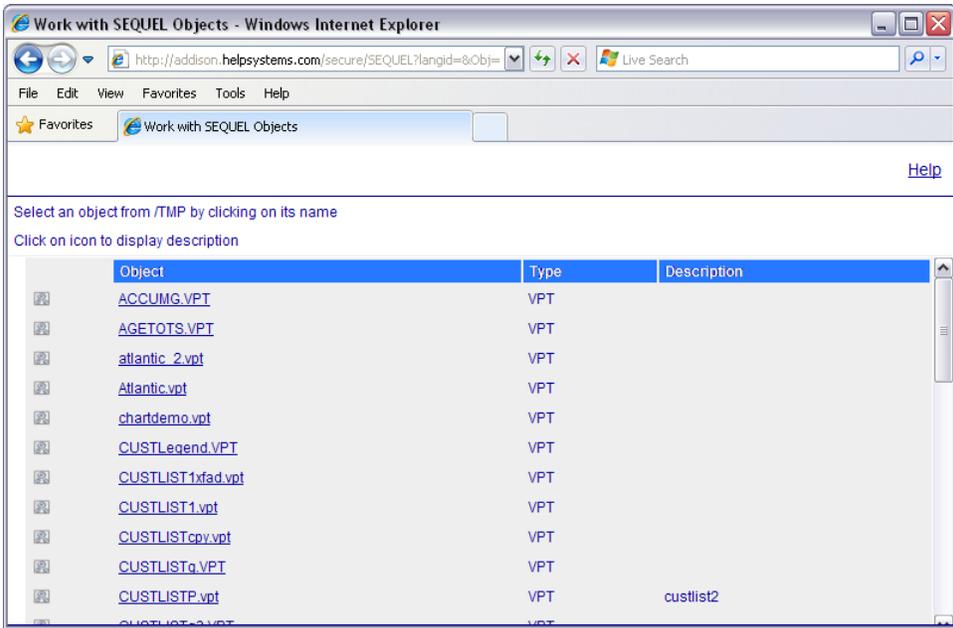
SWI can display graph shortcut files (.vpt) created with Sequel Viewpoint. These files are typically stored in the IFS tmp folder on the System i.

Using 'Run a Sequel Viewpoint Request' entry on the main SWI display, you first must specify the path to your stored shortcut files.

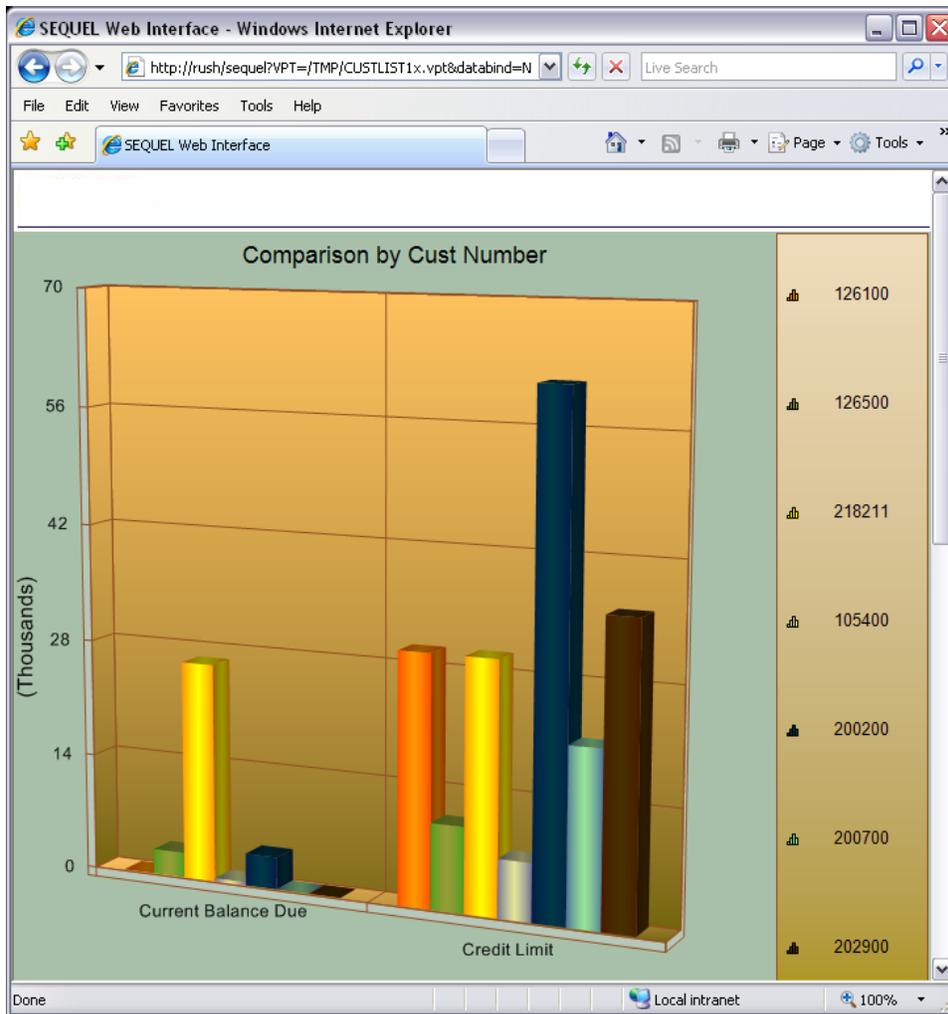


In the example above, the **TMP** folder is specified.

A list of Sequel Viewpoint shortcuts are presented.



Simply click on the desired file to display the graph in the browser.

**NOTE:**

There are security controls on the PC that may need to be set in order for the above function to work correctly. Review the [PC Security Settings](#) topic for more information or if the graph does not display properly.

Import Data to a Spreadsheet

When SWI processes a Sequel View request, the results appear in an HTML table comprised of rows and columns delineated with borders. Each data element is contained in its own "cell" when displayed in a browser. Newer versions of spreadsheet programs such as MS-Excel and Lotus 1-2-3 can automatically convert these HTML tables into their native format when they open a saved HTML file. The user may then work with the data in the spreadsheet program without having to re-key the data or make extensive modifications.

In contrast, when the SWI processes a Sequel Report or Query/400 request, it needs to convert spool file output into HTML "preformatted text". When a spreadsheet program opens this type of output, all the data elements in a report line are contained within a single spreadsheet cell, separated by blanks. A significant amount of user effort is required to copy and paste data elements into individual spreadsheet cells for further manipulation and analysis.

For the reasons described above, using a Sequel View is the optimal approach for copying System i data from a browser window to a spreadsheet program. The Sequel Data Access module is required for this operation. In addition to easier data transfer, Sequel Data Access offers some other very significant advantages over Query/400. Perhaps the most notable is the ability to create views with run-time prompts. SWI will automatically generate prompt pages to display in the browser or will process input from custom-developed prompt pages. Sequel Data Access also offers extensive data summarization and reformatting capabilities not found in Query/400 that will help present information in formats more useful to end users.

SWI offers a number of different approaches for remote transfer of data from the System i to a PC spreadsheet program such as MS-Excel. Visit the links below to review three different approaches:

[**Create an HTML File to Open in Excel on page 268**](#)

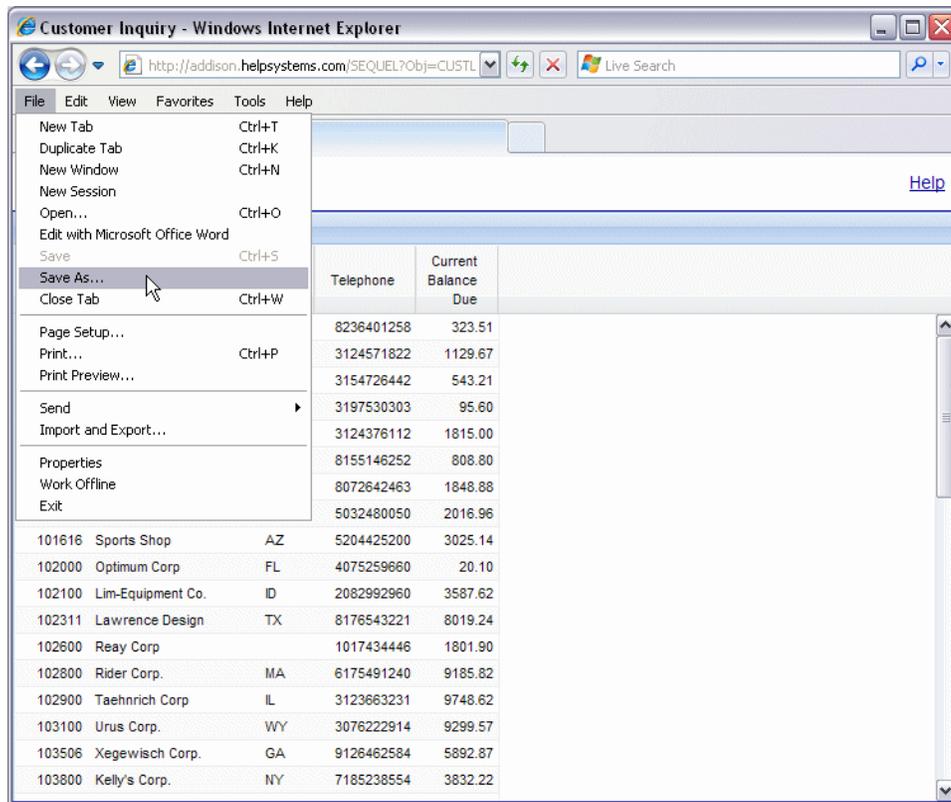
[**Email from a Script on page 270**](#)

[**Import as a Web Query on page 270**](#)

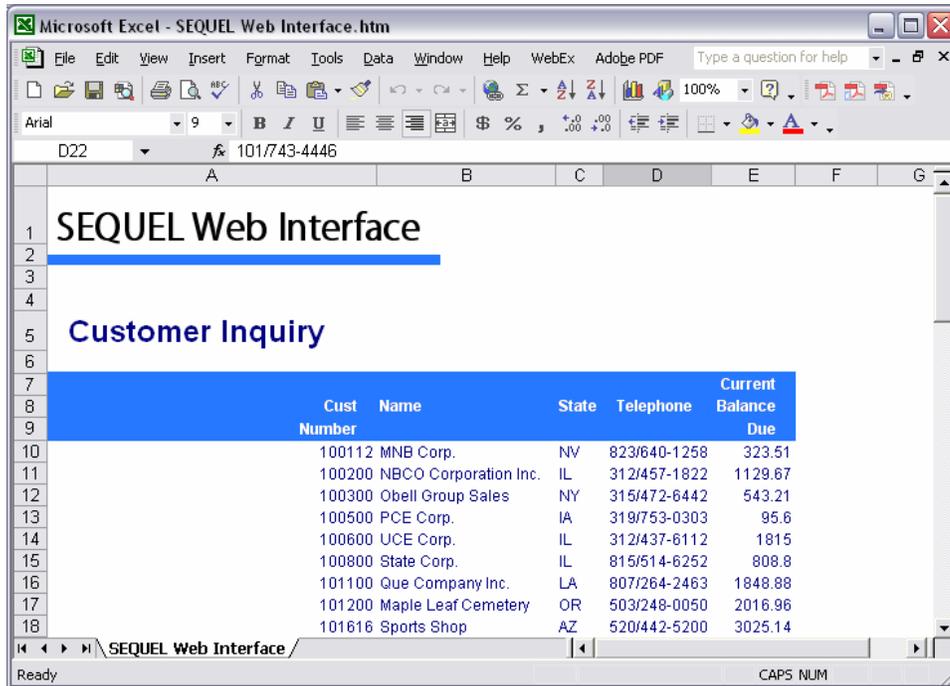
Create an HTML File to Open in Excel

Steps

1. Run a Viewpoint View with SWI. The results will be displayed in a row-and-column format in the browser window.
2. Select the **File=Save As** option on the browser tool bar (below).



3. Save the file as an htm/html file in a directory on a local drive. The default file name is "SEQUEL.HTML" but you may give it a different name.
4. Start the spreadsheet program and open the file. Remember, when you select **File=Open** the spreadsheet program will first display only the files in a directory with its own file extension (e.g. '.xls' for MS-Excel). You will need to take the 'show all files' option in the 'Open' window to display your '.html' file in the list.
5. When the spreadsheet program converts the html file, it does not import any graphics from the header, only the data from the cells (see next page). At this time the spreadsheet user may continue to work with the data any way he or she chooses.



Email from a Script

Another approach to create Excel data is simply to use the Sequel EXECUTE command within a script that runs a predefined view. The EXECUTE command can specify an output format of Excel (among many other PC formats) along with an e-mail recipient. In the script below a runtime prompt is used to supply e-mail address for the recipient.

Script Commands

```

10 MONMSG
20 EXECUTE VIEW (SEQUELEX/CUSTLIST) PCFMT (*XLS)
    RECIPIENT (' &&EMAIL ')
    
```

Runtime Variable

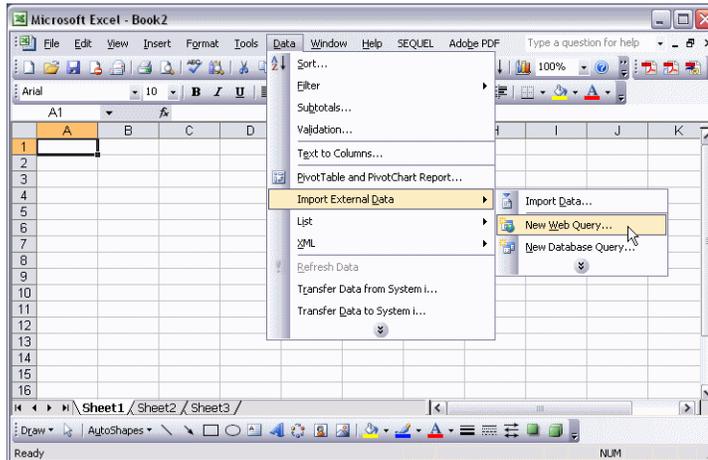
The variable &&email is defined as:

<u>Seq</u>	<u>Variabl</u>	<u>Type</u>	<u>Prompt</u>	<u>Lengt</u>	<u>Dec</u>
	e		Text	h	
5	&EMAI L	EXPR	&EMAI L	80	0

Import as a Web Query

Newer versions of MS Excel provide a function to import real-time data from a web query into a spreadsheet file. The data is automatically updated whenever the spreadsheet is reopened or when the user clicks a 'refresh' option. If you need to import System i data into spreadsheets on a regular basis, you can use Sequel and the Sequel Web Interface as the underlying query, as described below.

1. Open a new or existing Excel spreadsheet.
2. Select **Data=Import External** from the series of dropdown menus.

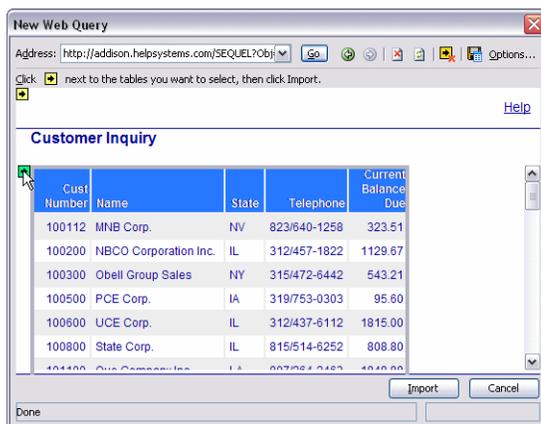


This opens a dialog window named '**New Web Query**'. The center portion of this window will first display your browser's normal home page.

3. In the **Address** box near the top, type or copy a complete Sequel Web Interface **URL** link for an existing Sequel view, then click the adjacent **Go** button.

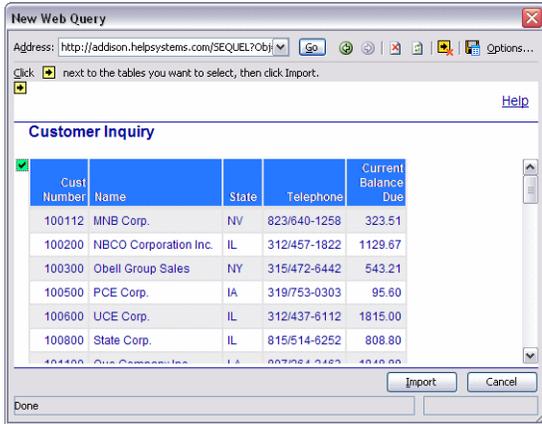
The center portion of the **New Web Query** window will then display the query results, as shown below. Excel will surround the view results table with a dark border and include a selection checkbox in the upper left corner.

4. Click on the checkbox to include the data in the spreadsheet.



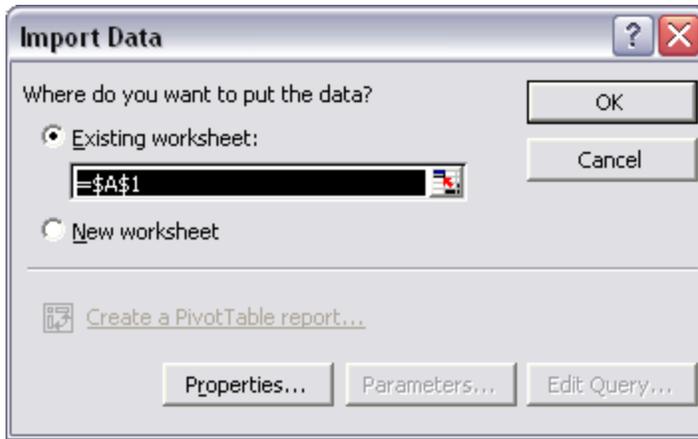
The data will be highlighted in blue when the selection is made.

5. Click the **Import** button to proceed.



Another Excel dialog window will appear asking you to confirm the target cell within the spreadsheet.

6. Press the **OK** button.



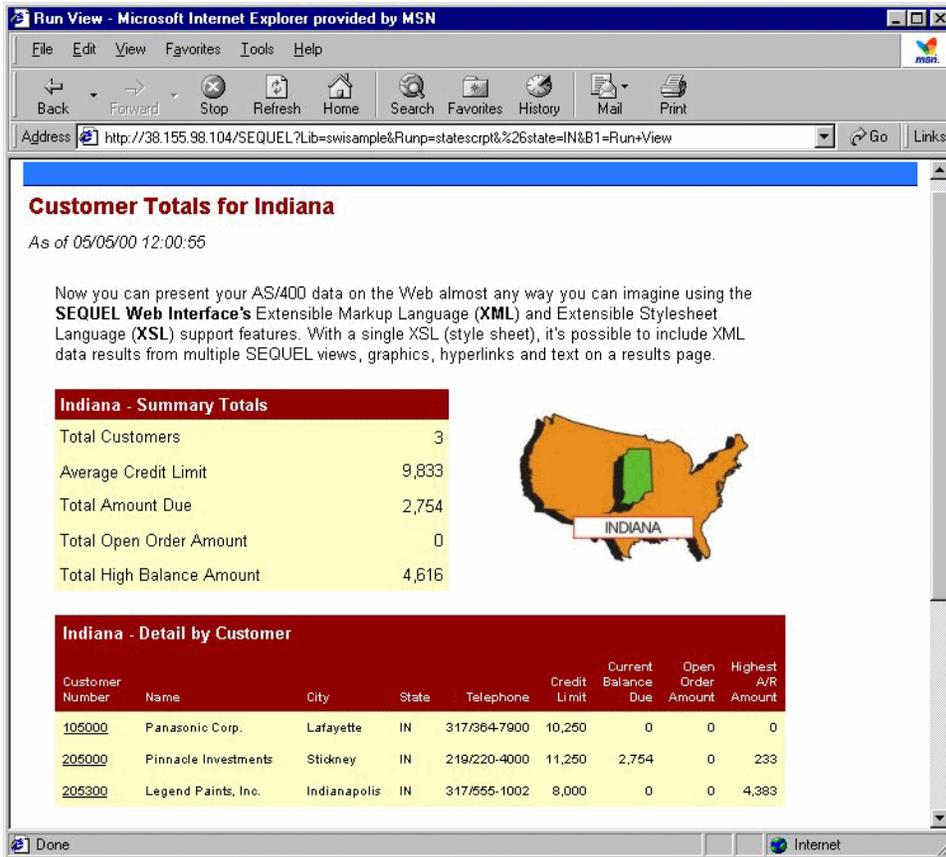
Once you confirm the target, the Sequel view results will be imported into the spreadsheet as shown below. Again, the Sequel view will update the data with real-time information any time the spreadsheet is opened or a refresh option is selected.

	A	B	C	D	E	F	G	H	I
1		Name	State	Telephone	Current				
2		Cust			Balance				
3		Number			Due				
4	100112	MNB Corp.	NV	823/640-1258	323.51				
5	100200	NBCO Corporation Inc.	IL	312/457-1822	1129.67				
6	100300	Obell Group Sales	NY	315/472-6442	543.21				
7	100500	PCE Corp.	IA	319/753-0303	95.6				
8	100600	UCE Corp.	IL	312/437-6112	1815				
9	100800	State Corp.	IL	815/514-6252	808.8				
10	101100	Que Company Inc.	LA	807/264-2463	1848.88				
11	101200	Maple Leaf Cemetery	OR	503/248-0050	2016.96				
12	101616	Sports Shop	AZ	520/442-5200	3025.14				
13	102000	Optimum Corp	FL	407/525-9660	20.1				
14	102100	Lim-Equipment Co.	ID	208/299-2960	3587.62				
15	102311	Lawrence Design	TX	817/654-3221	8019.24				
16	102600	Reay Corp		101/743-4446	1801.9				

Using XML/XSL

It's possible to present your IBM idata for the Web almost any way you can imagine using the SWI's Extensible Markup Language (XML) and Extensible.

MS Internet Explorer 5.0 or later is required in order to view XML/XSL content.



Sequel is required in order to use XML/XSL with the SWI. The EXECUTE command included with Sequel creates XML data file output from System i data. The Scripting function is also useful for running the multiple steps required to generate and display XML/XSL output. Additionally, Sequel Data Access will also let you FTP your XML file output to your server so you may keep non-interactive web pages updated with the latest data.

SWI provides three commands that facilitate the use of XML/XSL. These may be combined, as needed, with multiple EXECUTE statements within a Viewpoint script in order to deliver System i data as XML/XSL output:

SWIXMLMRG - This command merges multiple XML data files into a single XML data file member ([Merge XML Data - SWIXMLMRG on page 305](#)).

SWIXSLBLD - This command builds a new XSL style sheet that incorporates one or more named XML data files. This XSL may be used as is or may be modified further to incorporate other design elements, graphics or styles ([Build an XSL File - SWIXSLBLD on page 305](#)).

SWIXMLSRV - This command serves (displays) an existing XML data file with an existing XSL style sheet at the browser ([Serve an XML Document - SWIXMLSRV on page 310](#)).

NOTE: If the libraries SEQUELWI and SEQUEL are not on the library list, you must qualify the commands in the script.

Example 1-XML Data

This example uses a Viewpoint view to extract data and a Viewpoint Script to create and display an XML data file using a simple XSL style sheet.

A Viewpoint view named CUSTINFO is first created in a library called TESTLIB (or any library you choose). It contains the following statement:

```
SELECT cusno, cname, cstte, regon, amtdu, crlim
FROM sequelex/custmast
```

Next, a Viewpoint script named CUSTSCRIPT is created that contains the following commands:

```
10 MONMSG
20 SEQUEL/EXECUTE VIEW(TESTLIB/CUSTINFO)
      RCDFMT(RECORD) PCFMT(*XML)
      TOSTMF('/tmp/cust01.xml') REPLACE(*YES)
30 SEQUELWI/SWIXSLBLD DATABASE(' ') INTO('/tmp/cust01.xml')
      NODE((TESTLIB/CUSTINFO *N *NONE))
40 SEQUELWI/SWIXMLSRV STYLESHEET('/tmp/cust01.xml') XMLDATA
   ('/tmp/cust01.xml')
```

Command Descriptions

10 MONMSG - The OS/400 MONMSG (Monitor Message) command is included as the first step to allow the script to continue even if warning messages are issued.

20 EXECUTE - This command creates an output file with the following parameters:

VIEW - The Viewpoint view named CUSTINFO (created above) extracts the data from the DB2 database file.

RCDFMT - A value of RECORD will be used for the XML tags.

PCFMT - The output file is created in XML format.

TOSTMF - The new XML file is called cust01.xml and is saved in the /tmp subdirectory in the System i' IFS.

REPLACE - Overwrites the same file created during a previous run, if it exists.

30 SWIXSLBLD - This command generates a XSL style sheet.

DATABASE - This parameter is set to blank (' ').

INTO - The new XSL file is named cust01.xsl and is saved in the /tmp subdirectory.

NODE - The NODE parameter includes the view used in the previous EXECUTE command. As only one view is used in the script,

*N *NONE is used to specify related views.

40 SWIXMLSRV - This command takes the second XML file created in step 20 and the XSL file created in step 30 and serves them back to the browser.

Although you will not be able to see XML/XSL output at the 'green screen', follow this general approach when testing your script at a host terminal:

Run the script in 'step mode' to ensure each command completes successfully. Watch for error messages and correct problems before you run the script from a browser.

When the script completes, start Windows Explorer and navigate to the subdirectory on the IFS where you created the XML and XSL files. When you double-click on each file name, your default browser will display the XML or XSL. If there are problems with the file, the browser will display an error instead of the code. Review your command syntax in the script to check for discrepancies.

Using SWI, navigate to the location of the CUSTINFO script and double-click to view the results. A list of customers should display with a colored background.

Cust Number	Name	State	Sales Region	Current Balance Due	Credit Limit
100200	NBCO Corporation Inc.	IL	40	1129.67	60000
100300	Obell Group Sales	NY	20	543.21	30000
100500	PCE Corp.	IA	40	95.60	7000
100600	UCE Corp.	IL	40	1815.00	32000
100700	Xcme Corp.	CA	10	.00	20000
100800	State Corp.	IL	40	808.80	10250
102100	Lim-Equipment Co.	ID	50	3587.62	20000
102600	Reay Corp		20	1801.90	40000
102900	Taehnrich Corp	IL	40	9748.62	35000
104000	V&B Sporting Goods	MT	50	80.40	7000
104100	Lickton's City Corp.	IL	40	341.12	7000
105900	Village Sportshop	IL	40	.00	50000
108300	Toys R'Us	TX	30	10916.80	18000
109600	K. Redford's Inc.	AZ	10	16135.65	32000

TIP:

Debugging XML/XSL from the browser is a bit cumbersome. If there are problems with your script your browser will appear to be waiting for results indefinitely or you may get a blank screen or have only partial results displayed. If you right-click on the results and take the "View Source" option you will not see the XML or XSL 'code', only references to the file names.

Example 2-View with Prompt

In this example we'll modify the CUSTINFO view created in Example 1 to include a runtime prompt that selects all customers within a specified state. Due to an operating system limitation the modified view needs to initially contain a hard-coded value in the WHERE clause for the state selection:

```
SELECT  cusno, cname, cstte, regon, amtdu, crlim
FROM    sequelex/custmast
WHERE   cstte="IL"
```

After the view and script are tested and working, we'll replace the hard-coded value of "IL" with a runtime variable name (see below). For initial testing purposes the script created in Example 1 can be used without modification. It will later be changed to enable runtime prompting.

```
10 MONMSG
```

```
20 SEQUEL/EXECUTE VIEW(TESTLIB/CUSTINFO)
    RCDFMT(RECORD)
    PCFMT(*XML)
    TOSTMF('/tmp/cust01.xml')
    REPLACE(*YES)

30 SEQUELWI/SWIXSLBLD DATABASE(' ')
    INTO('/tmp/cust01.xsl')
    NODE((TESTLIB/CUSTINFO *N *NONE))

40 SEQUELWI/SWIXMLSRV STYLESHEET('/tmp/cust01.xsl')
    XMLDATA('/tmp/cust01.xml')
```

Run the script from the browser. Once the script is working, modify the view by adding the runtime variable `&cstte` in the WHERE clause:

```
SELECT  cusno, cname, cstte, regon, amtdu, crlim
FROM    sequelex/custmast
WHERE   cstte=&cstte
```

After the WHERE clause is modified, you will need to define the variable value `&cstte` (shown below) then save the view.

Seq	Variable	Type	Prompt text	Length	Dec
5	&CSTTE	QSTRING	Customer state	4	0

Modify the script to comment-out or remove the **SWIXSLBLD** command on line **30**. Do not delete the xsl file from the IFS. This will be used for formatting purposes after the runtime prompt is added.

Add a **SETVAR** clause to the **EXECUTE** command on line **20** that contains the `&cstte` variable. The modified script look like the following:

```
10 MONMSG

20 SEQUEL/EXECUTE VIEW(TESTLIB/CUSTINFO)
    RCDFMT(RECORD)
    PCFMT(*XML)
    TOSTMF('/tmp/cust01.xml') REPLACE(*YES)
    SETVAR((&CSTTE &CSTTE))

30 /* SEQUELWI/SWIXSLBLD DATABASE(CUST)
    INTO('/tmp/cust01.xsl')
    NODE((TESTLIB/CUSTINFO *N *NONE)) */

40 SEQUELWI/SWIXMLSRV STYLESHEET('/tmp/cust01.xsl')
    XMLDATA('/tmp/cust01.xml')
```

When the script is run from the browser, you will be able to enter a state abbreviation in the runtime prompt and will receive results that include data for that state. The results for the state of California are shown below.

Cust Number	Name	State	Sales Region	Current Balance Due	Credit Limit
100700	Xcme Corp.	CA	10	.00	20000
126100	Kmrt Western Region	CA	10	.00	30000
126500	L.M. Corp.	CA	10	3000.00	10250
218211	Walmart	CA	10	26250.00	30000
105400	Rudy's Corp.	CA	10	366.09	7000
200200	Maxwell House Repairs	CA	10	3883.67	61000
200700	Puzzles Galore	CA	10	.00	21000
202900	Dietzgen Donuts, Inc.	CA	10	.00	36000
203100	Jupiter Hauling & Bakery	CA	10	.00	31000

Example 3-Multiple Views

The example in this section combines state summary data, state detailed data, graphics and text in a single XML/XSL page, shown below. A prompt at the browser window first lets the user select the state to review. The view and script definitions are detailed below.

original script with new style sheet. - Windows Internet Explorer

http://addison.helpsystems.com/secure/! Live Search

File Edit View Favorites Tools Help

original script with new st... K:\tmp\state.xsl

Help

Customer Totals for Illinois

As of 08/17/10 17:30:18

Now you can present your iSeries data on the Web almost any way you can imagine using the SEQUEL Web Interface's Extensible Markup Language (XML) and Extensible Stylesheet Language (XSL) support features. With a single XSL (style sheet), it's possible to include XML data results from multiple SEQUEL views, graphics, hyperlinks and text on a results page.

Illinois - Summary Totals	
Total Customers	13
Average Credit Limit	28,346
Total Amount Due	83,442
Total Open Order Amount	106,930
Total High Balance Amount	312,024

ILLINOIS

- Detail by Customer								
Customer Number	Name	City	State	Telephone	Credit Limit	Current Balance Due	Open Order Amount	Highest A/R Amount
100200	NBCO Corporation Inc.	Norridge	IL	312/467-1822	60,000	1,130	56,484	50,087
100600	UCE Corp.	Elk Grove Vill.	IL	312/437-6112	32,000	1,815	0	30,250

Due to an operating system limitation the views and script described in this example need to initially contain hard-coded values for the state value instead of variable runtime prompt. Variable values may be added after the script is tested and working.

may be added after the script is tested and working.

Summary View - STATEHDR

A view named STATEHDR is used to extract summary information for the state and to build an HTML reference for the graphical image of the state map.

The view contains the following statement:

```
SELECT state, text, CAT('/SEQUEL/statemaps/', TRIM
(state), '.jpg') NAME (mapfile)
FROM TESTLIB/stateref
WHERE state=&state
```

The view takes the state abbreviation (&state) entered for the script at the browser and searches a reference file containing the full spelling of the state name. The CAT

statement creates an image file URL that will display a graphical image in the results. This view returns the following data (excluding the numeric data):

STATE	TEXT	MAPFILE
IL	Illinois	/SEQUEL/statemaps/IL.jpg

Detail View - STATEDTL

A view named STATEDTL extracts detailed data for each customer in the selected state. The view contains this statement:

```
SELECT  cusno, cname, cadd3, cstte name(state), cphon, crlim
EDTCDE(J), amtdu EDTCDE(J), oropn EDTCDE(J), highb EDTCDE(J)
FROM    sequelex/custmast
WHERE   state=&state
```

The field named cstte was renamed to state in this SELECT clause so that it shares a common field name with the STATEHDR view - this will be important when merging the output from the two different views within the script.

Viewpoint Script

A Viewpoint script creates XML output files from the STATDTL and STATEHDR views, merges the files together, generates an XSL file from the results, and serves the XML/XSL together at the browser. The script contains the following commands (a narrative for each command follows this example):

```
10 MONMSG

20 ALCOBJ OBJ((TESTLIB/STATEHDR *USRSPC *EXCLRD))

30 SEQUEL/EXECUTE VIEW(TESTLIB/STATEHDR)
   RCDFMT(RECORD)
   PCFMT(*XML)
   TOSTMF('/tmp/statehdr.xml')
   REPLACE(*YES) SETVAR((&STATE &STATE))

40 SEQUEL/EXECUTE VIEW(TESTLIB/STATEDTL)
   RCDFMT(RECORD)
   PCFMT(*XML)
   TOSTMF('/tmp/statedtl.xml')
   REPLACE(*YES)
   SETVAR((&STATE &STATE))

50 RMVLNK OBJLNK('/tmp/state.xml')
```

```
60 SEQUELWI/SWIXMLMRG DATABASE (STATE) INTO ('/tmp/state.xml')
    XMLDATA ('/tmp/statehdr.xml' '/tmp/statedtl.xml')
    REMOVE (*YES)

70 SEQUELWI/SWIXSLBLD DATABASE (STATE) INTO ('/tmp/state.xml')
    NODE ((TESTLIB/STATEHDR STATE
    TESTLIB/STATEDTL CSTTE))
    IMAGES ((TESTLIB/STATEHDR MAPFILE))
    TOTALS ((TESTLIB/STATEDTL *N COUNT)
    (TESTLIB/STATEDTL AMTDU SUM)
    (TESTLIB/STATEDTL OROPN SUM)
    (TESTLIB/STATEDTL CRLIM AVG)
    (TESTLIB/STATEDTL HIGHB SUM))

80 CHGAUT OBJ ('/tmp/state.xml')
    USER (*PUBLIC)
    DTAAUT (*RWX)
    OBJAUT (*ALL)

90 SEQUELWI/SWIXMLSRV STYLESHEET ('/tmp/state.xml')
    XMLDATA ('/tmp/state.xml')

100 DLCOBJ OBJ ((TESTLIB/STATEHDR *USRSPC *EXCLRD))
```

Command Descriptions

10 MONMSG - The OS/400 MONMSG (Monitor Message) command is included as the first step to allow the script to continue even if warning messages are issued.

```
10 MONMSG
```

20 ALCOBJ - As this script creates temporary XML work files in an IFS directory, the OS/400 ALCOBJ (Allocate Object) command is used to avoid problems that occur if concurrent users submit the same request.

```
20 ALCOBJ OBJ ((TESTLIB/STATEHDR *USRSPC *EXCLRD))
```

30 EXECUTE - The Sequel EXECUTE command is used to generate a XML file containing summary information for the selected state.

```
30 SEQUEL/EXECUTE VIEW (TESTLIB/STATEHDR)
    RCDFMT (RECORD)
    PCFMT (*XML)
    TOSTMF ('/tmp/statehdr.xml')
    REPLACE (*YES)
    SETVAR ((&STATE &STATE))
```

VIEW - Uses the STATEHDR view created above to extract the data from the database file.

RCDFMT - A value of RECORD will be used for the XML tags.

PCFMT - *XML is specified for the output format.

TOSTMF - The output stream file is created on the IFS at /tmp/statehdr.xml.

REPLACE - Used to overwrite the same file created during a previous run, if it exists.

SETVAR - Passes the state abbreviation entered at the script's runtime prompt to the view.

40 EXECUTE - The Sequel EXECUTE command is used to generate a XML file containing detailed information for the selected state.

```
40 SEQUEL/EXECUTE VIEW(TESTLIB/STATEDTL)
    RCDFMT(RECORD)
    PCFMT(*XML)
    TOSTMF('/tmp/statedtl.xml')
    REPLACE(*YES)
    SETVAR((&STATE &STATE))
```

VIEW - Uses the STATEDTL view created above to extract the data from the database file.

RCDFMT - A value of RECORD will be used for the XML tags.

PCFMT - *XML is specified for the output format.

TOSTMF - The output stream file is created on the IFS at /tmp/statedtl.xml.

REPLACE - Used to overwrite the same file created during a previous run, if it exists.

SETVAR - Passes the state abbreviation entered at the script's runtime prompt to the view.

50 RMVLNK - The RMVLNK command removes the /tmp/state.xml file created in a previous run, if it still exists.

```
50 RMVLNK OBJLNK('/tmp/state.xml')
```

60 SWIXMLMRG - The SWIXMLMRG command is used to merge the XML files created in steps 30 and 40 into a single XML data file called '/tmp/state.xml'.

```
60 SEQUELWI/SWIXMLMRG DATABASE (STATE)
    INTO ('/tmp/state.xml')
    XMLDATA ('/tmp/statehdr.xml'
            '/tmp/statedtl.xml')
    REMOVE (*NO)
```

DATABASE - The outermost tag of the merged database will be named STATE.

INTO - The new XML file containing the merged XML files will be created at /tmp/state.xml.

XMLDATA - These are the XML files created in steps 30 and 40, above, that will be merged together.

REMOVE - A value of *NO indicates the INTO file will not be deleted at the conclusion of the script.

70 SWIXSLBLD - The SWIXSLBLD command generates an XSL style sheet.

```
70 SEQUELWI/SWIXSLBLD DATABASE (STATE)
    INTO ('/tmp/state.xsl')
    NODE ((TESTLIB/STATEHDR STATE TESTLIB/STATEDTL
           CSTTE))
    IMAGES ((TESTLIB/STATEHDR MAPFILE))
    TOTALS ((TESTLIB/STATEDTL *N COUNT)
            (TESTLIB/STATEDTL AMTDU SUM)
            (TESTLIB/STATEDTL OROPN SUM)
            (TESTLIB/STATEDTL CRLIM AVG)
            (TESTLIB/STATEDTL HIGHB SUM))
```

DATABASE - Must be the same name as used in 60 SWIXMLMRG, above.

INTO - Identifies the name and location of the new XSL file that will be generated.

NODE - Identifies the views and linking fields on which the XSL will be based.

IMAGES - Identifies which view/field contains an image link.

HYPERLINKS - Identifies view/fields which contain hyperlinks.

TOTALS - Identifies fields that should be summed or averaged, and a count will show the number of customers within each state.

80 CHGAUT - The OS/400 CHGAUT (Change Authority) is used to give access authority to the new XML file.

```
80 CHGAUT OBJ('/tmp/state.xml')
      USER(*PUBLIC)
      DTAAUT(*RWX)
      OBJAUT(*ALL)
```

90 SWIXMLSRV - The SWIXMLSRV command displays the XML data within the XSL style sheet created in the previous steps.

```
90 SEQUELWI/SWIXMLSRV STYLESHEET('/tmp/state.xsl')
      XMLDATA('/tmp/state.xml')
```

100 DLCOBJ - The OS/400 DLCOBJ (Deallocate Object) command unlocks the STATEHDR object so the object may be used by another user.

```
100 DLCOBJ OBJ((TESTLIB/STATEHDR *USRSPC *EXCLRD))
```

Results

This script builds an XSL style sheet that is functional and syntactically correct but fairly basic in appearance. Here is a screen shot showing the initial XML/XSL results:

State	Text	Map File		
IL	Illinois		08/17/10	17:32:08

Cust Number	Name	Address	State	Telephone	Credit Limit	Current Balance Due	Open Order Amount	Highest A/R Amt
100200	NBCO Corporation Inc.	Norridge	IL	312/457-1822	60,000	1,129.67	56,483.65	50,087
100600	UCE Corp.	Elk Grove Vill	IL	312/437-6112	32,000	1,815.00	.00	30,250
100800	State Corp.	Springfield	IL	815/514-6252	10,250	808.80	.00	10,110
102900	Taehnrich Corp	Forest Park	IL	312/366-3231	35,000	9,748.62	33,615.94	30,793
104100	Lickton's City Corp.	Oak Park	IL	312/383-2130	7,000	341.12	.00	832
105900	Village Sportshop	Norridge	IL	312/456-6121	50,000	.00	.00	48,326
217212	NBCO Corp.	Norridge	IL	312/457-1822	30,000	57,529.40	.00	28,765
105500	Sauganash Inc.	Chicago	IL	312/685-3236	16,000	8,205.28	14,918.69	15,105
105700	Town & Country Sports	Chicago	IL	312/375-2818	10,250	1,089.83	1,911.98	1,711
126300	Kmart Midwest Region	Chicago	IL	312/932-2200	40,000	.00	.00	38,250
217110	T One Corp.	Chicago	IL	312/745-5836	34,000	.00	.00	33,551
202000	Minimum Corp	Chicago	IL	312/556-9660	8,000	2,774.10	.00	319
202311	Books and Things	Chicago	IL	708/124-3221	36,000	.00	.00	23,925

Totals for CSITE=	
Count of records	0
SUM of amtdu	.00
SUM of oropn	.00
AVG of crlim	NaN
SUM of highb	0

Most developers will want to modify this XSL even further to enhance its appearance or standardize it with other pages on their site. After some fairly simple modifications to the XSL file, the results can be made to look like the example below:

The original XSL was modified by combining tables, adding a new header and an introductory paragraph, and changing the borders, backgrounds and fonts used for the data tables. Once you generate an XSL template using the SWIXSLBLD command there is virtually no limit to the number of ways you can customize the presentation of the data. The modified style sheet for the above can be used in the example. Simply change line 90 in the script to use the new style sheet:

```
90 SEQUELWI/SWIXMLSRV STYLESHEET
('/sequel/statemaps/statecscript.xsl') XMLDATA('/tmp/state.xml')
```

Notes on Modifying an XSL file

NOTE:

If you choose to customize the XSL further, be sure to DELETE or Comment the SWIXSLBLD command from your script so it won't overwrite your customized version the next time the script is run.

While the syntax for XSL is not the exactly the same, those who have some familiarity with HTML will be able to modify the XSL without much difficulty. In some cases, an HTML editor may be used to reformat tables in XSL. However, depending on which HTML editor you use, it may try to "clean up" (read: "eliminate") XSL tags it does not recognize.

After you make any modifications to an XSL file, display the file within Internet Explorer (5.0 or later). The XSL syntax checker will highlight any errors. You may then use Notepad or an XSL editor to make final adjustments.

Development Notes

This script originally contained a SWIXSLBLD command at statement 70 that was removed after initial testing. The XSL file created with this command was saved, then customized further by reformatting the result tables and including an introductory paragraph on the results page.

In order to work around limitations with using runtime-prompted views within the SWIXSLBLD command, the Viewpoint views were given hard-coded selection parameters during the development stage and later replaced with variable values. For example, the WHERE clause in the STATEHDR view was changed as follows:

From: WHERE state="IL" (Development Stage)

To: WHERE state=&state (Production Stage)

After the views were modified, a runtime prompt for the state abbreviation was added to the script definition and a SETVAR parameter was added to each EXECUTE command to pass this value to the named view.

SWI Prompted Action

Scenario:

You need to present users with a list of views or reports. After the item is selected, you want the user to then select what to do with it - Display, Print, or Email (actions). Depending on the Action chosen, the user may have to specify an outq and outq library, or email address.

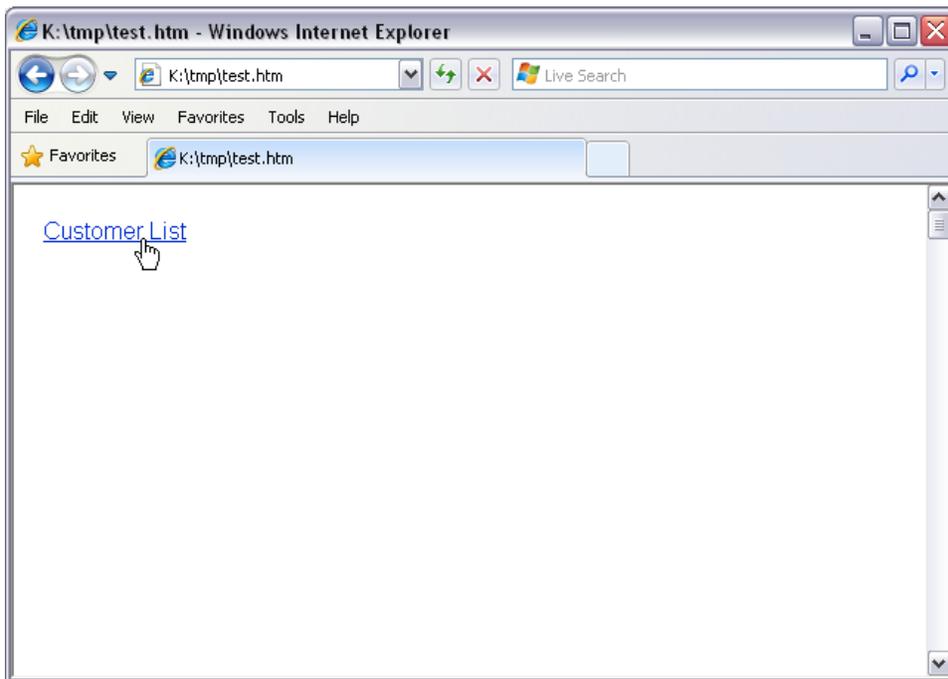
How it works:

An html file (Test.htm) is presented in the browser - you link to it, or the html coding can be part of one of your pages. Each item on the list might be for a Sequel object (view, report, script).

The solution requires three items:

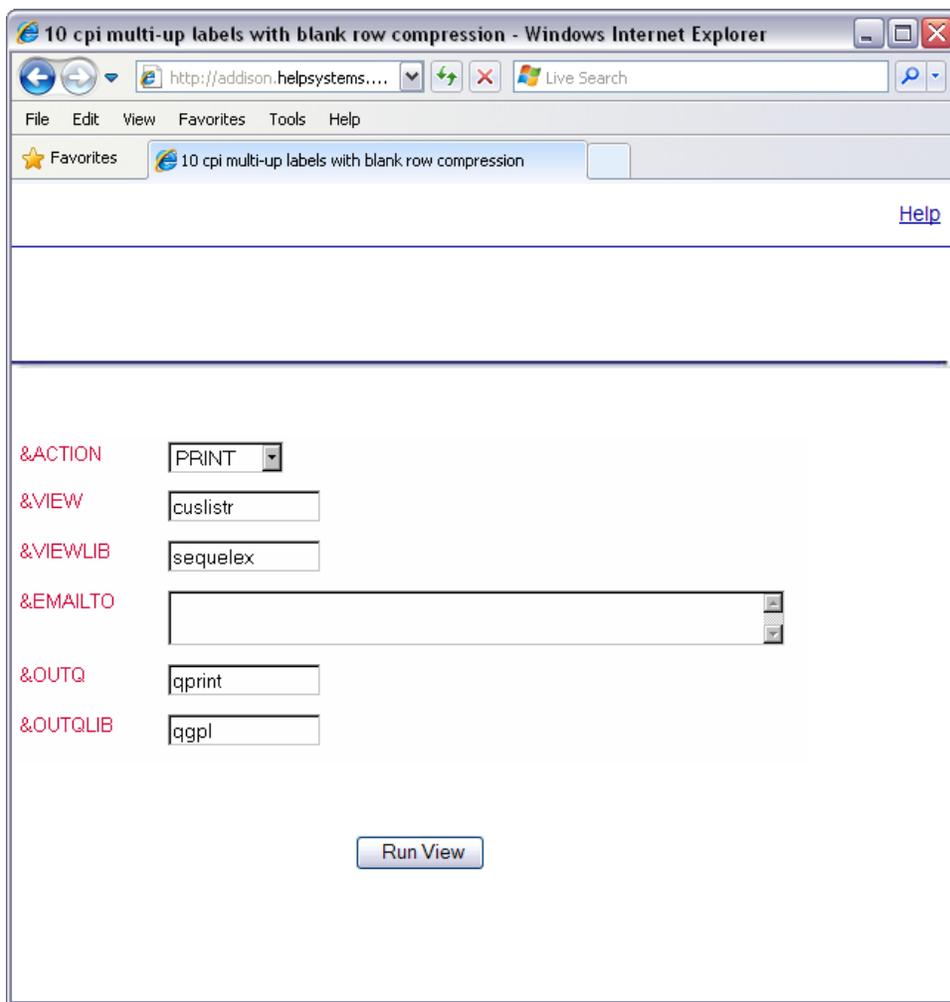
- [An HTML File on the IFS - Test.htm](#)
- [A Sequel Script - Action](#)
- [A CL Program -](#)

In the example below, an htm file (Test.htm) presents a single link. Selecting the item 'Customer List' runs a script (Action).



The [script](#) (Action) presents the prompt screen below with:

- A drop down list of actions (controlled by the Values integrity test)
- A view name (or report, table, script)
- Email address (if email action is selected)
- Outq and Outq Library (if print or report is selected)



The values and action are passed to the [CL](#) (ActionCL).

Prompted Action - HTML File

The [example](#) uses a very simple html file (Test.htm) stored on the IFS of the System i.

```
<html>
<a href="http://systemi/sequel?obj=action&lib=ira
    &&view=custlistr&&viewlib=sequelex">Customer List</a>
</html>
```

The **HREF** tag is built using SWI command parameters to specify the script to run, and also to pass the view and view library to the [script](#).

See [SWI Command Parameters on page 293](#) for more info.

Prompted Action - Script

In our [example](#), SWI will display the script (Action) below with the view and view library filled in. The remaining variables will be blank. When filled in and run, the values will be passed to the [CL](#) program.

The script and variables are defined as follows:

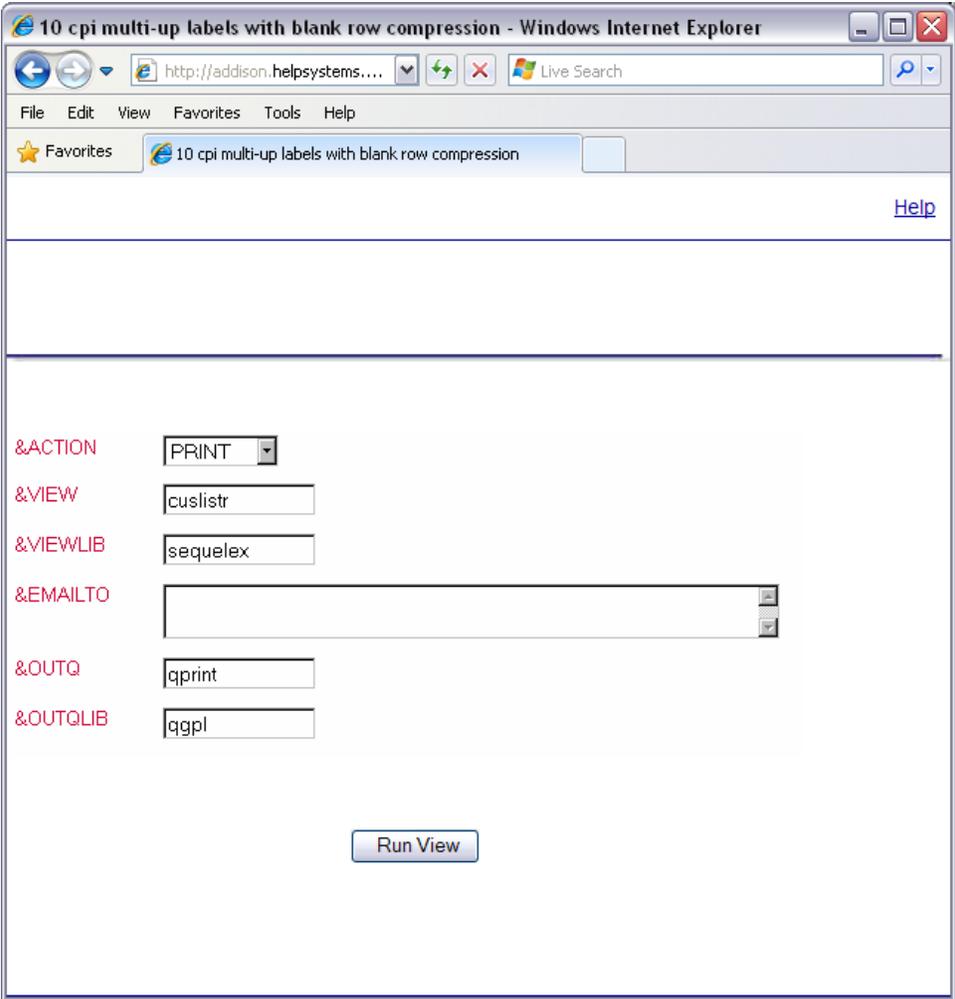
```
Script:      ACTION
Title:      SEQUEL Script
```

```
Stmnt      Statement
10         CALL PGM(IRA/ACTIONCL)+
           PARM('&&ACTION'  '&&VIEW'  '&&VIEWLIB'+
               '&&EMAILTO'  '&&OUTQ'  '&&OUTQLIB')
```

Script variables

Name	Type	Len	
&OUTQLIB	EXPR	10	Prompt text . . . : &OUTQLIB
&OUTQ	EXPR	10	Prompt text . . . : &OUTQ
&EMAILTO	EXPR	90	Prompt text . . . : &EMAILTO
&VIEWLIB	EXPR	10	Prompt text . . . : &VIEWLIB
&VIEW	EXPR	10	Prompt text . . . : &VIEW
&ACTION	EXPR	10	Prompt text . . . : &ACTION Default value . . : DISPLAY Integrity check . : values(DISPLAY,EMAIL,PRINT)

The integrity check for the &ACTION variable creates the drop down list in the browser.



Prompted Action - CL

For our [example](#), the CL (ActionCL) runs the appropriate command based on the Action selected in the [script](#).

SEU SOURCE LISTING

```

SOURCE FILE . . . . . xxx/
MEMBER . . . . . ACTIONCL

100 PGM (&ACTION &VIEW &VIEWLIB &EMAIL &OUTQ &OUTQLIB)
200 DCL &VIEW *CHAR 10
300 DCL &VIEWLIB *CHAR 10

```

```
400 DCL &VTYPE *CHAR 10
500 DCL &ACTION *CHAR 10
600 DCL &EMAIL *CHAR 90
700 DCL &OUTQ *CHAR 10
800 DCL &OUTQLIB *CHAR 10
900 DCL &JOUTQ *CHAR 10
1000 DCL &JOUTQLIB *CHAR 10
1100 RTVOBJD      OBJ(&VIEWLIB/&VIEW) OBJTYPE(*USRSPC) +
1200              OBJATR(&VTYPE)
1300 IF (&ACTION='EMAIL') THEN(DO)
1400     IF      COND(&VTYPE = 'SQLRPT') THEN(REPORT +
1500         REPORT(&VIEWLIB/&VIEW) RECIPIENT(&EMAIL) +
1600         OUTQ(*NONE))
1700     ELSE    CMD(PRINT VIEW(&VIEWLIB/&VIEW) +
1800         RECIPIENT(&EMAIL))
1900 SWIRETURN
2000 ENDDO
2100 IF (&ACTION='DISPLAY') THEN(DO)
2200     IF      COND(&VTYPE = 'SQLRPT') THEN(REPORT +
2300         REPORT(&VIEWLIB/&VIEW) TOSTMF(*STDOUT) +
2400         PCFMT(*HTML))
2500     ELSE    (DISPLAY VIEW(&VIEWLIB/&VIEW))
2600 ENDDO
2700 IF (&ACTION='PRINT') THEN(DO)
```

```

2800          RTVJOBA OUTQ (&JOUTQ)  OUTQLIB (&JOUTQLIB)

2900          CHGJOB  OUTQ (&OUTQLIB/&OUTQ)

3000      IF (&VTYPE='SQLRPT') THEN (+
3100          REPORT REPORT (&VIEWLIB/&VIEW) )
3200      ELSE (PRINT VIEW (&VIEWLIB/&VIEW) )
3300          CHGJOB  OUTQ (&JOUTQLIB/&JOUTQ)

3400  SWIRETURN

3500  ENDDO

3600  ENDPGM

```

SWI Command Parameters

SWI can interpret query parameters used within HTML hyperlinks and forms. Internet Explorer users can even type query parameters directly into the browser's address line. This may be done in Netscape, although the user will have to substitute any blanks or spaces with '+' characters and '+' with '%2B'. The query parameters can request output from Sequel and QUERY/400 objects, display lists of objects, or descriptive information about Sequel objects. All requests should begin with:

http://<path>/SEQUEL?

The <path> consists of the server address, and if a protect directive is used, the additional path name.

Syntax Examples:

[Display a list of Sequel or Query/400 objects](#)

[Display View, Table, Report, or Query results](#)

[Run a free-form Sequel 'Select' statement](#)

[Display a Sequel object's description](#)

[Runtime prompted requests](#)

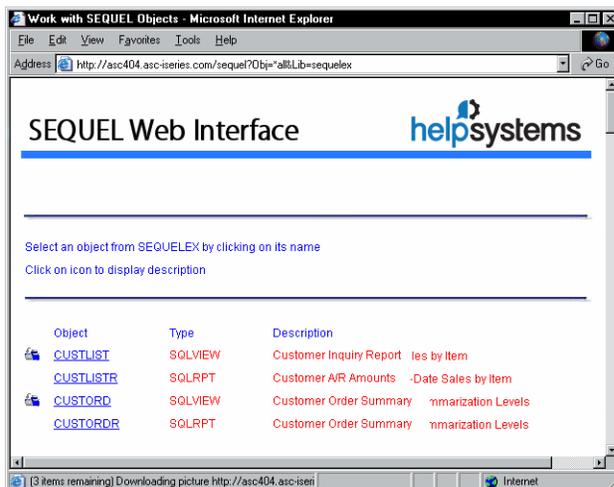
[Display pool files](#)[Submit a request to a job queue](#)[Alternate HTML headers and footers](#)[Suppress HTML headers and footers](#)[Add Column Sorting to View Results](#)[Display a Viewpoint Graph Shortcut](#)

Display a List of Sequel or Query/400 Objects

To generate a list of Sequel or Query/400 objects within a library, use *ALL or generic* in the OBJ parameter.

http://<path>/SEQUEL?Obj=*all&LIB=SEQUELEX

On the display below, any object may be selected to run with a mouse click on the hyperlinked object name. Note also the small icons on the far left of the display before each object name. These are hyperlinked to display an object definition containing the SQL statement used in the object. These icons may be deleted from the display by specifying 'N' (no) for the Display Object Images parameter in the SWI Defaults



Parameters

Obj=<name of the view or query>

&Lib=<library name for the view or query>

Display View, Table, Report, or Query Results

This URL:

http://<path>/SEQUEL?Obj=custlistr&Lib=SEQUELEX

will run the SEQUELEX/CUSTLISTR report below.

SEQUEL Web Interface **helpsystems**

9/09/03 11:19:38 Advanced Systems Concepts,
CUSTLISTR Customer A/R Amounts

Customer #	Customer Name	State	Phone	Amount Due
100112	MNB Corp.	NV	823/640-1258	323.51
100200	NBCO Corporation Inc.	IL	312/457-1822	1129.67
100300	Obell Group Sales	NY	315/472-6442	543.21
100500	PCE Corp.	IA	319/753-0303	95.60
100600	UCE Corp.	IL	312/437-6112	1815.00
100700	Xcme Corp.	CA	213/583-1714	.00
100800	State Corp.	IL	815/514-6252	808.80

Parameters

Obj=<name of the Sequel object>

&Lib=<library name for the Sequel object>

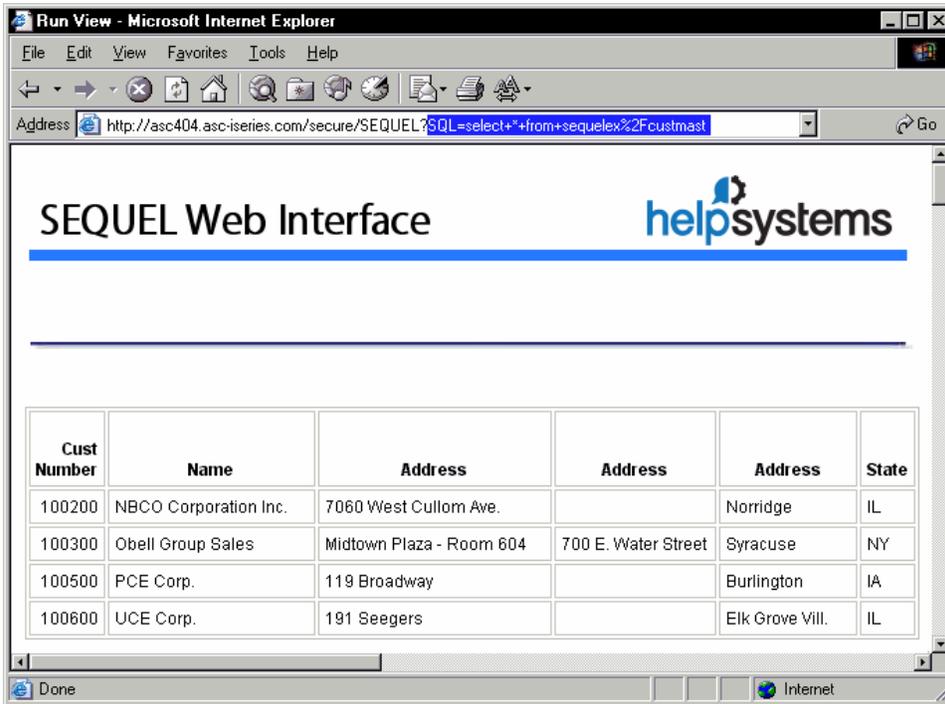
Run a free-form Sequel 'Select' Statement

A free-form Sequel select statement may be keyed in an HTML form with a text area to accept Sequel statements. The AS/400 HTTP Server allows 'SELECT' requests only; Sequel's UPDATE, DELETE and INSERT capabilities are not supported.

You may restrict the ability for users to run free-form 'SELECT' statements by specifying "N" (no) for the **Allow Select Requests** parameter in the SWI defaults.

For example, the following link within an HTML form will run a "Select *" request over the CUSTMAST file in SEQUELEX:

`http://<path>/SEQUEL?SQL=Select * from sequelex/custmast`



Parameters

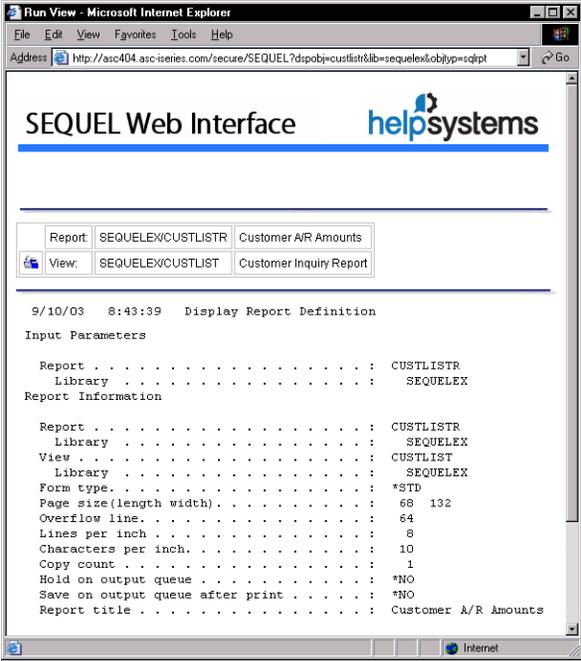
SQL=<SQL String>

Display a Sequel Object's Description

The following example will return the report description for the CUSTLISTR report in SEQUELEX:

`http://<path>/SEQUEL?DSPOBJ=custlistr&LIB=SEQUELEX&Objtyp=SQLRPT`

The object attribute may be SQLVIEW,SQLTBLV, or SQLRPT.



Parameters

DspObj=<object-name>

&Lib=<object-library>

&ObjTyp=<object-attribute>

Runtime Prompted Requests

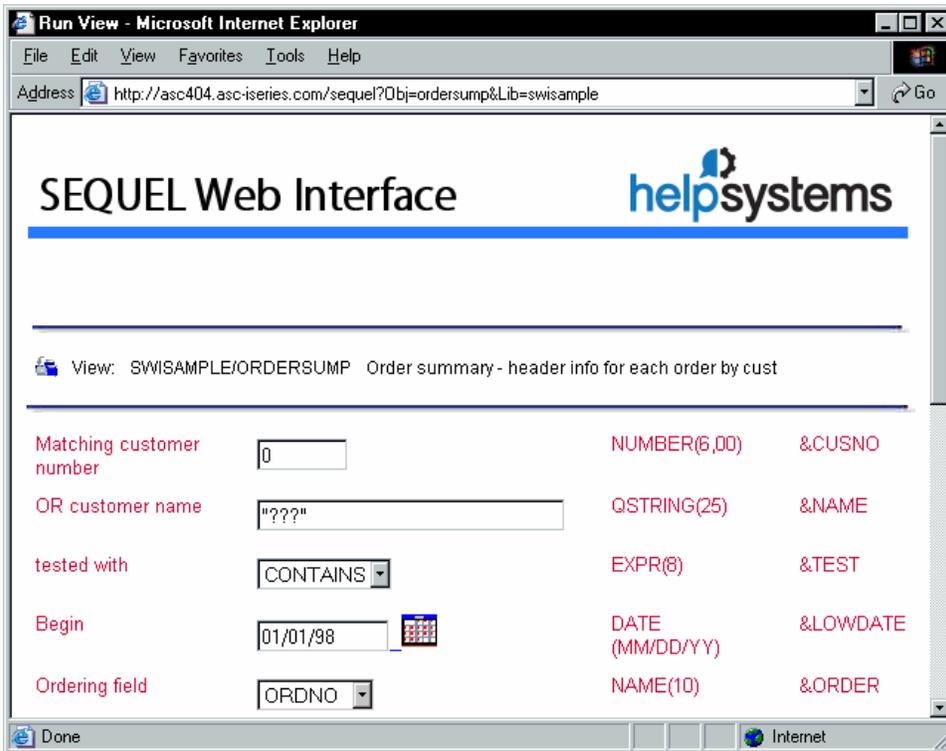
The results from a run-time prompted view, a report over a run-time prompted view, a table over a run-time prompted view, or a report designed over a table which was designed over a run-time prompted view can be run. When the form below is filled in with the requested information the command might look like the following:

http://<path>/SEQUEL?Runp=ORDERSUMP&Lib=SEQUELEX

&&Cusno=100200&&Name=\'???\''&&Test=CONTAINS

&&Lowdate=870101&&Order=ORDNO

For run-time prompted views, 18 variable values may be supplied. All variables necessary to run the view must be supplied. The order is not significant. Note the SWI will automatically generate runtime prompt forms using the HEADER member.



Parameters

Runp=<Sequel object-name>

&Lib=<object-library>

&variable 1 name=<variable 1 value>

&variable 2 name=<variable 2 value>

.....

&variable 18 name=<variable 18 value>

The variable number corresponds to its position in the list used to create the view.

Display Spool Files

These commands will display a page listing all available spool files for the specified User ID or Output Queue.

For example,

By User Id:

<http://<path>/SEQUEL?user=user0>

By Output Queue:

<http://<path>/SEQUEL?outq=qprint2&outqlib=qgpl>

Choose an **Action** (display, copy, move, delete, hold/release, etc) from the drop-down list and click on a hyperlinked job name in the left-hand column to apply the action to the spool file.

Job Name	Job User	Job Number	Date	Time	File Name	File Number	Total Pages	Copies	User Data	OUTQ
AGEOUTQ	QPGMR	488779	2010/08/05	17:00:13	RBT8406P	1	1	1	RBT8406+07	QPRINT Q
DCBKUP	DCCOOK	488780	2010/08/05	18:05:13	FTPJOBLOG	1	1	1	DCCOOK+07	QPRINT Q
DCBKUP	DCCOOK	488780	2010/08/05	18:05:19	FTPJOBLOG	2	1	1	DCCOOK+07	QPRINT Q
QPRTJOB	SCOTTW	488804	2010/08/06	05:39:45	QPRINT	1	1	1	+07	QPRINT Q
DCREP	DCCOOK	488825	2010/08/06	08:04:00	CUSTLISTR	1	1	1	SEQUEL_+07	QPRINT Q
D1026	DCCOOK	488827	2010/08/06	09:05:00	CUSTLISTR	1	1	1	SEQUEL_+07	QPRINT Q
QCDTARA	QPGMR	488863	2010/08/06	11:21:00	QPDSPDTA	1	1	1	+07	QPRINT Q
QPRTJOB	LARRYT	488441	2010/08/06	11:37:58	QPRINT	3	6	1	+07	QPRINT Q
QPRTJOB	LARRYT	488441	2010/08/06	11:40:32	QPRINT	4	11	1	+07	QPRINT Q
DCREP	DCCOOK	488921	2010/08/06	15:18:00	CUSTLISTR	1	1	1	SEQUEL_+07	QPRINT Q
AGEOUTQ	QPGMR	488927	2010/08/06	17:00:01	RBT8406P	1	1	1	RBT8406+06	QPRINT Q
DCBKUP	DCCOOK	488928	2010/08/06	18:05:09	FTPJOBLOG	1	1	1	DCCOOK+06	QPRINT Q

Spool files by User ID

Parameters

user=<userid>

outq=<output queue name>

&outqlib=<library name>

Submit a Request to a Job Queue

If **&SBMJOB=Y** is added on to the query string to run a report or query, the request will be submitted to an AS/400 job queue. Instead of the report/query results being displayed in the browser, the job submission message will appear. The user may then come back at a later time and display the spooled file created by the job in the browser or from a green screen. This may be useful for those requests that a user knows is going to take a very long time.

Parameters:

&SBMJOB=Y

Additional parameters that can be specified are:

&SBMJOBD=[job description]

&SBMJOBQ=[job queue]

&SBMOUTQ=[output queue]

Example:

http://<path>/SEQUEL?obj=custlistr&lib=sequelex&sbmjob=Y

&sbmjobq=qgpl/qpgmr&sbmoutq=qgpl/qprint

Alternate HTML Headers and Footers

Including the **&headermbr** and/or **&footermbr** parameters in the command string will allow different headings or footers to be returned with SWI requests.

Parameters:

&headermbr=[member name]

&footermbr=[member name]

Example:

http://<path>/SEQUEL?Obj=region&Lib=swi

&headermbr=newhdr&footermbr=newftr

The results are returned with a header named 'newhdr' and a footer named 'newftr'.

Suppress HTML Headers and Footers

Add either or both of the parameters to the command string to suppress the header or footer in the result display.

Parameters:

&swinohdr=

&swinofooter=

Example:

http://<path>/SEQUEL?Obj=region&Lib=swi&swinohdr=&swinofooter=

Add Column Sorting to View Results

Column sort links and graphics can be added to each column in the result set. This feature can be set globally. See [Set Product Defaults on page 334](#)'.

Cust Number	Name	State	Telephone	Current Balance Due
100112	MNB Corp.	NV	8236401258	323.51
100200	NBCO Corporation Inc.	IL	3124571822	1129.67
100300	Obell Group Sales	NY	3154726442	543.21

Parameters

&atabind=Y

Example:

http://<path>/SEQUEL?Obj=custlistLib=sequalexatabind=y

Display a Viewpoint Graph Shortcut

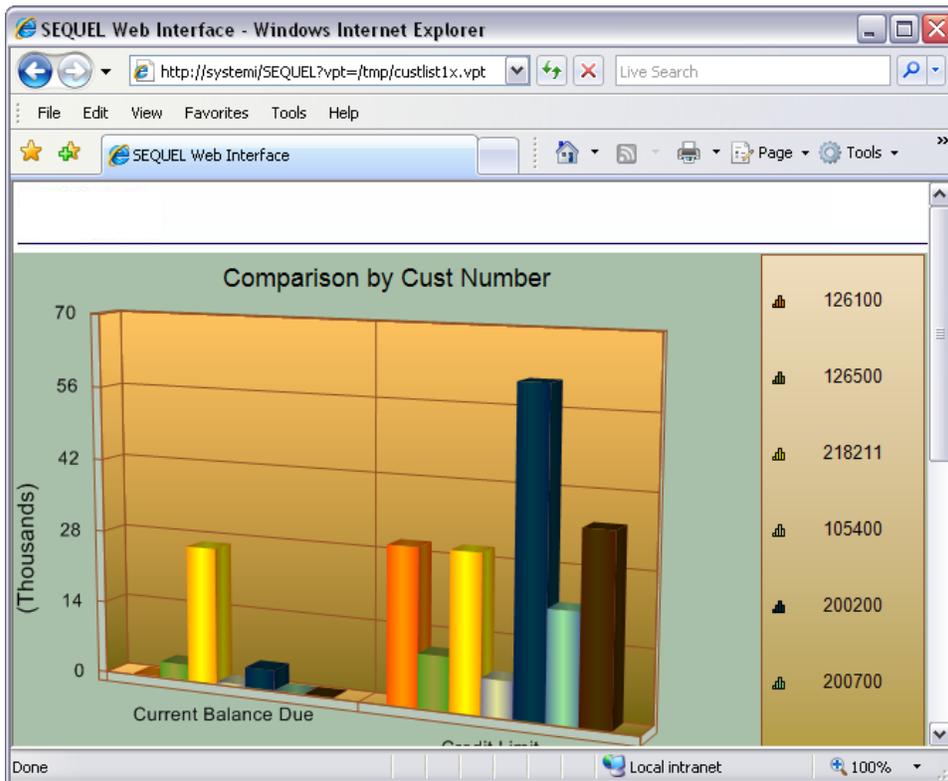
This feature is available from the main SWI [display](#), and provides a list of available shortcut files (.vpt) in a selected IFS folder. To manually enter the URL to display a Viewpoint shortcut, use the parameter below:

Parameters:

&vpt=<IFS Path>/<shortcut file name>

Example:

http://<IFS path>/SEQUEL?vpt=/tmp/custlist1x.vpt



See [Viewpoint Graph Support on page 265](#) for more information.

Display Using Frames

You can open Sequel objects (view, tables, reports), Viewpoint graphs, and even web addresses in multiple frames using the 'frame=' argument in your URL string.

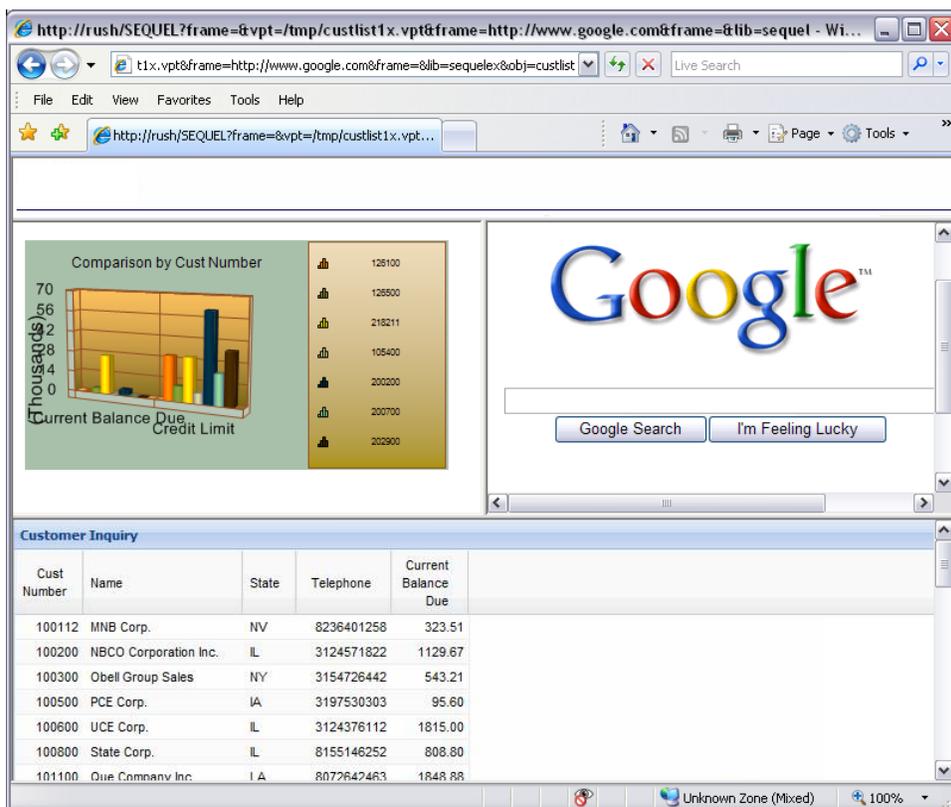
Parameter:

&frame=

Example:

http://rush/SEQUEL?frame=vpt=/

Here we see a Viewpoint graph, a Google page, and view results.



SWI Functions

The following Sequel and SWI Functions (commands) are available to use in scripts or at a command line. These functions are considered very advanced.

[**Spooled File Management Functions on page 304**](#)

[**Merge XML Data - SWIXMLMRG on page 305**](#)

[**Build an XSL File - SWIXSLBLD on page 305**](#)

[**Serve an XML Document - SWIXMLSRV on page 310**](#)

[**Execute to a File - EXECUTE on page 310**](#)

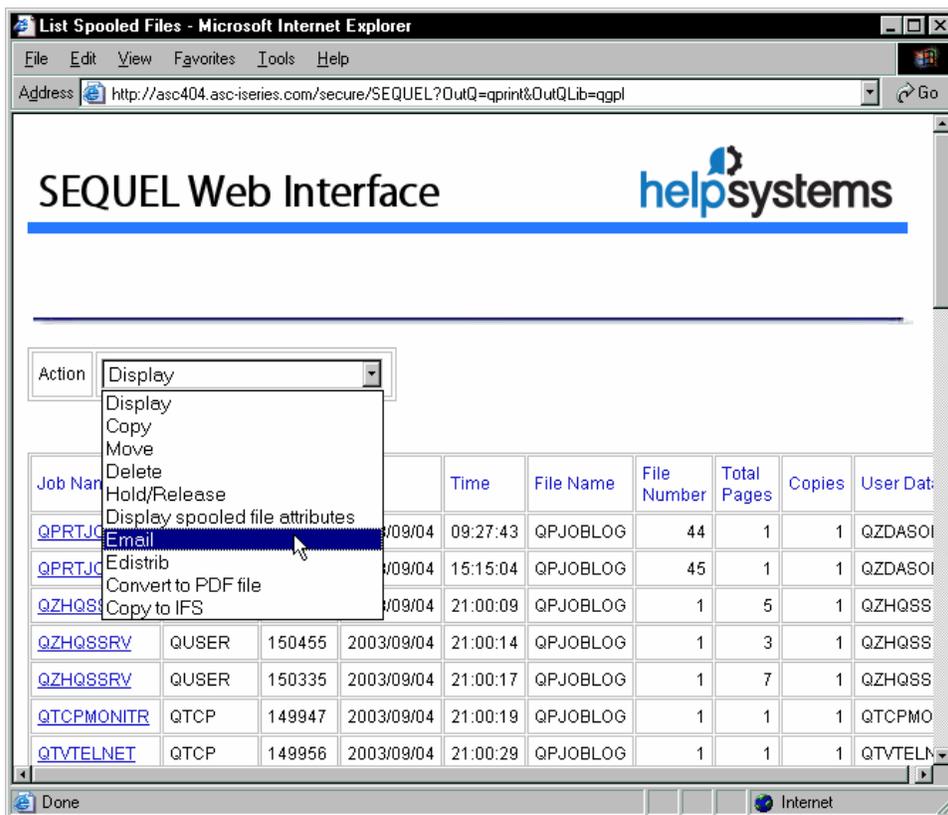
[Move Browser Back in History - SWIRETURN on page 311](#)[Display Frames in SWI - SWIOPEN on page 311](#)[Write STMF to Standard Out - SWISTMF on page 313](#)

Spooled File Management Functions

When SWI displays a list of spooled files for a [user profile](#) or [output queue](#) within the browser window, an **Action** dropdown menu is displayed near the top of the page (below). Simply select the preferred action from the dropdown, then click on one of the hyperlinked spooled files to complete the action.

SWI lets you **display, copy, move, delete, hold** or **release** spooled files such as reports or job logs on a selected output queue or user profile.

When SWI is combined with Help/System's Sequel or Esend product, you have the added ability to convert spooled files to PDF (or other popular formats) and send to e-mail recipients. If Esend is installed, you have the additional capability to burst and distribute the reports to multiple recipients in an e-mail distribution list. [Review the Function Availability chart below.](#)



Function Availability

The table below shows what spooled file management functions are available when using SWI as a standalone product or when it's combined with **Sequel** or **Esend**.

Function	SWI Standalone	SWI with Sequel	SWI with Esend
Display	X	X	X
Copy	X	X	X
Move	X	X	X
Delete	X	X	X
Hold / Release	X	X	X
Display Attributes	X	X	X
E-Mail		X	X
Burst & Distribute by E-mail			X
Convert to PDF		X	X
Copy to IFS			X

Merge XML Data - SWIXMLMRG

The purpose of this command is to merge multiple XML data files into a single XML data file member.

This command uses the following parameters:

DATABASE - Specifies the name that will be used as the outermost tag identified in the merged database that will be created.

INTO - Specifies the IFS path name of the merged database to be created. Generally the suffix of the file should be '.XML'

XMLDATA - Specify up to six IFS file names containing XML data that will be merged.

REMOVE - Specify *YES to remove the data files specified in the XMLDATA parameter after the merged database is created.

Build an XSL File - SWIXSLBLD

This command generates a new XSL style sheet that incorporates one or more named XML data files. This allows persons familiar with HTML to start with a preformatted, syntactically correct XSL as a template and then modify it further to incorporate other design elements, graphics or styles. The modified XSL may then be saved and used to display data with the SWIXMLSRV command. This command uses the following parameters:

DATABASE - Specifies the name of outermost tag identifier that will exist in the XML database that will be transformed by the style sheet created by this command.

INTO - Specifies the IFS path name of the style sheet to be created. Generally the suffix of the file should be '.XSL'.

HEADER - Specifies whether the HTML in the HEADERXSL member of the SWIHTML file in the Sequel Web Interface is to be included in the style sheet generated.

FOOTER - Specifies whether the HTML in the member specified in the footer member parameter of the SWIHTML file in the Sequel Web Interface is to be included in the style sheet generated.

FOOTERMBR - Specify the name of the member in the SWIHTML file in the Sequel Web Interface to be included in the style sheet generated as the footer.

NODE - Specify the tree structure that exists in the XML database using pairs of FROM/TO views and field names that link the views. Views are referenced to provide field name and attribute information. An XSL style sheet will be generated based upon this input:

From Library/View - The name of the parent Viewpoint view

From Field - The field name to be used to link to the child view.

To Library/View - The name of the child Viewpoint view

To Field - The field name to be used to link to the parent view.

NOTE:

Due to an operating system limitation, runtime prompted views (views with variable values) may not be listed as NODE parameters in the SWIXSLBLD command. However, the following development strategy may be used as a work-around:

- Create the view(s) used in the script using hard-coded values in place of variable values.
- Modify and test the script until you are satisfied with the data results and the basic XSL template.
- Remove or comment-out the SWIXSLBLD command from the script.
- Replace the hard-coded selection parameters in your Viewpoint views with variable values. Add the corresponding SETVAR parameters within the script.
- Modify the XSL file originally created by the SWIXSLBLD command to include additional formatting or design styles.

Examples:

If order headers and order lines are to be displayed, the node parameter might look like:

```
NODE ((SEQUELEX/ORDERSUM ordno SEQUELEX/ORDERLINE ordno))
```

If parts are to be listed by themselves:

```
NODE((SEQUELWI/PARTMAST *n *NONE))
```

To list customers, orders, and lines:

```
NODE ((SEQUELEX/CUSTINFO cusno SEQUELEX/ORDERSUM cusno)
(SEQUELEX/ORDERSUM ordno SEQUELEX/ORDERLINE ordno))
```

IMAGES - Specify the names of fields in the views specified that contain references to image URLs. In general, these are often derived fields constructed from data fields and constants concatenated together:

```
'/tmp/C100200.jpg'
```

Where '/tmp/C' is a constant, '100200' is a customer number, and '.jpg' is a constant.

The appropriate XSL image tags will be inserted before and after the field values.

Library/View - The name of the Viewpoint view.

Field - The field name that contains the reference to the image.

Example:

If the field PIC in the view CUSTINFO contains values like '/tmp/C100200.JPG' you can specify:

```
IMAGES ( ( SEQUELEX/CUSTINFO PIC ) )
```

The image will be displayed when the XML/XSL are viewed in a browser.

HYPERLINKS - Specify the names of fields within views that have hyperlink URL references.

Library/View - The name of the Viewpoint view.

Field - The field that contains the URL or SWI command string that will be accessed when clicking on the hyperlink field. Similar to image links, this is typically a derived field constructed from data fields and constants concatenated together.

Hyperlink on Field - The field that will be hyperlinked.

Example:

A Viewpoint view called STATEINFO shows a listing of all customers within a state. The user will be able to click on a hyperlinked customer number within the view results that will run another Viewpoint script (CUSTINFO) showing detailed data for that customer.

The REF field in the STATEINFO view is a derived field containing a SWI command string constructed from constants and a customer number concatenated together. The REF field for customer number '100200' contains the following character data:

```
SEQUEL?runp=custinfo&lib=testxml%26&cusno=100200
```

The Sequel tstxml/custinfo script identified in the string is the script that shows detailed data for a selected customer. The customer number portion at the end of the string will vary with each record.

The following HYPERLINKS parameter is used to create a hyperlink on the CUSNO field

using the command string in the REF field:

```
HYPERLINKS ((SEQUELEX/CUSTINFO REF CUSNO))
```

The appropriate XSL hyperlink tags will be inserted before and after the field values.

TOTALS - Summary calculations (SUM, AVG, or COUNT) may be performed when the XML/XSL are served. Specify the names of fields in the views specified for which totaling is to be done. The results will be displayed in a table at the appropriate tree level.

Library/View - The name of the Viewpoint view.

Field - The field name to use for the calculations. Leave this blank if you wish to count the records.

Total Type - Specify SUM, AVG, or COUNT.

Example:

If the total of the quantity shipped on all order lines, as well as the average quantity and total number of lines is to be displayed, specify:

```
TOTALS ((SEQUELEX/ORDERLINE QUANS SUM)
(SEQUELEX/ORDERLINE QUANS AVG)
(SEQUELEX/ORDERLINE *N COUNT))
```

Decimal Format (DECFMT) - Specify the decimal format to use for creating edit masks for number type fields in the resulting XSL file. The default is *JOB to use the decimal format of the current job. Other valid values are:

***SYSVAL** - Use the value in the system value QDECFMT.

***BLANK** - Decimal point is a '.', grouping separator is a ','.

I or J - Decimal point is a '.', grouping separator is a ','.

Serve an XML Document - SWIXMLSRV

The purpose of this command is to display an existing XML data file with an existing XSL style sheet at the browser. This command uses the following parameters:

STYLESHEET - Specifies the subdirectory and name of the XSL style sheet file contained on the IFS.

XMLDATA - Specify up to six IFS file names containing XML data that will be displayed by the specified XSL style sheet.

Execute to a File - EXECUTE

EXECUTE is a Sequel Command that creates an output file from System i data. It may be used to create another DB2 file or a PC file in one of many commonly-used PC file formats, including XML.

A number of specialized parameters are used for generating and displaying XML content and are discussed below. For a complete overview of the EXECUTE command refer to the Sequel 11 Programmer's Guide.

ENTITY - The ENTITY parameter specifies the entity name being created in an XML formatted document. Specify one of the following options:

***VIEW** - The entity name will be the view name run by the command.

***NONE** - No entity will be created. The element(s) created by the view will be placed into the XML result without an entity wrapper.

Name - Enter a specific entity name.

ENTITYATTR - The entity attributes parameter specifies the attributes to include for the entity being created in an XML formatted document. Specify one of the following options:

***NONE** - No attributes will be included with the entity tag.

Name - Enter a specific entity name.

Created Format Name (RCDFMT) - When used to create XML file output, this parameter should contain a value to format the XML tags.

NOTE:

A license to Sequel is required to use the EXECUTE.

Move Browser Back in History - SWIRETURN

Use in a multi-step process to return to a prompt screen for instance. This command uses the following parameters:

BACK - Entries backward in history

Display Frames in SWI - SWIOPEN

This command can be used within a CGI program or a Viewpoint script to open a new browser window with the requested URL(s). A multi-frame environment can be described with each frame opening a different file. This command uses the following parameters:

TITLE - Specifies the title for the new window opened. This is only applied if multiple frames are requested.

HEIGHT - Specifies the height in pixels for the new window to be opened. Valid values are:

***MAX** - Sets the height to the entire window content available.

100-999 - Valid range of pixel values for the window height.

WIDTH - Specifies the width in pixels for the new window to be opened. Valid values are:

***MAX** - Sets the width to the entire window content available.

100-999 - Valid range of pixel values for the window width.

LEFT - Specifies the pixel offset from the left edge for the position of the new window. Valid values are:

0-999 - Valid range of pixel values for the left edge of the window.

TOP - Specifies the pixel offset from the top edge for the position of the new window. Valid values are:

0-999 - Valid range of pixel values for the top edge of the window.

DIRECTORY - Display directory buttons in the new window (Yes or No).

LOCATION - Display the location bar in the new window (Yes or No).

MENUBAR - Display the menubar in the new window (Yes or No).

SCROLLBARS - Display scrollbars if the document doesn't fit in the new window (Yes or No).

STATUSBAR - Display the status bar in the new window. (Yes or No)

TOOLBAR - Display the toolbar (with Back, Forward, and other buttons).

ROWSET - Up to 4 vertical partitions can be requested for the new window. List the percentages of the browser window to be taken up by each row. If opening one file, put one entry equal to 100.

COLSET - Up to 8 horizontal partitions can be requested for the new window. List the following for each horizontal partition:

Row ID (1-4) - Defines the row to open the URL listed.

Column Proportion (1-100) - Defines the percentage of the row to be occupied by this partition.

Frame URL - Defines the action to take place in this partition.

Scrolling - Defines whether to allow scroll bars to exist in this partition.

***YES** -

***NO** -

Write STMF to Standard Out - SWISTMF

Use this command to serve an HTML file from the IFS. This command can be used as a final step in a script to send a completion message to the browser window, or to display a report after it has been saved as a PDF file.

STMF - Specify the IFS path and file name to serve.

OUTPUT - Output to stream file.

PREFORMAT - Serve as pre-formatted text.

***YES**

***NO**

XLATE - Translate carriage returns.

***PCFILE**

***YES**

***NO**

REPLACE - Replace existing file.

***YES**

***NO**

The Explorer Interface

The Explorer interface was developed to provide a friendlier interface and better end-user experience when working with Viewpoint objects. Clients familiar with the Windows-based version of Viewpoint, will see a very similar and easy-to-use interface. If you are new to SWI, you will see a very intuitive interface that provides easy access to your Viewpoint objects, and single-click results.

The Sequel Web Interface (SWI) Explorer is displayed in a Web browser and is the main screen used to access all the functions available in SWI.

With the explorer interface, you can run your view and table objects (static and prompted) to display results, store as local files or System i files, or send as an E-mail attachment. All Viewpoint objects can be run and output directed with a few mouse clicks. You can perform drill-down and graph drawing facilities for advanced EIS or data warehousing/mining applications.

Host reports, client reports, and client tables can be displayed, sent to print, and saved in different PC formats. You can also submit host reports to run in batch on the System i. Scripts and Drill-down applications are run simply by double-clicking them in the Explorer.

Start the Explorer Interface

Accessing the new interface is very easy. Once SWI is configured (see [Setup Classic Mode on page 329](#)), simply enter a URL in your browser similar to the following:

```
http://SYSTEM_I_NAME/secure/sequel/web.
```

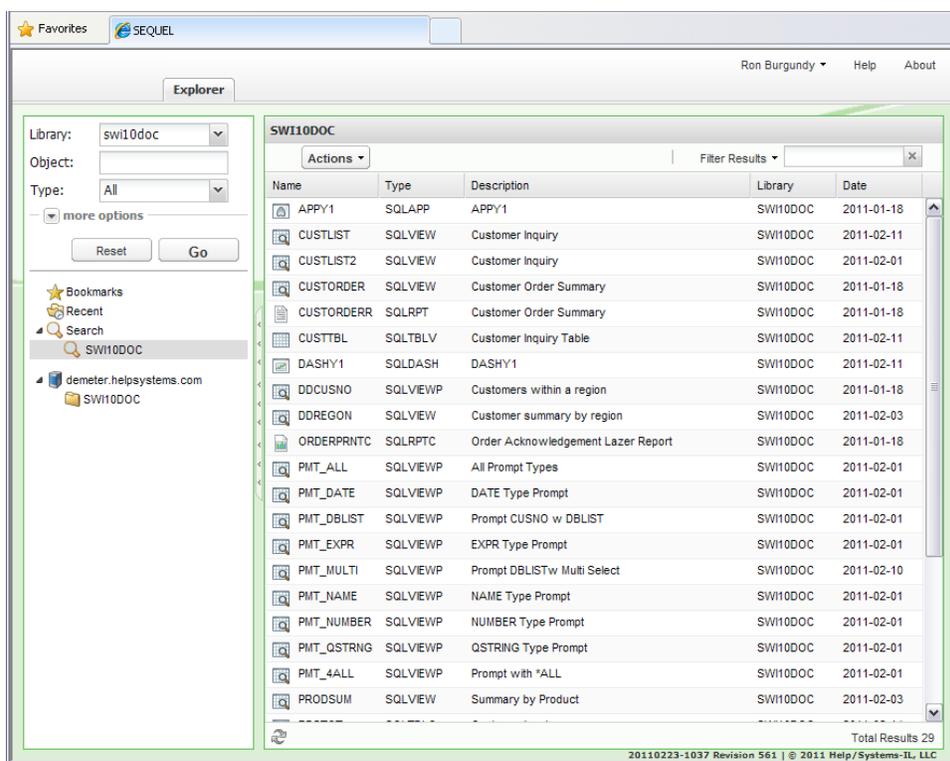
The URL in conjunction with the Apache directives configured on the host will force you to log on with your Power Systems credentials.

Overview

The intuitive layout of the Explorer consists of the [Navigation panel](#) on the left and the [Object List panel](#) on the right. There is an [Actions Menu](#) button to direct output, a [filter](#) for fine tuning the object list, and access to [user preferences](#), [on-line help](#), and [version](#) information.

You can navigate to a library and create a list of objects based on any combination of name, type, description, owner, and change date.

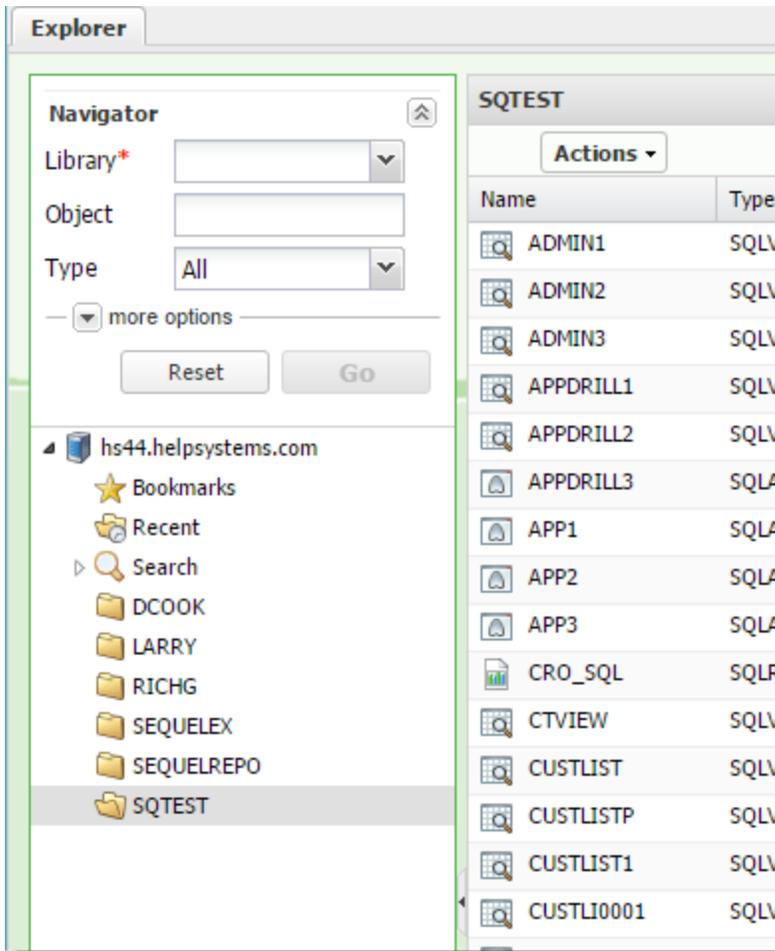
Results from your Viewpoint objects display in separate tabs along the top of the object panel with the name of the object.



The Navigation Panel

You use the navigation panel on the left side of the Explorer to [create a list of Viewpoint objects](#) based on the combination of library, object name, and object type. Additional filtering options are available in the **More Options** section. Press the arrow to expand this section and enter values for an object's text description, owner, and change date.

Beneath this area are links to quickly access a list of user-defined [bookmarked objects](#), a list of [recently used objects](#), and the [last search](#) performed.



Create a List of Objects

There are many options available to create a list of Sequel objects. Press the down arrow at the top of the Navigator to enter any combination of a specific library, an object name, an object type or all object types. In the 'More Options' drop-down, you can fine tune your search based on the [text description](#), [owner](#), and [last change date](#) of an object.

Choose a Library Name or List

To generate an object list you have to enter a library value. Use the library entry to specify the name of a single library, or part of a library name appended with an [asterisk](#)¹. For instance:

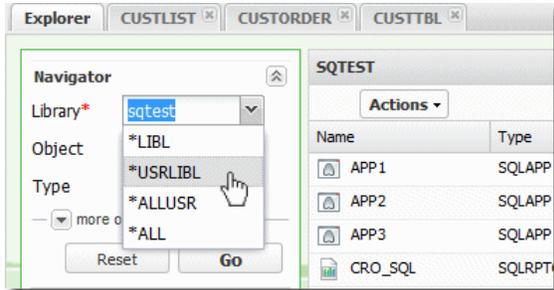
SEQ* - returns all libraries beginning with 'SEQ'.

¹Often referred to as 'Generic*', and used like a wildcard, any library or object name meeting the generic criteria is chosen.

***X** - returns libraries ending with 'X'.

E - returns libraries that contain an 'E' anywhere in the name.

You can also use the drop-down to select one of the following library lists:



***LIBL** - Display all libraries in the current library list.

***USRLIB** - Display libraries from the user portion of the current library list.

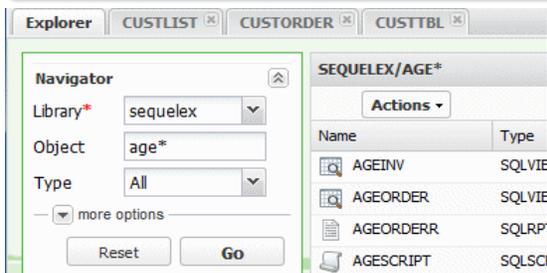
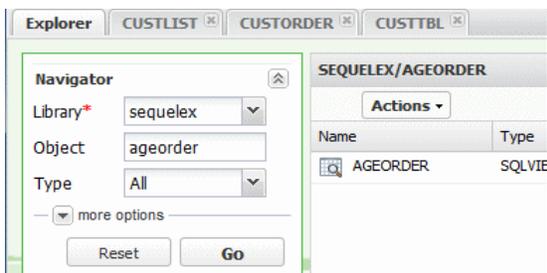
***ALLUSR** - Display all user libraries.

***ALL** - Display all libraries on the system.

Each of these options generate a [list of Sequel objects](#) for the libraries returned.

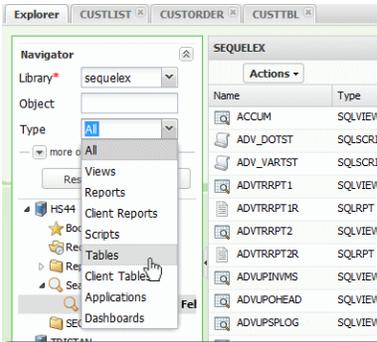
Choose an Object Name

Enter an object name, or part of a name (using Generic* naming) for a given library. Objects meeting the criteria will display. Leave the value blank to return all objects.



Choose an Object Type

The Object Type drop-down lists all the available Sequel object types. Select a single object type, or the value 'ALL' to return all object types.



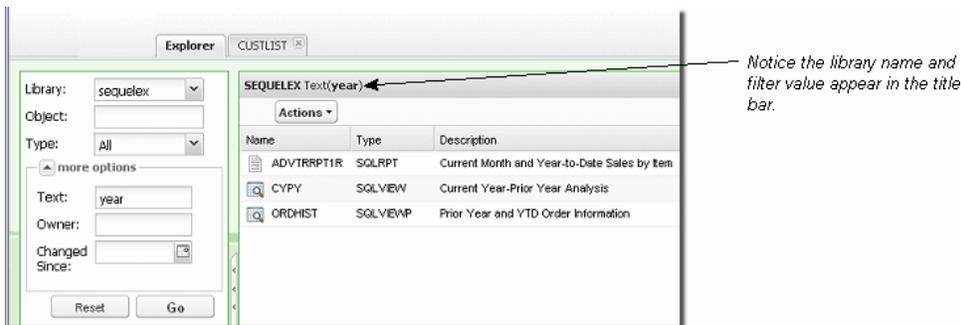
Generic* naming is not available for object type.

More Options

Additional filtering options are available in the 'More Options' section. Press the down arrow to expand.

Text

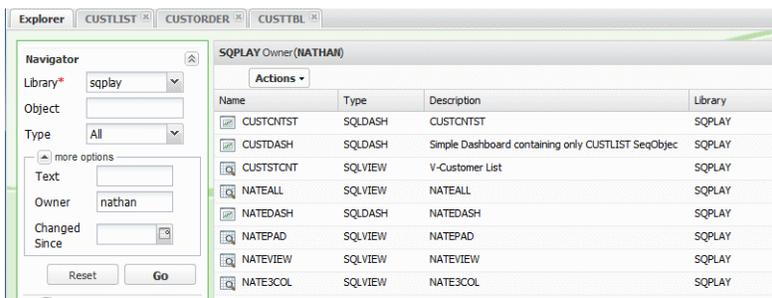
Sequel objects can be saved with descriptive text. This value is shown in the Description column of the object list. Enter any part of the object description to filter the object list, or leave the value blank to return all descriptions.



Generic* naming is not available for object text.

Owner

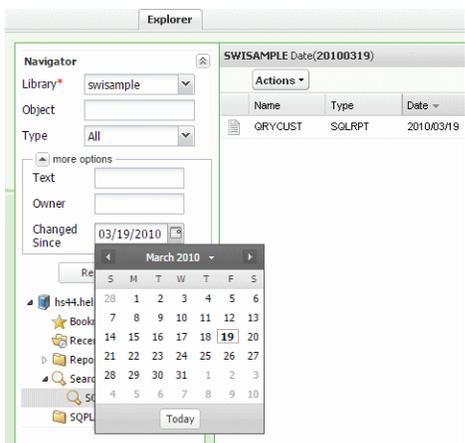
Enter a valid user name for a given library. Objects meeting the criteria will display in the object list. Leave the value blank to return all owners.



Generic* naming is not available for object owner.

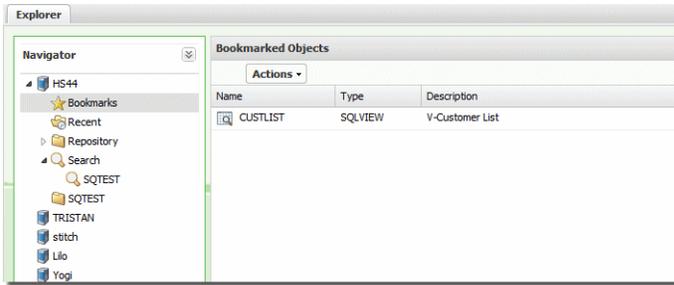
Date

You can filter objects by the last change date using the drop-down calendar. Navigate through the months and select a date. Leave the value blank to return all dates.

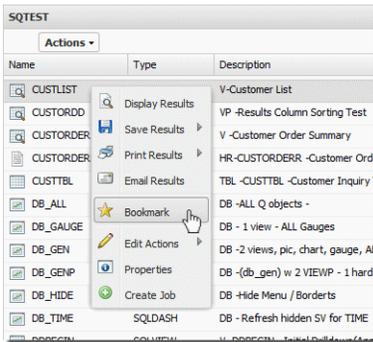


Bookmarked Objects

Bookmarks are similar to browser bookmarks and create quick access to the objects you use most often. You can create a bookmark for any Sequel object and generate a list using the Bookmarks link.



Adding a bookmark is very easy. Just right-click any object and select Bookmark from the drop-down menu.



You can also select the object first, and press the [Actions button](#) to access the bookmark option.

When the confirmation screen displays, press Yes to add the bookmark.

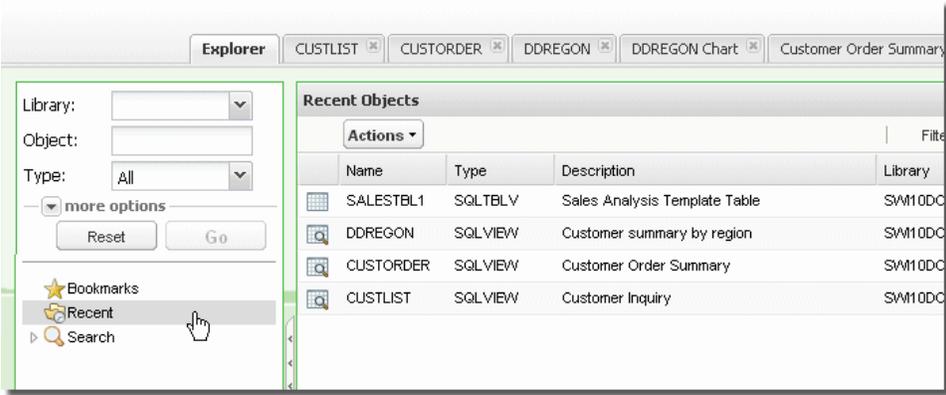


A success message similar to the following will display.



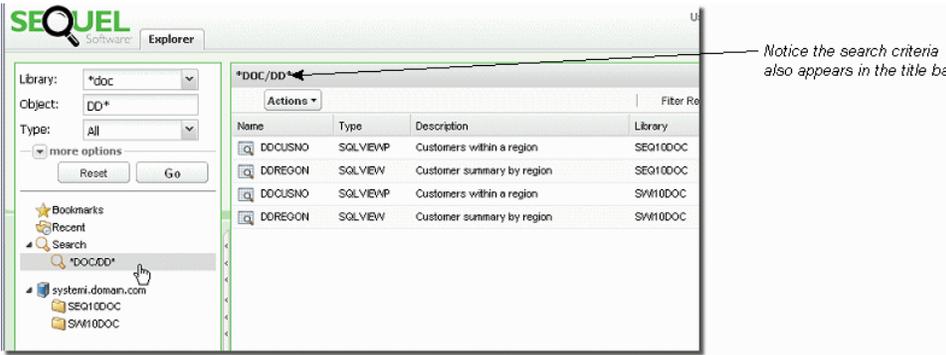
Recent Objects

The recent objects link is another way to quickly access Sequel objects. The last 20 objects used will display in the object list by clicking on this link.



Search

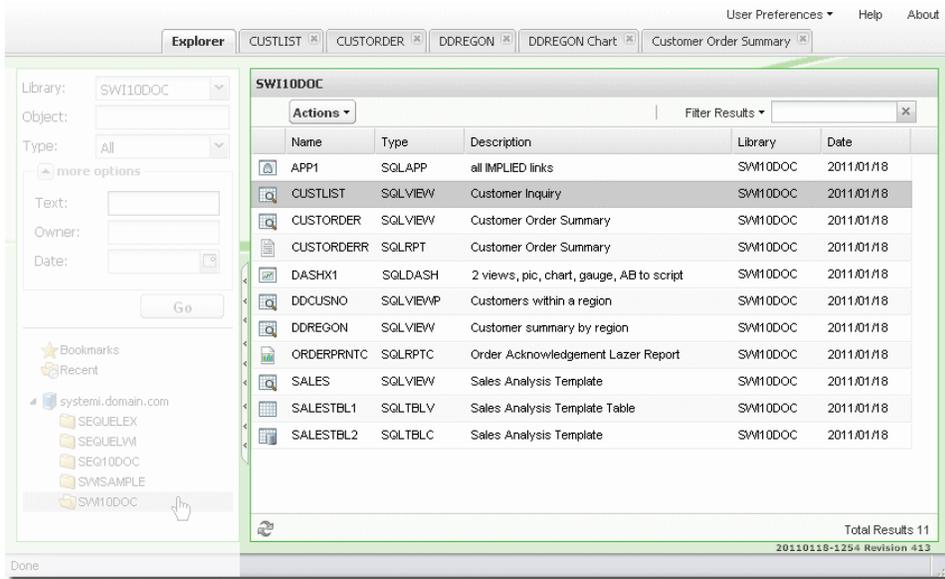
You can recreate a list of objects from your last search by clicking this link. The search link will change any time a new search is initiated by pressing the Go button.



The Object List Panel

The Object List Panel displays Viewpoint objects (views, reports, dashboards, and so on) contained in host libraries, [Viewpoint Repository](#) folders, or referenced by Automate Schedule job definitions in the repository.

The Object List Panel is where you will work with your Viewpoint objects and use one of the two [Actions menus](#) to [direct output](#) for display, print, download, and email.



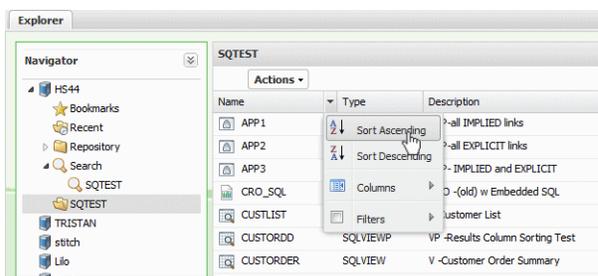
There are many options available to control the look and arrangement of the list. You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can re-size the width of each column and add or remove columns from the display.

Control the Look of the Object List

There are many options available to control the look and arrangement of the list. You can sort any of the columns, and click and drag to move them (left or right) anywhere you like. You can re-size the width of each column and add or remove columns from the display.

Sort Columns

Each column in the display can be sorted ascending or descending. By default the list is sorted ascending by the object name and the column heading of the currently sorted column appears darker than the others. To change the sorting, hover your mouse over a column heading and press the arrow to access the drop-down menu and select ascending or descending. You can also click the column heading to reverse the current sorting. An arrow will appear (up or down) to indicate the sort type.



Re-size Columns

Columns in the list are displayed in a 'best fit' fashion depending on the number of columns and the amount of information in each column.

You can re-size columns by placing the cursor between any two columns in the heading section-your mouse cursor will change to a double-bar cursor $\left\| \right\|$. Click and drag the column to a new width.



Name	Type	Description	Library	Date
APPY1	SQLAPP	APPY1	SW10DOC	2011.01.18
CUSTLIST	SQLVIEW	Customer Inquiry	SW10DOC	2011.01.18
CUSTORDER	SQLVIEW	Customer Order Summary	SW10DOC	2011.01.18

Move Columns

Moving columns in the list is just as easy as resizing. Click and hold any column heading, and move it to a new location. An insertion point will show you where the column will be placed.

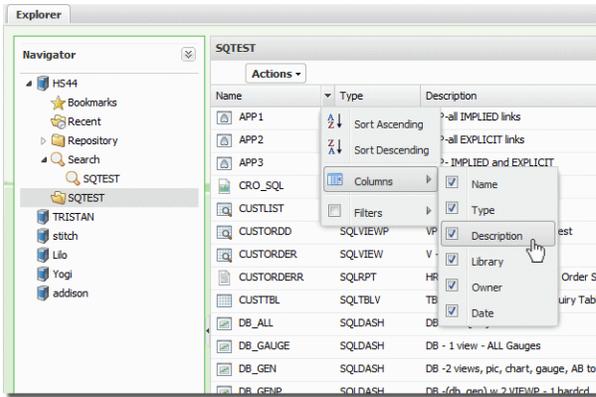


Name	Type	Description	Library	Date
APPY1	SQLAPP	APPY1	SW10DOC	2011.01.18
CUSTLIST	SQLVIEW	Customer Inquiry	SW10DOC	2011.01.18
CUSTORDER	SQLVIEW	Customer Order Summary	SW10DOC	2011.01.18

Add and Remove Columns

Adding or removing columns from the list is available from the column drop-down menu. Un-check any of the listed columns to remove, or check the box to add the column.

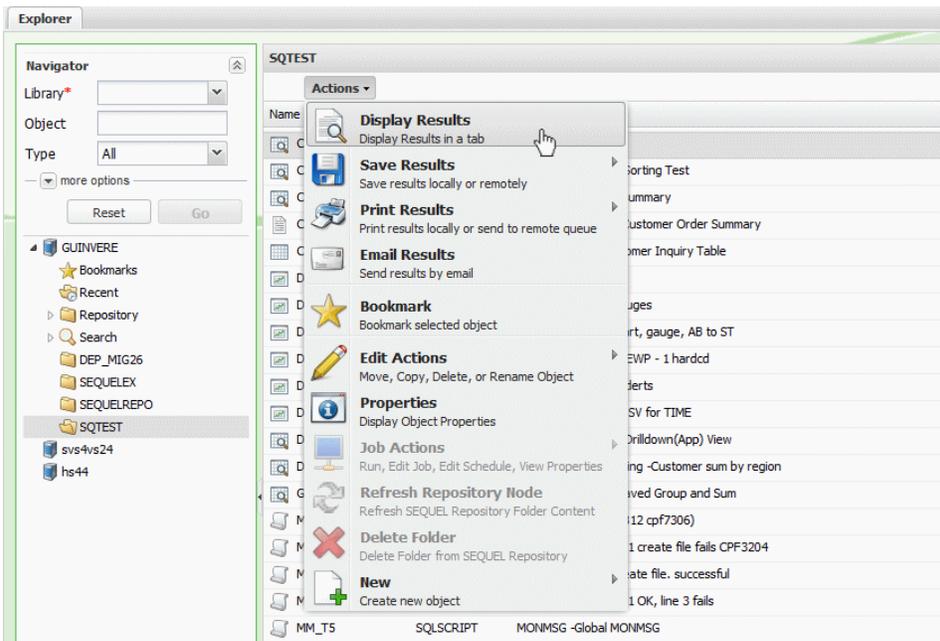
Removing columns will not affect your search results for that column. If you remove Description, you can still search an [objects text](#).



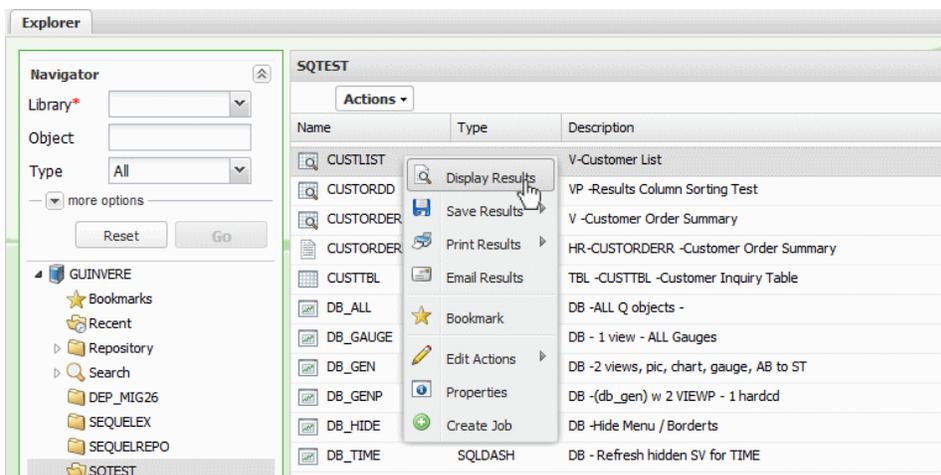
The Actions Menu

There are two Actions menus available in the [object list](#). One is shown at the top of the object list as a button and the other is a right-click contextual menu. Each provide options to [direct output](#), [edit objects](#), and view [object properties](#).

To use the Actions button, first select an object—it will highlight in grey—then click the Actions button to see the menu of options. If you press the Actions button before you select an object, all the options will be disabled.



You can access a similar list of actions by right-clicking any object in the list as show below.



Options will be available or grayed out depending on the object selected either in the Object Panel or the Navigation Panel. Some options are object sensitive—meaning the same option, like Properties, will show different information based on the object or item selected such as system node, folder, shortcut, host object, and so on.

Many of the actions shown above are available in the tabbed results windows for the [displayed](#) Viewpoint objects.

Filter Results

Another powerful feature is the Filter Results entry in the upper-right corner of the [object list panel](#). This option filters results after they have been displayed in the list. The options available in the [navigation panel](#)-library, object, type, and so on, are used to filter objects before the list is displayed.

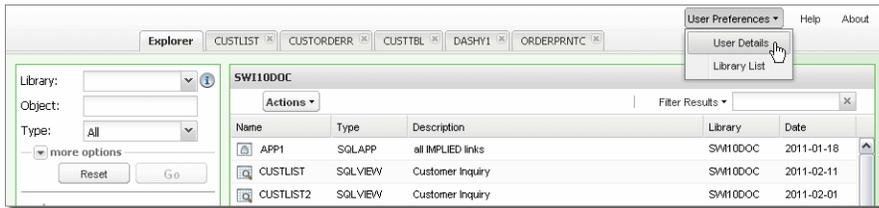
Once you have a list of objects, enter at least three characters. You don't even have to press enter-the search is dynamic. Just pause for a moment and the list will re-generate.



Anywhere the value is found-column or row-that object will remain in the list. Clear the values in the Filter to return to your original object list.

User Preferences

In the upper-right corner of the object list panel you can access User Details and adjust your Library List.



User Details

Open User Details to customize your browser display with your name and set a default e-mail address.



Use this screen to set the following values:

User Name - This value is for display only. It shows the name of the current logged-in user.

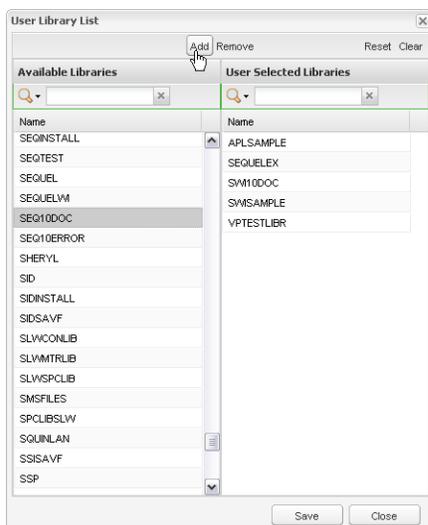
Real Name - Enter the long version of your name or a nick name.

E-mail - Enter an E-mail address for use in all E-mail results dialogs.

Library List

You may find a need to add a library to the user portion of your library list to perform a specific task or if your queries use unqualified libraries or *LIBL and you want to ensure users are using the correct files.

Select the Library List option to open the User Library List screen.

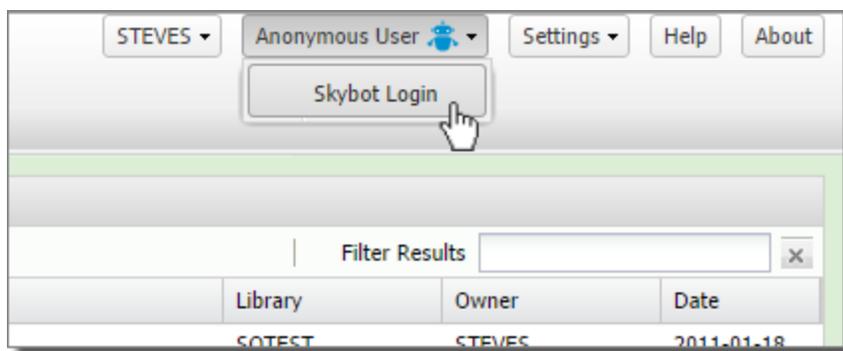


Select a library (or multiple libraries using CTL-click or Shift-click) from the Available Libraries list on the left, and press Add to place them in the user portion of your library list. When you are finished press **Save**.

These values are stored in a file (SEQUELWI/SWIUSERDFT) containing a record for each user. You can use data manipulation commands (Insert, Update, Delete) to make mass changes to this file.

Automate Schedule Login

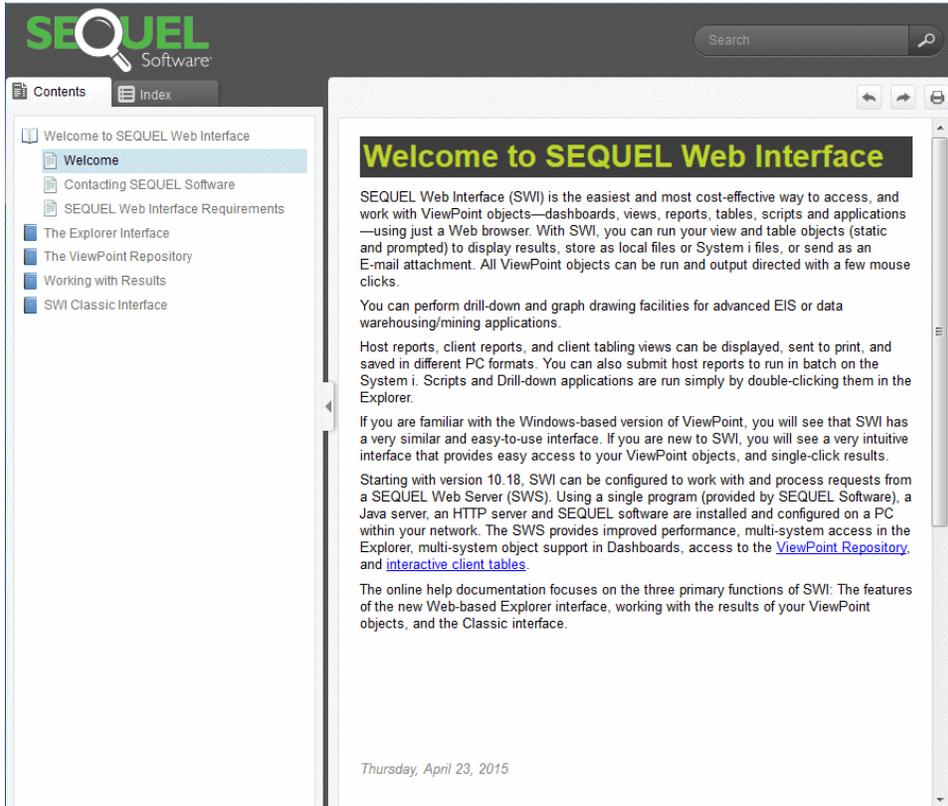
Use the Automate Schedule Login button to log into Automate Schedule to access advanced scheduling features or to edit jobs.



Help

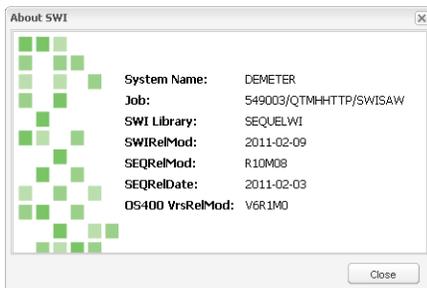
Press Help in the upper-right corner of the [object list panel](#) to open the on-line help facility built into SWI.

Expand the books in the Table of Contents, and click topics to access specific information about the product. Press the Search button to search for keywords anywhere in the online documentation.



About

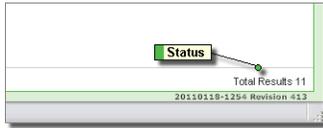
Use the About option in the upper-right corner of the [object list panel](#) to display all version numbers for SWI, the operating system, and other important information.



If you ever need to [contact Fortra](#) for support, you will be asked for this version information.

Status

In the lower-right corner of the [object list panel](#) the number of objects displayed by your searches is displayed.



Setup Classic Mode

As of version R10M00 this section is optional. The install process now checks for an existing Apache instance for SWI. If an Apache instance for SWI does not exist (it will have the same name as the product library—usually SEQUELWI), the install process creates a new Apache instance, and adds the required directives to the configuration file. The instance is configured to use port 400, or the next available port in succession if 400 is in use. Review the sections that follow if you need to make modifications to the configuration file, or if you want to create a new instance from scratch.

Modify the Apache Config File

The Admin Server

The Apache HTTP server is maintained using a web-based server manager utility provided by IBM. This utility runs on its own server (ADMIN) that must be active before you can use it. With this utility you can work with existing server instances or create new instances.

To check that the ADMIN server is running, issue the following at a command line:

```
WRKACTJOB SBS (QHTTPSVR)
```

Look for a job named ADMIN. If it is not listed, issue the following command to start the server:

```
STRTCPSVR *HTTP HTTPSVR (*ADMIN)
```

If you have sufficient authority to the command, you will see a message that the server is starting.

After the ADMIN server is running, start a web browser and enter the following URL to access the ADMIN server manager:

```
http://<System i path>:2001/HTTPAdmin
```

(the path is case sensitive)

From here, you can add the required (and any optional) SWI directives (below) to the Apache instance you wish to use for SWI. You can create a new instance and configuration file for SWI, or add SWI directives to an existing instance.

DO NOT alter any settings of the ADMIN server itself.

Required Directives

The directives required for SWI are grouped into two areas based on the level of access to SWI you desire—secure or non-secure. If you want to require that your users log in to access SWI, then add the ‘Secure Access Directives’ below. If you don’t want to require users to log in, then add the ‘Non- Secure Access Directives’. Included in each group are additional directives that are not related to access, but are required for the server to implement all SWI features.

Secure Access Directives

To secure access to your System i when using SWI, you must configure the Apache Server to require UserId/Password authentication. The following directives should be placed at the end of the configuration:

```
<Location /secure/>
Require valid-user
AuthType Basic
AuthName Secure_XXXXXX (where XXXXXXXX is you Power Systems
server name)
PasswdFile %%SYSTEM%%
UserID %%CLIENT%%
</Location>
```

These directives define a ‘security protocol’ and indicate the URL path value (/secure/ in the example) that must be referenced in the AliasMatch and ScriptAliasMatch directives for secure access.

In addition to the lines above, add the two directives below. These will invoke the security protocol defined above and require any request starting with lowercase /secure to be prompted for a user id and password.

```
AliasMatch ^/secure/SEQUEL/(.*) /SEQUEL/SWI/$1
```

(the following should be entered as one line in the configuration file.)

```
ScriptAliasMatch ^/secure/SEQUEL(.*)
/QSYS.LIB/SEQUELWI.LIB/SWIROUTER.PGM
```

Add the following to ensure full SWI functionality:

```
CgiConvMode %%MIXED/MIXED%%
AddType application/octet-stream .dll
AliasMatch ^/SEQUEL/(.*) /SEQUEL/SWI/$1
```

Non-Secure Access Directives

Non-secure access is configured with the following two directives. Users will not be prompted to enter any ID or password information. All non-secure users are logged in as the default user QTMHHTTP1.

```
AliasMatch ^/SEQUEL/(.*) /SEQUEL/SWI/$1
ScriptAliasMatch ^/SEQUEL(.*)
/QSYS.LIB/SEQUELWI.LIB/SWIROUTER.PGM
```

The **AliasMatch** directives route all requests starting with **/SEQUEL/** or **/secure/SEQUEL/** to an IFS directory (these will be for images or pages). Our sample has them in the directory named **/SEQUEL/swi** where they are installed by default.

All other requests containing uppercase **/SEQUEL** will run the CGI program via the **ScriptAliasMatch** directive. If the Sequel Web Interface is installed in a library other than SEQUELWI, change the library referenced in this directive to indicate the correct library name.

Add the following to ensure full SWI functionality:

```
CgiConvMode %%MIXED/MIXED%%
AddType application/octet-stream .dll
```

Optional Directives

The following optional features can be enabled by adding their corresponding directives to the configuration

file. Be sure to use the correct format for secure or non-secure access.

SWIVPDFDFT Target

If you specify a target path for temporary files (used with CRO reports and Client Tables. See [Set SWI Viewpoint Defaults - SWIVPDFDFT on page 251](#)), the following directive is needed. Choose either the secure or non-secure format.

For secure sessions:

```
AliasMatch ^/secure/path/(.*) /path/$1
```

For non-secure sessions:

```
AliasMatch ^/path/(.*) /path/$1
```

Open .VPT* Objects in Viewpoint

First time installations do not need to add these lines to the Apache configuration. Only if you are updating from SWI 10.x (and lower) should you manually add the following lines to allow Viewpoint design support for .vpt* repository files:

```
AddType application/octet-stream .vptview
AddType application/octet-stream .vptreport
AddType application/octet-stream .vptscript
<Files *.vpt*>
  Header set Content-Disposition attachment
</Files>
```

Adjust HTTP Server Job Environment

Library Lists

The library list of the HTTP server job is affected by the system value QUSRLIBL and/or by the Job Description used by the server job. The server job must have SEQUELWI on its library list, and it must also have the Sequel and Esend product libraries on the list if you wish to run Viewpoint views from your browser.

You can add these libraries globally through the system value, QUSRLIBL, or more selectively by adjusting the Job Description used by the HTTP server. On most machines, the Job Description used is QZHBHTTP in library QHTTPSVR. The user portion of the library list for typical HTTP server jobs could have just QGPL, QTEMP, SEQUELWI, Sequel and Esend. Some systems may need to have database libraries on the list also, depending on whether or not file references are qualified in the query.

After changing the job description or system value, you must end and then start the http server (see below). Using the restart option will not reset the server jobs library list.

NOTE:

The install process will make the above modifications to the library list of the HTTP server job (starting with version 10).

User Profiles

While the HTTP server runs under the user id QTMHHTTP, all CGI programs called as a result of configuration directives run under the user QTMHHTTP1. It is necessary to have these user profiles enabled in order to use the Sequel web interface. Also, user QTMHHTTP1 has to have special authority - *JOBCTL and *SPLCTL - in order to view spooled files through SWI.

Change the Character Set ID for JD Edwards

JD Edwards uses the Unicode (13488) character set (CCSID) for most files. The default CCSID for IBM i systems is 65535. Since there is no translation table between the two character sets, this combination will ultimately lead to translation issues.

1. Navigate to the following URL to access the ADMIN server manager:
`http://<System i path>:2001/HTTPAdmin`
(the path is case sensitive)
2. Select **Manage\All Servers**.
3. Click on **SEQUELWI**.
4. Go to the Server Properties section (left hand margin) and click on **General Server Configuration**.
5. Click on **Advanced** tab.
6. To the right of Server CCSID, use the pull-down to select **English (37/819)** or another character set if English is not appropriate.
7. Click **Apply**.
8. Restart the HTTP server using the action buttons at the top of the web page: the red **Stop** button, **Refresh** and then the green **Start** button.

Test the Server

To implement any library list changes, end the server using:

```
ENDTCPSVR SERVER(*HTTP) HTTPSVR(instance)
```

Then restart the server:

```
STRTCPSVR SERVER(*HTTP) HTTPSVR(instance)
```

Then issue the command:

```
WRKTCPSTS *CNN
```

If the System i is working properly as a web server the returned display will show "www-http" or "www" with a listen status on port 80 (press F14 to see the port number).

```

iSeries
Work with TCP/IP Connection Status
System:
Type options, press Enter.
3=Enable debug 4=End 5=Display details 6=Disable debug
8=Display jobs

  Remote      Remote      Local
Opt  Address    Port        Port        Idle Time  State
--  -
  *          *          *          telnet     000:00:22 Listen
  *          *          smtp       081:52:37 Listen
  *          *          www-http   000:11:40 Listen
  *          *          netbios > 081:53:28 Listen
  *          *          netbios > 000:01:04 *UDP

```

Issue the command `WRKTCPPSTS *IFC` to determine the System i TCP/IP address. This will be a series of 4 numbers (each number less than 256) separated with periods (ex: 111.222.333.444). You will use this address to access the IBM sample page.

```

iSeries
Work with TCP/IP Interface Status
System:
Type options, press Enter.
5=Display details 8=Display associated routes 9=Start 10=End
12=Work with configuration status 14=Display multicast groups

  Internet      Network      Line      Interface
Opt  Address      Address      Description Status
--  -
  *      127.0.0.1    127.0.0.0  *LOOPBACK Active
  *      111.222.333.104 111.222.333.1 BASE404 Active

```

Go to a PC and start your internet browser. In the address area type in `http://` followed by the TCP/IP address found above and press Enter.

If the Power Systems default directives have not been modified, a sample web page will be displayed.

Set Product Defaults

Product defaults are maintained in a data area named SWIDFT in the SEQUELWI library. Issue the command `SEQUELWI/SWIDFT` to open the Set SWI Defaults screen.

4/30/12 15:10:14		Set SWI Defaults	System: CYBRKING
SWI Library	<u>SEQUELWI</u>		
Protected Path	<u>secure</u>		
Directory listing access	<u>ON</u>	(ON,OFF,SELECTIVE,STRICT)	
HTML Base Timeout	<u>60</u>	Seconds	
<u>Classic Interface</u>			
Form Action	<u>GET</u>	(GET or POST)	
Display Object Images	<u>Y</u>	(Y,N)	
Show view text in run-time prompts	<u>Y</u>	(Y,N)	
Allow "Select" requests	<u>Y</u>	(Y,N)	
Run-time/object list attributes	<u>N</u>	(Y,N)	
Allow spooled file requests	<u>N</u>	(Y,N,A)	
Allow submit from object list	<u>N</u>	(Y,N)	
Use data binding as default	<u>A</u>	(Y,N,A)	
Path for data binding work files	<u>tmp</u>		
F3=Exit			

Enter your selections for the product defaults.

Classic and Explorer Interface Settings

The first four settings are used by both the Classic and Explorer interface.

SWI Library - Enter the name of the library where the Sequel Web Interface was installed.

Protected Path - Specify the path name for objects that require a userid and password to run. The path name corresponds to the directive specified in the Secure Access Directives section (page 10) of the configuration file.

For example, if the protect directive is <Location /secure/> the Protected Path would be secure.

Directory listing access - This parameter controls the ability to present a list of views, reports and queries within a library to users.

OFF - Disable directory listing. Users must know the names of the object they wish to run, or access them through links provided on user-designed web pages.

ON - Enable directory browsing. SWI will accept requests to build object lists for any library the user has authority to work with.

SELECTIVE - Directory browsing for each library is controlled by the existence of a data area named WWWBRWS in the library. If the data area does not exist in a particular library, the library is considered 'restricted' and SWI will not list available objects for that library.

If the data area exists, directory browsing is allowed only if the user has at least *USE authority to the data area. If user id/password validation is not enabled, the user id QTMHHTTP1 is used for checking authority to the data area. WWWBRWS can be created with the following command:

```
CRTDTAARA DTAARA (YOUURLIB/WWWBRWS) TYPE (*CHAR) LEN (1)
```

Objects in a restricted library (a library without the WWWBRWS data area) can still be accessed and executed using a URL in the browser, or through links provided on user-designed web pages.

STRICT - Directory browsing for each library is controlled by the existence of a data area named WWWBRWS in the library. If the data area does not exist in a particular library, the library is considered 'restricted' and SWI will not list available objects for that library. In addition, access and execution of objects in a restricted library using a URL in a browser, or through links provided on user-designed web pages is disabled.

If the data area exists, directory browsing is allowed only if the user has at least *USE authority to the data area. If user id/password validation is not enabled, the user id QTMHHTTP1 is used for checking authority to the data area

HTML Base Timeout - Control the number of seconds (up to 9999) the browser will wait for requests to complete in the Explorer interface. The setting also applies in the Classic interface for query results returned using databind=A.

1 - 9999 - Specify in seconds the default timeout value for all Web Interface service requests such as 'Recent objects' and 'User details'. All other requests will allow 5 times the default value. Thus, the following requests will multiply the default value by 5, i.e. if the base timeout is 60, then the following requests will timeout at 300 seconds:

- Running a client report/table
- Running views and host reports/tables
- Building a list of objects when the library=*ALL

The following types of requests will be run in the background and show an error message if there is no response in the same base*5 time frame:

- Emailing results
- Save to Stream file / IFS / Physical file / Remote database

Classic Interface Settings

The remaining settings are used only by the Classic interface.

Form Action - Default HTML documents included with SWI require an HTML form action of 'GET'. Use 'POST' to prevent parameter values from displaying in the URL.

Display Object Images- When SWI displays a list of objects within a library it may be set up to display a hyperlinked icon that allows the user to display the view, report or table definition (including the SQL statement). Choose one of the following:

Y = Includes an object "icon" with a hyperlink to display the object definition.

N = Do not allow this option for users.

Show view text in runtime prompts - Specify whether or not to display the view description in the prompt window.

Y = Display view text.

N = Do not show view text.

Allow "Select" requests - Specify whether or not to allow free-form SQL requests at the address line or from HTML form entry.

Y = Allow free-form SQL requests.

N = Do not allow free-form SQL requests.

Run-time/object list attributes - This parameter is used to regulate the amount of information displayed in an object list generated for a specified library. This parameter will also display or hide variable attributes (length, type, etc.) for runtime prompted requests. Specify one of the following:

Y- Displays Object Name (hyperlinked), Object Type, and Description.

	Object	Type	Description
	CUSTORDDR	SQLRPT	Customer Order Detail for &&date1 and &&date2
	CUSTORDER	SQLVIEW	Customer Order Summary
	CUSTORDERR	SQLRPT	Customer Order Summary

N = Displays Description only.

	Object	Description
	CUSTORDDR	Customer Order Detail for &&date1 and &&date2
	CUSTORDER	Customer Order Summary
	CUSTORDERR	Customer Order Summary

Allow spooled file requests - When spooled file management functions are enabled (option A), users can choose from a number of management actions including: Copy, Move, Delete, Hold/Release, view attributes, Email the spooled file, Edistrib the spooled file, and copy to IFS as either text or PDF.

Different settings can be applied to different users by using the secure access provided by the 'Protect' directive and by making customized copies of the SWIDFT data area in the 'Current Library' for each user id that needs special settings.

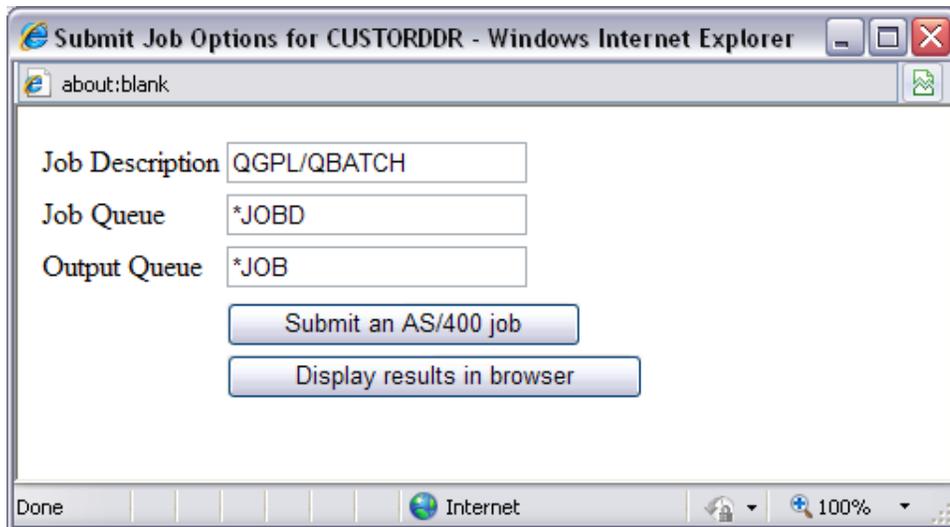
Specify whether or not to allow users to display spooled files at a browser:

Y - Allows spooled files to be displayed.

A - Enable spooled file management functions.

N - Does not allow spooled files to be displayed.

Allow submit from object list - This parameter allows the user to submit a Sequel Report (SQLRPT) or Query object (QRY, QMQRY, QMFORM) to a job queue. When the object hyperlink is clicked, a separate browser window appears with prompts that let the user specify the job description, job queue, and output queue for the submitted job.



In addition, the user is allowed the option of submitting the request to the job queue or displaying the results in the browser. Specify either option:

Y - Allows the browser prompt window to be displayed.

N - Does not allow the browser prompt window to be displayed.

Use Data Binding as Default - Specify default related to Data Binding (result column sorting).

A - Display column sorting for view results by default. Use this option to ensure data and graphs retain their size and placement when viewed in SWI. (uses advanced sorting grid control)

N - Do not allow column sorting as a default.

Path for Data Binding Work Files - Specify the location on the IFS to hold data binding results. This file is automatically deleted.

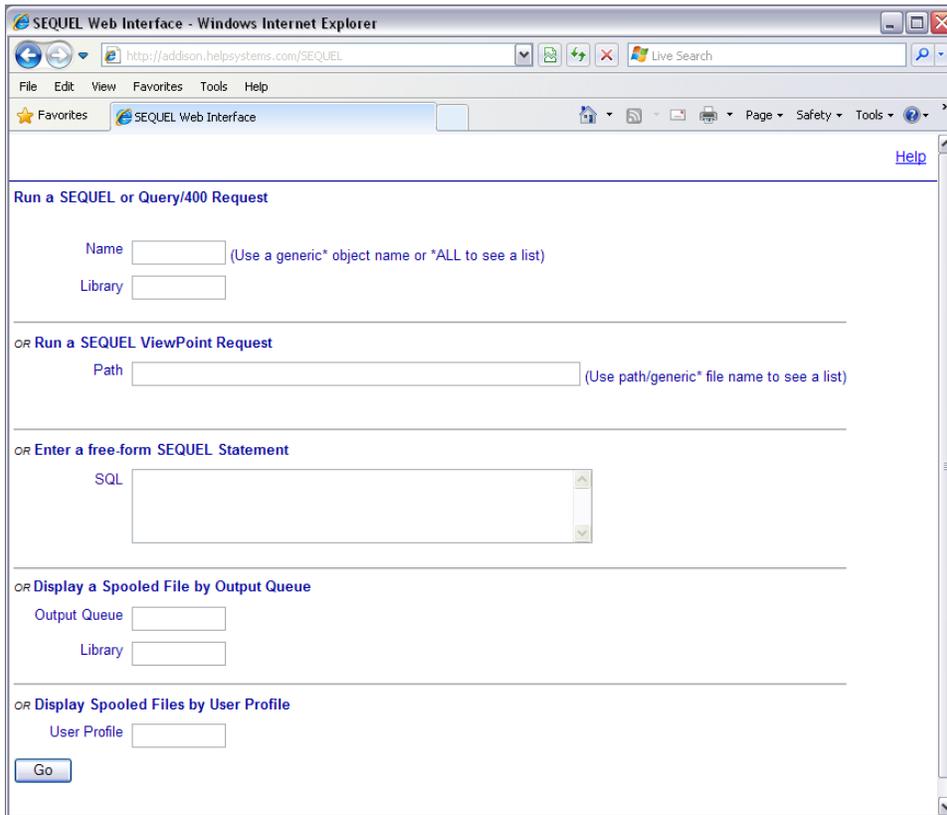
Restart the Server

After the HTTP configuration file and the product defaults have been specified, restart the server with the following command:

```
STRTCPSVR *HTTP RESTART(*HTTP)
```

Final Test

Start your browser and type in your System i HTTP address followed by /SEQUEL (uppercase) and press Enter to see the Sequel Web Interface (classic) welcome panel.



If your configuration is set to use a port other than 80, you must specify the port number in the URL to access the SWI welcome panel like so:
 http://systemi:nnn/SEQUEL (where nnn is the HTTP port specified in the configuration file).

NOTE:

If you want users to be able to use lowercase /sequel following the system address, you must add the following lowercase directive to the HTTP configuration file: `ScriptAliasMatch ^/sequel(.*)`
`/QSYS.LIB/SEQUELWI.LIB/SWIROUTER.PGM`

Default HTML Documents

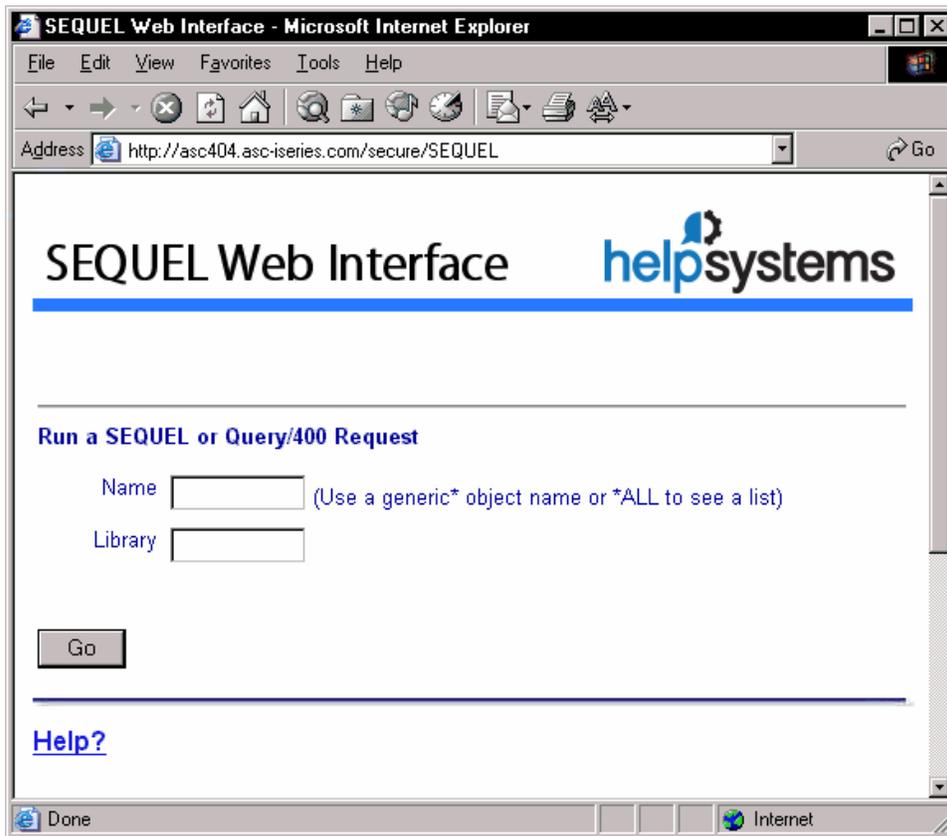
SWI is shipped with three HTML documents saved as source members in the SWIHTML library (or whatever library name you saved the product in). These members, [WELCOME](#), [HEADER](#) and [FOOTER](#) may be used 'as is', or [customized](#) for your own installation in Classic mode.

WELCOME

This member is used for the initial display. As shipped, it provides the entry boxes shown below.

It contains the Sequel Web Interface heading and an HTML form that allows the user to specify the name and library for a view, report, script, table, or query to run.

The WELCOME member contains several commented-out sections that can be enabled by [editing the member](#) to remove the beginning and ending comment tags.

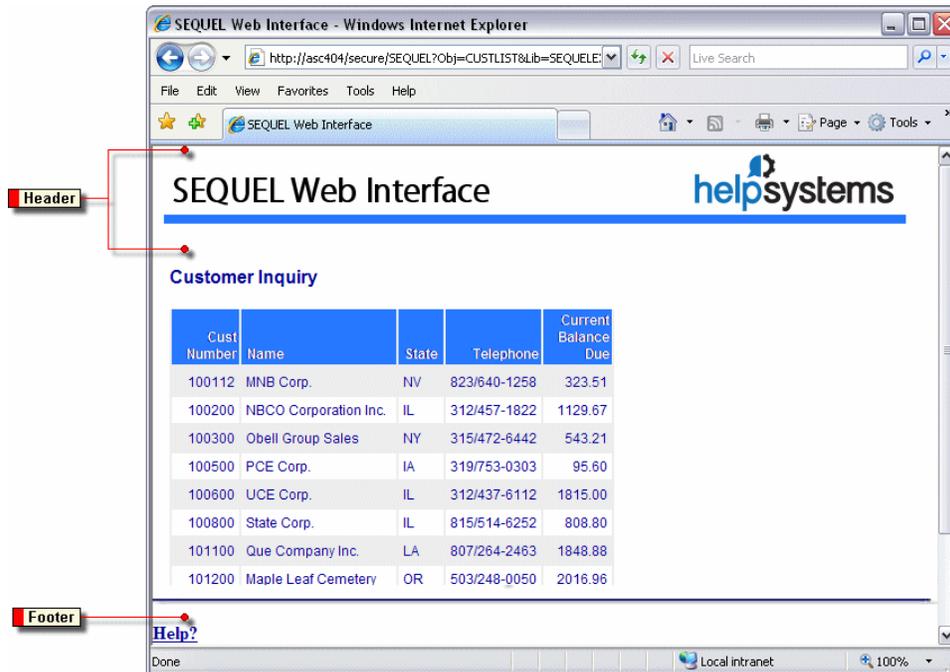
**NOTE:**

The install process will not preserve changes made to the SWIHTML file. If modifications are made to any of the members, be sure to copy the file to a safe place prior to installing a new version.

HEADER

The HEADER member is used to format the top of pages that SWI builds dynamically, such as a list of objects within a library (shown), run-time prompt forms, and headings for returned data. (e.g. views and reports)

The graphics displayed in the HEADER can be changed by [editing the member](#) to specify your own graphics.



FOOTER

Similar to the HEADER, the FOOTER member appears by default after the results returned by the request.

The links listed in the FOOTER can be changed by [editing the member](#).

Customizing the SWI HTML Members

You can customize the appearance of the SWI HTML members to use similar design elements and graphics as your corporate web site. Almost any non-frame format will work. You may also create additional header and footer members to use for different divisions in your company or for different types of requests.

Alternately, you can request that NO header and/or footer be displayed with the results. (see [Suppress HTML Headers or Footers](#))

Members may be edited or created using your favorite HTML editor or SEU. A brief overview of each approach follows.

HTML Editor

1. Create a new header/footer file with your HTML editor.
2. Save the new HTML file on your network or on the iSeries Integrated File System.
3. (Optional) Run the ADDPFM command to add a new member to the SEQUELWI/SWIHTML source file if you want to create a new member. Otherwise, you are free to overlay one of the existing members with the new HTML file.
4. Use the Client Access Express 'Data Transfer to AS/400' option to transfer your HTML file to the desired source member in SEQUELWI/SWIHTML. Click the 'Details' button in this dialog window, uncheck the 'Use PC File Description' option and specify File Type = ASCII Text.
5. (Optional) When you make a SWI request, you may specify an alternate header and/or footer to use with the results (see [Alternate HTML Headers and Footers](#)).

The SEQUELWI/SWIHTML file was defined as 132 characters wide to allow editing with SEU. If you use an HTML editor the lines in your source may be wider, and will be truncated when the file is imported in step 4. Use the editor's source edit function or MS-Notepad to adjust line feeds to limit the width of the HTML code to less than 132 characters in width.

Edit with SEU

You may use SEU to edit either the [WELCOME](#), [HEADER](#), or [FOOTER](#) members:

STRSEU SRCFILE(SEQUELWI/SWIHTML) SRCMBR(header)

The HEADER member is shown below.

```

Columns . . . : 1 120                               Browse          SEQUELWI/SWIHTML
SEU=>
FMT ** ..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7 ..... 8 ..... 9 ..
***** Beginning of data *****
0000.01 <body BGCOLOR="#FFFFFF">
0000.02 <A name="begin"></A>
0001.00 <table width="100%" border="0" cellspacing="0" cellpadding="0">
0002.00 <tr bgcolor="#000099">
0003.00 <td colspan="2">&nbsp;&nbsp;&nbsp;</td>
0004.00 </tr>
0005.00 <tr>
0006.00 <td></td>
0008.00 <td align="right"></td>
0009.00 </tr>
0010.00 <tr>
0011.00 <td colspan="2"></td>
0012.00 </tr>
0013.00 </table>
***** End of data *****

```

The first highlighted area starting with `<img src=` is a link to a .png image file that displays the title 'Sequel Web Interface' in a graphical format on the left-hand side of the page. The `alt=Sequel Web Interface` parameter is the text that is displayed in the browser when the image is loading or when the mouse is placed over the image. Other parameters on the following line indicate the dimensions of the graphic image. You may specify an alternate image here or replace it with text.

The second highlighted area is a link to the company logo displayed on the right side of the page. Again, this may be replaced with another graphic file or simple text.

The third highlighted section is a link to the blue bar graphic displayed as a divider line between the header area and the view results. This may be left as is or removed.

Start and Result Page Graphics (HEADER)

The three graphic elements at the top of the SWI pages are controlled with the HEADER and the WELCOME source member of the SWIHTML source file. You can edit the links to use your own graphics.

Run SEU (Source Edit Utility) to edit the HEADER member:

```
STRSEU SRCFILE(SEQUELWI/SWIHTML) SRCMBR(header)
```

The HEADER member is shown below.

```

Columns . . . : 1 120                               Browse          SEQUELWI/SWIHTML
SEU=>
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ..
***** Beginning of data *****
0000.01 <body BGCOLOR="#FFFFFF">
0000.02 <A name="begin"></A>
0001.00 <table width="100%" border="0" cellspacing="0" cellpadding="0">
0002.00 <tr bgcolor="#000099">
0003.00 <td colspan="2">&nbsp;&nbsp;&nbsp;</td>
0004.00 </tr>
0005.00 <tr>
0006.00 <td></td>
0008.00 <td align="right"></td>
0009.00 </tr>
0010.00 <tr>
0011.00 <td colspan="2"></td>
0012.00 </tr>
0013.00 </table>
***** End of data *****

```

The first highlighted area starting with **<img src=** is a link to a .png image file that displays the title 'Sequel Web Interface' in a graphical format on the left-hand side of the page. The **alt=Sequel Web Interface** parameter is the text that is displayed in the browser when the image is loading or when the mouse is placed over the image. Other parameters on the following line indicate the dimensions of the graphic image. You may specify an alternate image here or replace it with text.

The second highlighted area is a link to the company logo displayed on the right side of the page. Again, this may be replaced with another graphic file or simple text.

The third highlighted section is a link to the blue bar graphic displayed as a divider line between the header area and the view results. This may be left as is or removed.

Controlling Elements on the Start Page (WELCOME)

The four different entry boxes on the Start Page are controlled with the WELCOME source member of the SWIHTML source file. Adding or removing the remark tags for each section will turn on or off the options. [Graphic Elements](#) for all pages are controlled with the HEADER member of the SWIHTML file.

Run SEU (Source Edit Utility) to edit the WELCOME member:

STRSEU SRCFILE(SEQUELWI/SWIHTML) SRCMBR(welcome)

The WELCOME member is shown below.

```

Columns . . . : 1 120          Browse          SEQUELWI/SWIHTML
SEU==>
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9
0099.01 <!-- Make the User Profile Entry Box
0100.00 <TD width="971" height="23" colspan="3">
0101.00 <hr>
0102.00 <font face="Arial" color="#0000A0" size="3">
0103.00 <i><font color="#000000" size="1">OR</font><font color="#000000" size="2">
0104.00 </font></i></font>
0105.00 <font color="#0000a0" face="Arial" size="2"><strong>
0106.00 Display Spooled Files by User Profile</strong></font> </TD>
0107.00 </TR>
0108.00 <TR valign="top">
0109.00 <TD align="right" width="107" height="23">
0110.00 <font face="Arial" color="#0000A0" size="2">User Profile</font></TD>
0112.00 <TD align="left" width="864" colspan="2" height="23"><font size="2">
0113.00 <input maxLength=10 name=user size=10>
0114.00 </font></TD>
0114.01 -->

```

The first highlighted item is the beginning remark tag. The second highlighted item is the ending remark tag. With both of these in place, the User Profile Entry Box will not be displayed. Simply remove the remark tags, and the option will become available.

Controlling Elements on the Result Page (FOOTER)

The positioning links at the bottom of the Result Page are controlled with the FOOTER source member of the SWIHTML source file. Adding remark tags for each link will turn off the options. [Graphic Elements](#) for all pages are controlled with the HEADER member of the SWIHTML file.

Run SEU (Source Edit Utility) to edit the FOOTER member:

STRSEU SRCFILE(SEQUELWI/SWIHTML) SRCMBR(footer)

The FOOTER member is shown below.

```

Columns . . . : 1 120          Browse          SEQUELWI/SWIHTML
SEU==>
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9
0000.01 
0002.01 <Div id="div1">
0002.02 <a name='back' href='javascript: void window.scrollTo(1,1)'\>
0002.03 <b><u>Top of Page</u></b></a><br><br></div>
0002.04 <Div id="div2">
0002.05 <a name='back' href='javascript: void history.back()'\>
0002.06 <b><u>Previous Page</u></b></a><br><br></div>
0003.00 <b><a href="http://www.helpsystems.com">
0004.00 Help/Systems</a></b><br><br></div>
0005.00 <script>
0006.00 var isNav = navigator.appName == "Netscape";
0007.00 if (!isNav) {
0007.01 document.all.div2.innerHTML="<a name='back' onclick='history.back()'" +
0007.02 " onmouseover=" + "" + "window.status='Click here to go to the previous page'" + "" +
0007.03 " title='Return to the previous page viewed'" +

```

The highlighted HTML above controls the 'Previous Page' link. Enclose the code with HTML 'remark' tags to remove the link from the page.

This also applies to the 'Top of Page' link, and the Fortra Home Page link. (you can substitute your own home page link)

Additional Considerations

See the following additional considerations:

[*Classic Mode Security on page 347*](#)

[*Directory Listing Access on page 347*](#)

[*Classic Interface Multi-Language Features on page 350*](#)

[*PC Security Settings for Viewpoint Graph Support on page 352*](#)

Classic Mode Security

The System i HTTP server may be set up to enact user profile and password security to limit access from the Internet or an intranet. This option is available for OS/400 V4R2 and later. User profile and password validation are specified with the UserID and PasswdFile configuration directives.

SWI works as a Common Gateway Interface (CGI) program that is run by the System i HTTP server program. All SWI requests are run under a user profile named QTMHHTTP1. If user/password validation is not implemented, users can prohibit access to queries, views, files, and libraries by revoking authority to the QTMHHTTP1 user profile. HTTP configuration directives can be set to require user/ password validation. In that case, normal System i object authority constraints are enforced by the operating system, and the authority available is controlled by the user id entered on the sign on prompt.

There is no delete or update risk to System i data or objects. The System i HTTP server is a read-only server. It does not support the HTML PUT or DELETE methods. SWI does not expose UPDATE or DELETE commands.

Additional notes on security setup are described in the IBM Webmaster's Guide (GC41-5434).

Directory Listing Access

In addition to System i enforced authority constraints, SWI provides an additional level of control over the ability to list queries, views and reports in a given library. When

Directory listing access is set to 'ON' in SWI defaults, the SWI list building function is fully enabled and user access to directory lists will be controlled solely by System i object authority.

When Directory listing access is set to 'OFF' in SWI defaults, the SWI list building function is disabled, and users will not be able to browse lists of views, reports or queries for any library.

When the Directory listing access is set to 'SELECTIVE', the directory listing function for each library is controlled by the existence of a data area named WWWBRWS in the library. If the data area does not exist in a particular library, the library is considered 'restricted' and SWI will not list available objects for that library.

If the data area exists, directory browsing is allowed only if the user has at least *USE authority to the data area. If user id/password validation is not enabled, the user id QTMHHTTP1 is used for checking authority to the data area.

Objects in a restricted library (a library without the WWWBRWS data area) can still be accessed and executed using a URL in the browser, or through links provided on user-designed web pages.

Similar to the SELECTIVE setting, the Directory listing access value of 'STRICT' controls the directory listing function for each library by the existence of a data area named WWWBRWS in the library. If the data area does not exist in a particular library, the library is considered 'restricted' and SWI will not list available objects for that library. In addition, the STRICT setting adds an extra layer of protection by disabling access and execution of objects in a restricted library when using a URL in a browser, or through links provided on user-designed web page.

If the data area exists, directory browsing is allowed only if the user has at least *USE authority to the data area. If user id/password validation is not enabled, the user id QTMHHTTP1 is used for checking authority to the data area.

Required Sequel PC Format

In addition to the security settings above, a pc format is required for Viewpoint graphs. To create this format issue the following command:

SEQUEL/WRKPCFMT

You will be presented with the screen below.

```

09:48:50          PC Format Selection          1/24/08

1=Select  3=Copy  4=Delete  7=Rename

- *DELIMITED Standard CSV format
- *MERGE      Heading record (field names)
- *MERGECOLH Merge record with column heading
- *MERGETDC  Comma separated with heading for tabular data ctrl
- *TAB       Tab Delimited (MJS)
- *TDELIM    Tab delimited

F3=Exit  F6=Create

MA  b          MW          06/003

```

Use F6 to create a new format. In the pop-up window, enter 'SWI' on the Fmt Name line.

```

          Format Creation      Base fmt *CREATE

Fmt name SWI
Text      Used by SWI to write out DataLabel Text

F3=Exit  F12=Cancel

```

Enter optional text to describe the format and press **Enter**.

On the next screen below, enter the following settings for the new format.

```

          Format Definition      Format SWI

Text Used by SWI to write out DataLabel Text

Delimiter      ~          (*NONE, characters)
String start   *NONE      (*NONE, characters)
String end     *NONE      (*NONE, characters)
Record end     ^          (*NONE, characters)
Heading record *HEADING    (*NAME,*HEADING,*NONE)
Numeric edit  *NUMBER     (*EDIT,*NUMBER,*DIGITS)

F3=Exit  F12=Cancel

```

Press **Enter** to save this new format.

Required Apache Directive

The following directive must be added to the Apache configuration file in order to display Viewpoint graphs:

```
AddType application/octet-stream .dll
```

See [Modify the Apache Config File on page 329](#) for information on modifying the Apache configuration file.

Classic Interface Multi-Language Features

In addition to the WELCOME and HEADER members, which can be translated as needed, SWI also supports the translation of headings for the Object List and Spooled File List displays.

These list displays have a small number of text strings that describe the information on the pages. Translations for these strings can be provided by entering the translated text into the SWIXLATE file.

SWIXLATE has records for the Object List (Format=OBJLIST), Spooled File List (Format=SPLFLIST), and runtime prompt (Format=RUNP) displays. The English form of these strings is provided in the set of records shown below coded with LANGUAGE="ENU". There are 6 records for the Object List display, 13 records for the Spooled File List display, and 5 records for the runtime prompt display.

LANGUAGE	TYPE	Column	Text
ENU	OBJLIST	1	Select an object from
ENU	OBJLIST	2	by clicking on its name
ENU	OBJLIST	3	Click on icon to display description
ENU	OBJLIST	4	Object
ENU	OBJLIST	5	Type
ENU	OBJLIST	6	Description
ENU	SPLFLIST	1	Job Name
ENU	SPLFLIST	2	Job User
ENU	SPLFLIST	3	Job Number
ENU	SPLFLIST	4	Date
ENU	SPLFLIST	5	Time
ENU	SPLFLIST	6	File Name
ENU	SPLFLIST	7	File Number
ENU	SPLFLIST	8	Total Pages

LANGUAGE	TYPE	Column	Text
ENU	SPLFLIST	9	Total Copies
ENU	SPLFLIST	10	User Data
ENU	SPLFLIST	11	OUTQ
ENU	SPLFLIST	12	OUTQ Library
ENU	SPLFLIST	13	Status
ENU	RUNP	1	Run View
ENU	RUNP	2	View:
ENU	RUNP	3	Report:
ENU	RUNP	4	Script:
ENU	RUNP	5	Table:

These records can be copied, translated and assigned an appropriate language code and then be used to supply translated text when using SWI. Records can be maintained with a DFU program or any other standard method for manipulating file data. SWI does not provide a file maintenance program for this purpose.

When using the Web Interface, the desired language can be selected by including a new directive named LANGID in the URL request string. For example, the following link could be used to request a list of Viewpoint objects in the SWISAMPLE library and use German headings to describe the list contents.

```
http://207.208.238.144/SEQUEL?obj=*all&lib=swisample&langid=DEU
```

There are 3 ways to control which translation is used by SWI.

Method 1 - Simple default. A set of records with a blank language code will automatically be used if present. If the request does not specify a specific LANGID, the text present with a blank language code will be used. If there are no blank language code records, the standard US English headings will be used. These cannot be changed by editing the records coded with ENU.

Method 2 - User specific default. This method requires using a secure web signon. With this method, different users can have different default language translations by placing different versions of the SWIXLATE file in each users current library. Each SWIXLATE file will have a different translation in the records coded with a blank language code.

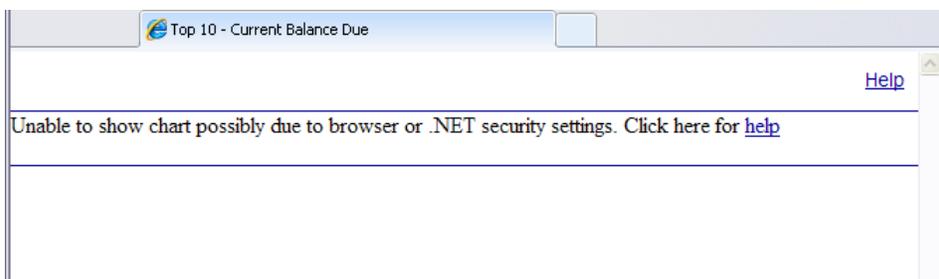
Method 3 - User written HTML with links to SWI list displays. In this method, the link to SWI list display is coded to include the LANGID directive in the URL request string.

PC Security Settings for Viewpoint Graph Support

The Viewpoint graph control is actually a Microsoft .NET control. As such, this control has a slightly different security model and requires one to configure the .NET framework to allow certain controls to perform various functions.

SWI installs Microsoft Installer files (.msi) that are executed automatically to set the proper .NET security values. Customers that use Windows 2000 or Windows 2003 as an Active Directory server can automatically use Group Policy to distribute the .msi files throughout their enterprise.

If for some reason these settings are not configured properly, you will see a graphic place holder similar to this:



You can correct this by running the .msi file manually. Navigate to the IFS folder - **/sequel/swi/VPCcontrols** and double-click SWI20.msi.

You can also use Windows Control Panel to change the .NET settings. Navigate to Control Panel=Administrative

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