Portal Access Technical Manual

Instructions for using Portal Access with Portal-enabled instrumentation
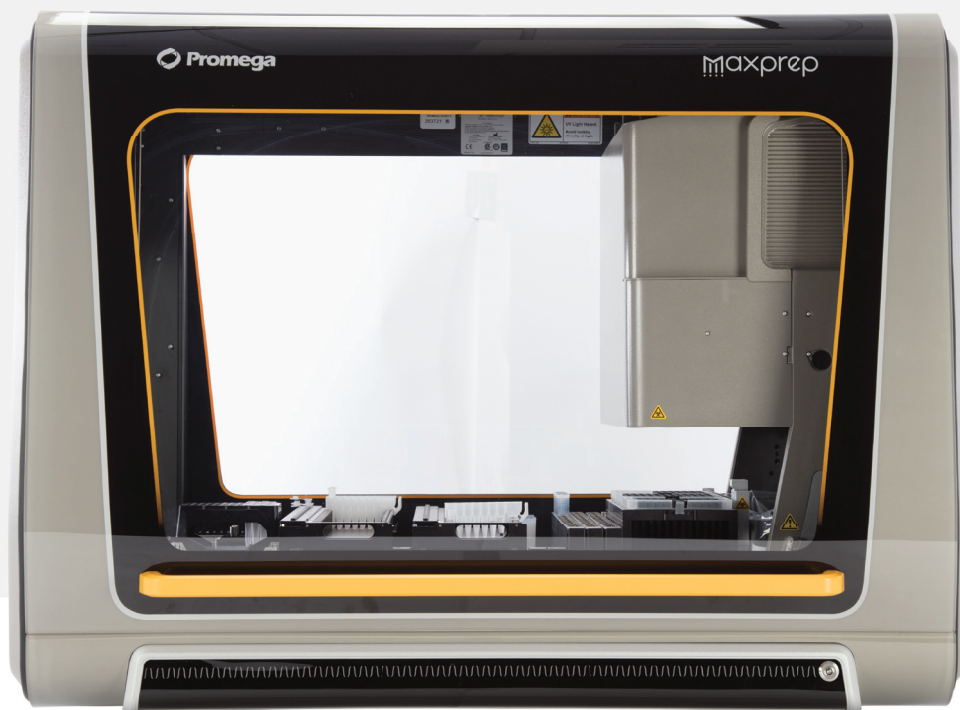
Table of Contents

All technical literature is available at: **www.promega.com/protocols/**

Visit the website to verify that you are using the most current version of this Technical Manual.

E-mail Promega Technical Services if you have questions on use of this system: **techserv@promega.com**

1 Description

1.1 Portal Access

Portal Access provides browser-based access to the sample tracking, run and concentration data present in Portal software. Sample tracking and method run-specific information are collected and stored within Portal software, providing an archival record of workflow activities that have been performed on all instrument modules to which it is connected. Users can create sample and consumable reports, create run exports, import and manage sample concentration data, and import sample plate maps. Portal Access runs on a PC or server with access to Portal software. With a single installation, Portal Access can be accessed from any network computer that can communicate with the location of the locally installed Portal software. This document describes the features and settings present in Portal Access.

Portal Access is exclusively designed to be used with Portal software. Portal software tracks run-specific information produced by all supported Promega instrument modules connected to Portal software. Refer to table below for list of supported instruments

Portal Access is For Research Use Only (RUO).

1.1.1 Supported Instruments

Instrument	Cat. #	Technical Manual
Maxwell® RSC	AS4500	TM411
Maxwell® RSC 48	AS8500	TM510
Maxwell® FSC	AS4600	TM462
Maxwell® CSC RUO Mode	AS6000	TM573
Maxwell® CSC 48 RUO Mode	AS8000	TM628
GloMax® Navigator	GM2000, GM2010	TM470
GloMax® Explorer	GM3500, GM3510	TM433
GloMax® Discover	GM3000	TM397

1.2   Portal Access Features

- Access data present in Portal software
- Create run-specific reports
- Create run-specific export files
- Create customizable sample-specific reports
- Create consumables reports by date range
- Create assays to store concentration data
- Import sample-specific concentration data
- Import labware maps of sample identifiers
- Access Portal software from PCs that can communicate with Portal Access through a common internal network connection

1.3   System Requirements

1.3.1   Software Installation

Desktop PC or Server	Windows® 7 or Windows® 10 Operating System with network connectivity (WiFi or Wired*) to Portal software 4GB RAM 64GB Disk Space (128GB Disk Space recommended)
Regulatory Compliance	For Research Use Only. Not for use in Diagnostic Procedures.

*Promega recommends wired network connections.

1.3.2   Browser Requirements

Google Chrome™ Browser	Version 76 or higher (**www.google.com/chrome/**)

1.4   About This Technical Manual

This Technical Manual is intended to provide information about performing specific functions within Portal Access. Sections below describe the functions available from each screen within Portal Access. Information provided in this document is not meant to be a single instruction set for interactions with Portal Access. Rather, the instructions provided herein are intended to be used as individual descriptions of how to perform various tasks within Portal Access. Refer to the instruction sets that are applicable to the needs of your laboratory.

2 Portal Access

2.1 Installing Portal Access

Portal Access is available as a free download from Promega (**www.promega.com/resources/ software-firmware/portal-access-software/**). To use Portal Access, install Portal Access on a PC or server that has the ability to communicate with Portal software. Portal software is the location at which the Portal database is installed; this can be on a PC or on a server hosting Portal software. By default, Portal software is installed on the PC provided with the Maxprep™ Liquid Handler. Prior to installation of Portal Access, consult with your IT department to evaluate any concerns or limitations with connecting Portal Access to your network. Follow the instructions below for installation of Portal Access.

Note: You need to have administrator rights in the Windows® operating system to install Portal Access. If necessary, contact your IT department for installation of this software.

1. Uninstall any previously installed version of Portal Access using Apps & features in Windows® settings. Import and Export templates will be preserved through this process.

2. Download Portal Access at: (**www.promega.com/ resources/software-firmware/maxwell-maxprep/portal-access-software/**). The software is provided as a zipped folder.

3. Save the Portal Access zipped folder to the desktop of the computer on which it will be installed.

4. Right-click on the zipped folder and choose the **Extract All...** item to open the 'Extract Compressed (Zipped) Folders' screen.

5. Select the **Extract** button to extract the contents of the zipped folder to a new folder at the location specified on the screen. If a different file location for the extracted folder is desired, use the **Browse...** button to open a file browser and select a new location.

6. After the folder is extracted, the new folder location will automatically open. Close any other programs currently open on your PC, and then double-click the Portal Access Installer executable icon to start the installation.

7. When the setup wizard opens, select the **Install** button to start the installation process.

8. When prompted choose either Full Installation or Portal Exporter. Full Installation is the typical selection. Portal Exporter is described in Section 10 and requires an installation of Portal Access on another PC or server.

9. After installation of Portal Access is complete, a final setup screen is displayed. Select the **Finish** button.

10. To connect Portal Access with other computers on the network, open a communication port on the computer or server where Portal Access was installed.

    Note: Changing the behavior of communication ports on a networked computer has potential security implications. We strongly recommend consulting with your IT professional prior to implementing any changes to communication port settings.

11. Contact your IT department to create an inbound rule in Windows Defender Firewall permitting TCP communication via Port 80 on the computer or server where Portal Access is installed.

    Note: Creating firewall rules has security implications and should only be performed in consultation with your IT professional.

2.2   Access Levels for Portal Access

Access to Portal Access requires that users be assigned to either the PromegaUsers or PromegaAdministrators group in the Windows® operating system. The following rights are available based on access levels specified on the PC or Server on which Portal Access is installed. When a user loads Portal Access from another PC, the username is shared with Portal Access. This username needs to be a member of one of the user groups described in the following table. Otherwise, the user will be prompted to enter user credentials for a user on the Portal Access host system.

Access Level Group	Permissions
PromegaUsers	• Generating run full reports and run exports
	• Generating sample searches, defining sample search templates and generating sample exports
	• Generating consumables searches and exports
	• Defining concentration assays, importing and exporting concentration data and moderating active sample concentration data sets
	• Creating manual labware maps and importing labware map files
	• Viewing version information and exporting communication logs

Access Level Group	Permissions
PromegaAdministrators	• All PromegaUser permissions • Specifying connection information to Portal Software • Importing, deleting and exporting templates that define the import of data and generation of export files • Deleting empty concentration data sets

The instructions below detail the steps involved in adding a Windows® user account (whether local or domain) to one of the Promega access-level groups on the Portal Access host. All Windows® user accounts that will have access to Portal Access must be added to either the PromegaUsers or PromegaAdministrators groups.

Note: Only a Windows® user account with administrator-level access in the Windows® operating system can assign accounts to a Promega Access-Level Group.

1. Close Portal Access in the Google Chrome™ browser if it is open.
2. Navigate to the '[Local Users and Groups (Local)]' screen.

    Windows® 7 Instructions

    From the Windows® 'Desktop' screen, select the Windows® Start button on the left bottom corner of the screen. Type lusrmgr.msc into the search text box at the bottom of the Windows® Start menu (Figure 1, Panel A). Select the lusrmgr.msc item that appears at the top of the search results to access the '[Local Users and Groups (Local)]' screen (Figure 2).

    Windows® 10 Users

    From the 'Desktop' screen, select the Search icon on the left side of the Taskbar. Select the Search text box and enter the text lusrmgr.msc (Figure 1, Panel B). Under the Best match header, an item called lusrmgr.msc should appear. Touch this item to open the '[Local Users and Groups (Local)]' screen (Figure 2).
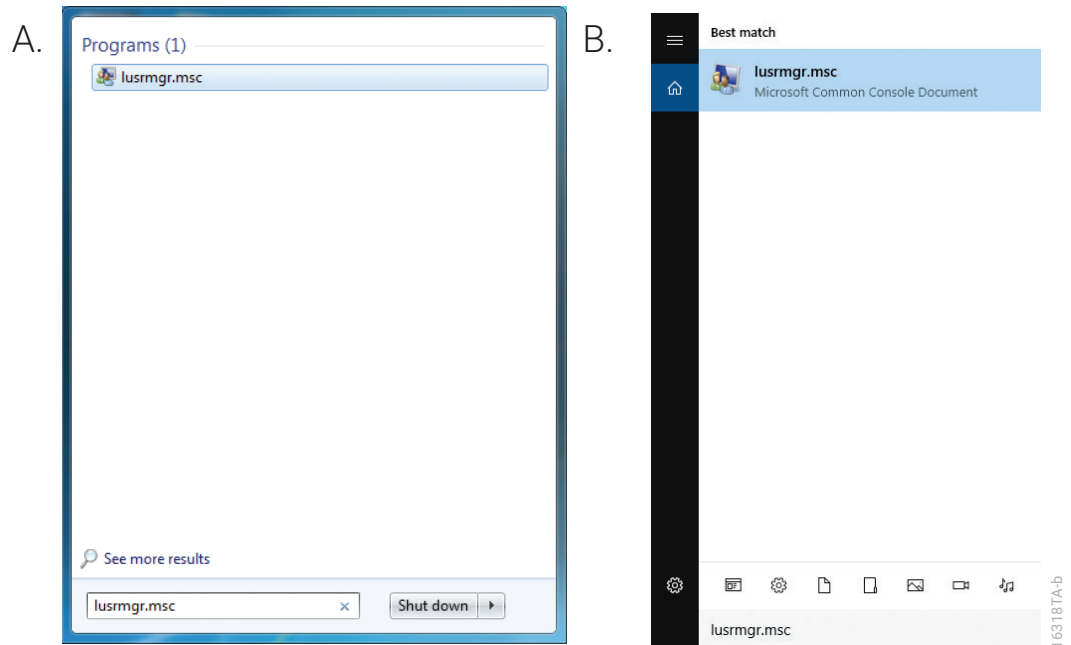
Figure 1. Accessing Groups. Use the search function in the Windows® operating system to find the lusrmgr.msc application. **Panel A.** Windows® 7 search function in the Start menu. **Panel B.** Windows® 10 search function in the taskbar. Select the lusrmgr.msc item to open the 'Local Users and Groups (Local)' screen.
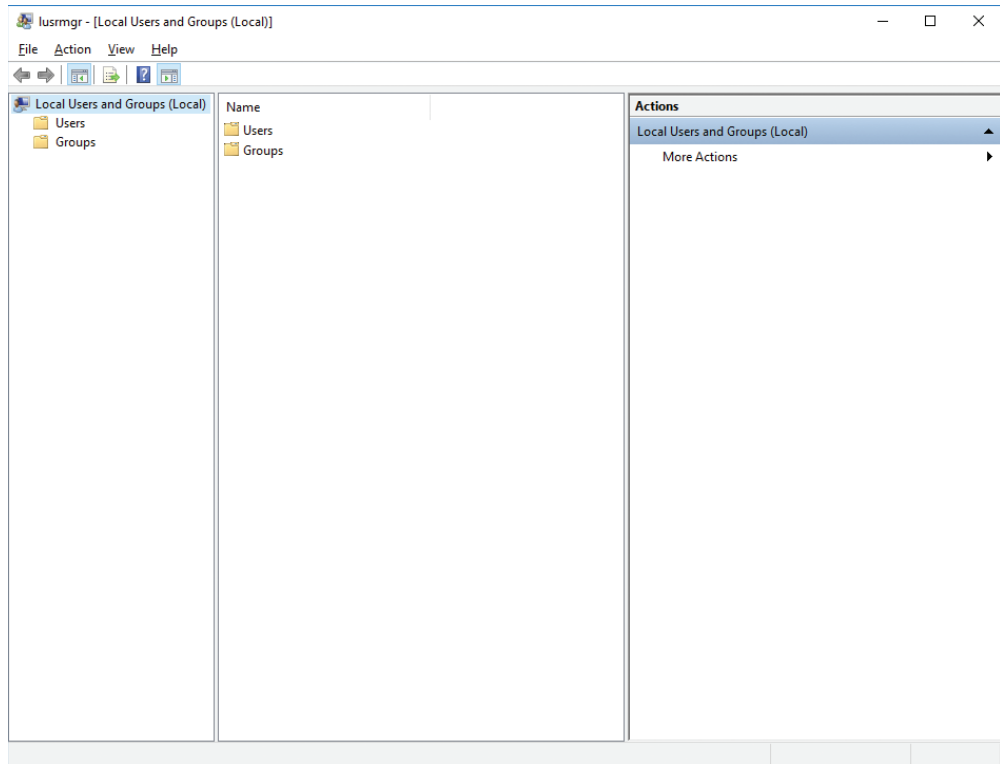

Figure 2. '[Local Users and Groups (Local)]' screen. Settings related to Windows® user accounts can be managed from the '[Local Users and Groups (Local)]' screen.

3. In the left pane of the '[Local Users and Groups (Local)]' screen, select the Groups folder to display the Groups on this PC in the middle pane of the screen (Figure 3). There will be a list of groups shown in the center part of the screen. Near the bottom of this list, you will see two groups (PromegaAdministrators and PromegaUsers) that are used to assign access level rights for Portal Access to Windows® user accounts.
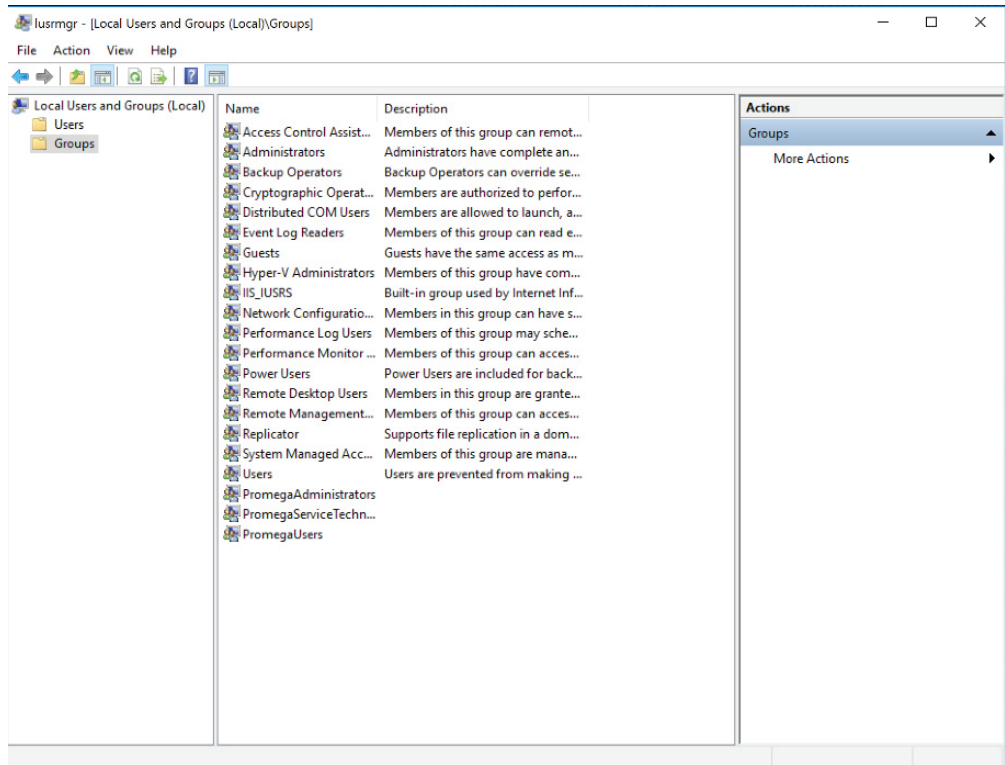

Figure 3. Groups Folder. Access the PromegaAdministrators and PromegaUsers groups from the Groups folder on the '[Local Users and Groups (Local)]' screen.

4. Depending on the access level you wish to enable for a user account, double-click either the **PromegaAdministrators** or the **PromegaUsers** list item.

    Note: The PromegaServiceTechnicians group is only for use by Promega Service Representatives. Do not assign users to the PromegaServiceTechnicians group.

5. Either the 'PromegaAdministrators Properties' or the 'PromegaUsers Properties' screen will open (Figure 4, Panel A). Under the 'Members:' section of the screen press the **Add…** button.

6. You will see the 'Select Users' screen (Figure 4, Panel B). In the section of the screen titled "Enter the object names to select," type the username(s) of the account(s) that you wish to add to the selected group.
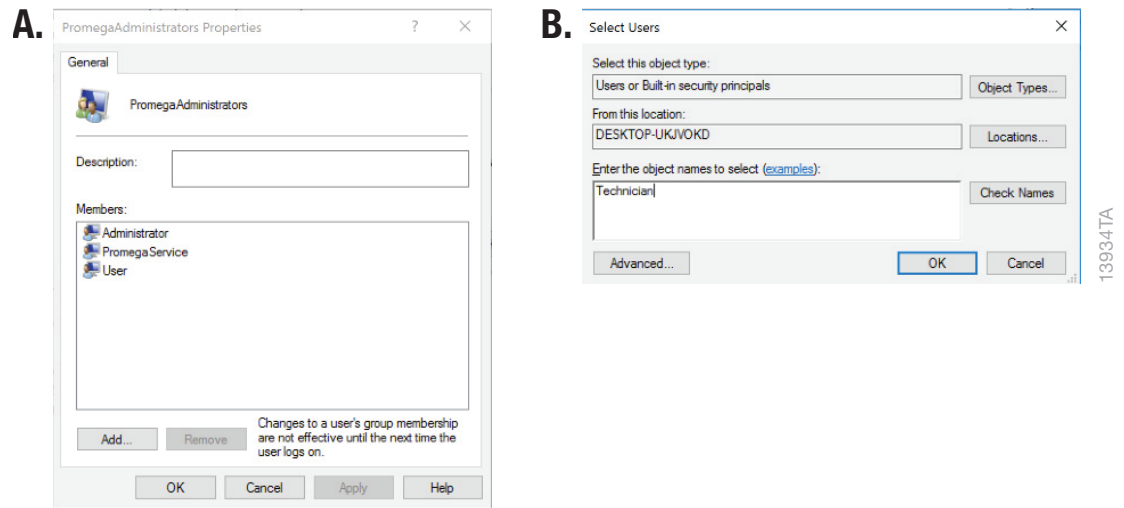
Figure 4. Adding users to a Promega group. Panel A. The 'PromegaAdministrators Properties' or 'PromegaUsers Properties' screen lists the Windows® user accounts currently assigned to the specified group. Select **Add…** to add a new Windows® user account to the group. **Panel B.** On the 'Select Users' screen, enter the Windows® user account(s) names to be added to the selected group in the text box.

7. To check that the username you have entered is recognized by Windows®, press the **Check Names** button. If the username is not recognized, a 'Name Not Found' screen will open. Double-check the spelling of the username and enter it again.

8. Press **OK** to accept the username(s) that you have assigned to this group, and then press **OK** in the 'Properties' screen and close the '[Local Users and Groups (Local)]' screen. The username(s) that you have assigned to the specified group should now be capable of running Portal Access with the specified access level after a system restart.

9. Restart the PC for new account access levels to take effect.

10. To check that the account can successfully run Portal Access, sign in to the PC as that account and open Portal Access in a Google Chrome™ browser (see Section 2.3). If the account has been successfully added to the PromegaUsers or PromegaAdministrators group, a Portal Access window will open in the browser. If not, a Portal Access window will open and an error will display indicating "Access denied, role mismatch". Double-check that the current user account was added to the appropriate group by following these instructions again.

2.3   Connecting Portal Access to Portal Software

Connecting Portal Access to Portal software is necessary to access the data contained in Portal software. Follow the instructions below to start Portal Access and specify the connection strings to Portal Software.

1. Open a Google Chrome™ browser (version 76 or later must be used) on the PC where Portal Access is installed.

2. Enter "localhost/" in the browser address field and then press **Enter** on the keyboard.

   Notes:

   a. Only Windows® profiles that have been assigned to the PromegaUsers or PromegaAdministrators groups are capable of running Portal Access. See Section 2.2 for information on assigning users to Promega access level groups.

   b. If you receive an error indicating that the site is unavailable, confirm that the name of the computer or server is spelled correctly and double-check that a firewall rule to allow communication through Port 80 has been implemented on the computer or server running Portal Access.

3. Upon successful connection to Portal Access you will see the 'Runs' screen (see Figure 5). An error will be displayed at this point as the settings for connection to the Portal software have not yet been entered.
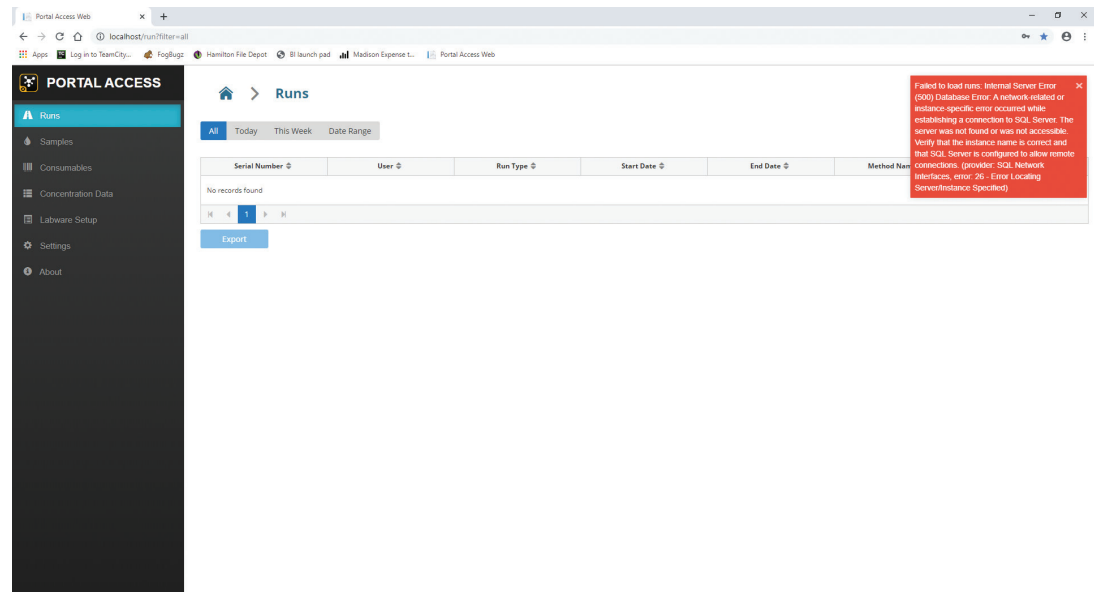

Figure 5. Portal Access 'Runs' screen. This is the screen that will be displayed when first connecting to Portal Access.

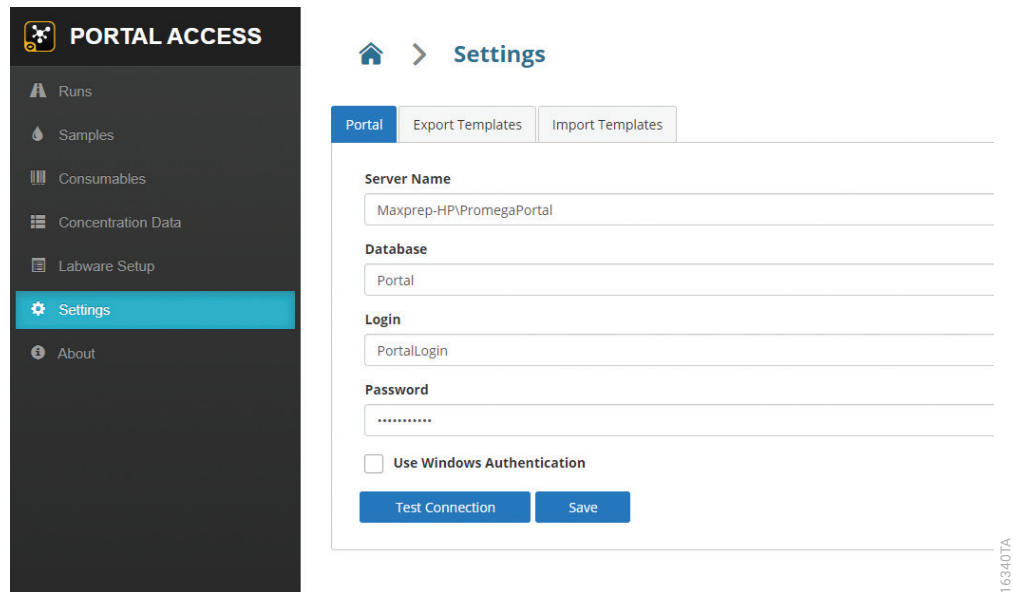4. Select the Settings item on the left side of the screen to display the 'Settings' screen (Figure 6).

Figure 6. The 'Settings' screen. On the 'Settings' screen, enter the connection information to Portal software.

5. Enter the Server Name, Database, Login and Password information necessary to connect to Portal software. Assuming Portal Access is running on the Maxprep™ PC, the default connection information is:

Server Name   localhost\PromegaPortal

Database   Portal

Login   PortalLogin

Password   PortalLogin

Entering localhost\PromegaPortal for the Server Name assumes that you are accessing Portal software from the computer on which the Portal Software is installed. If you are not, enter <computer name or IP address>\PromegaPortal for this field.

6. After entering the connection information, press the **Test Connection** button to confirm that the connection to Portal Software can be established. If there are issues connecting to Portal Software, double-check the connection information. For continued issues connecting to Portal Software, contact Promega Technical Services (**techserv@promega.com**).

2.4   Running Portal Access

Once Portal Access has been installed and configured as previously described, follow the steps below to open Portal Access on any computer which has network access to the computer or server where Portal Access was installed.

1. Open a Google Chrome™ browser (version 76 or later must be used).

2. Enter the name or IP address of the computer that hosts Portal Access followed by "/" in the browser address field.

3. If prompted, enter the username and password information for a user on the computer that hosts Portal Access.

    Notes:

    a. Only Windows® profiles that have been assigned to the PromegaUsers or PromegaAdministrators groups are capable of running Portal Access. See Section 2.2 for information on assigning users to Promega access-level groups.

    b. If you receive an error indicating that the site is unavailable, confirm that the name of the computer or server is spelled correctly or that the IP address has been entered correctly and double-check that a firewall rule to allow communication through Port 80 has been implemented on the computer or server running Portal Access.

4. After pressing **Enter**, the Portal Access 'Runs' screen will be displayed (Figure 7).

3 Portal Access Navigation

Upon starting Portal Access, you will be presented with the 'Runs' screen (Figure 7). The left side of the screen presents a series of buttons to access the functions available in Portal Access.

Button	Function
Runs	View the runs that have been performed on all modules connected to Portal software. Select a run to view the details for that instrument run and export run information.
Samples	View the samples that have been processed on all modules connected to Portal software. Search for specific samples, create sample exports and define custom sample export templates.
Consumables	Create a report of consumables used to process samples on all instruments connected to Portal software over a date range.
Concentration Data	Create new concentration assays to store concentration data. Import, export and moderate concentration data associated with samples.
Labware Setup	Enter or import the sample IDs associated with each well of a 96-well plate or Maxwell® deck tray for use on modules connected to Portal software.
Settings	Specify the information necessary to connect to Portal software. Import, delete and export templates for run exports, sample exports and concentration imports.
About	View software and database version information and generate communication log files.

Figure 7. Portal Access Functions. The left side of the screen presents a series of buttons used to access the functions available in Portal Access.

3.1   Common Controls

Throughout Portal Access, you will see common controls for date ranges, table navigation, screen navigation and file export on multiple screens. These common controls are described in detail below.

3.1.1   Date Filter Buttons

A set of four buttons are used to filter search results by date range. Press the **All, Today** or **This Week** buttons to select the specified date range. It is also possible to select a custom date range using the **Date Range** button. When filtering using the **Date Range** button, two search boxes labeled "From:" and "To:" will appear. Select these search boxes to specify the start and end dates over which to perform the search. Touching or clicking in either search box will open a calendar browser from which to select a date. Alternatively, select the date in the search box and enter a date in MM/DD/YYYY format.
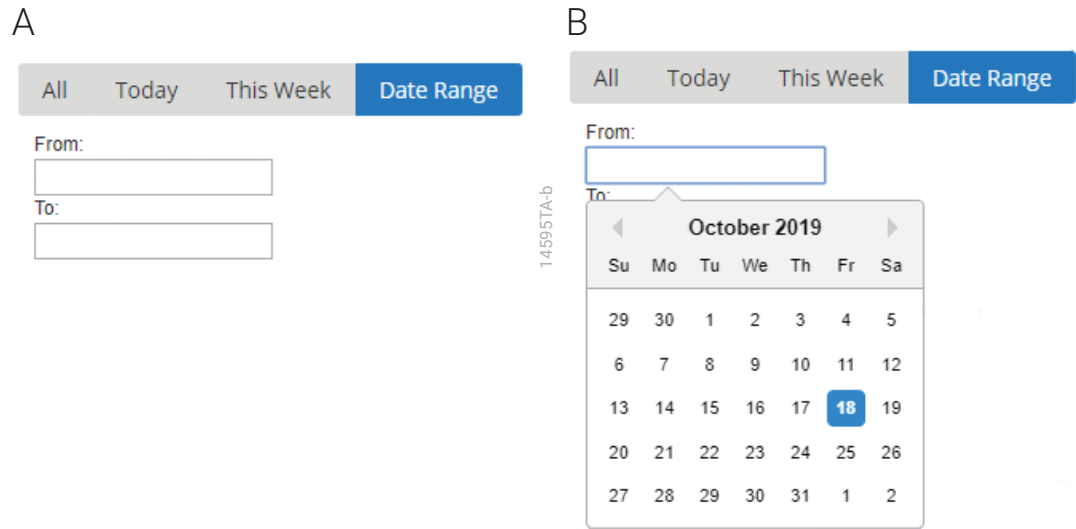
A

B

Figure 8. Date Range Filter Buttons. Panel A. When using the custom **Date Range** button search boxes labeled "From:" and "To:" will appear. **Panel B.** Select a date search box to display a calendar for date selection.

3.1.2 Table Navigation

Tables are used throughout Portal Access to display information. In general, tables are set to display one hundred entries per page of the table. The only exception to this is the display of assays present on the Concentration Data screen, where a drop-down menu specifies the number of items to display per page of the table. Use the vertical scroll bar on the right side of the table to navigate through the list of items. If the table contains more entries than are set to be displayed per page, use the page navigation buttons at the bottom of the table to access additional pages of information. The table below displays the buttons available for table navigation and a description of the function of each button.

Button	Description
◁◁	Return to the first page.
◁	Return to the previous page.
1 2	Select a specific page.
10 ∨	When present, use the drop-down menu to select the number of items to display per page.
▷	Advance to the next page.
▷▷	Advance to the last page.

3.1.3   Screen Navigation

Portal Access provides functions across multiple screens that are accessed with buttons on the left side of the interface. At the top of each screen is a navigation trail that allows the user to easily return to previous screens (Figure 9). Touch or click any individual entry of the navigation trail to return to a previous screen. Selecting the **Home** icon will return to the 'Runs' screen.

Figure 9. Navigation trail. This figure displays an example of the navigation trail that is shown at the top of each screen. In this example the trail through four screens is shown. Click or touch any of the individual entries in the navigation trail to return to that screen. Select the **Home** icon to return to the 'Runs' screen.

3.1.4   File Export Settings

Portal Access enables exporting files in a variety of formats across multiple functions. When files are saved, an icon for the file appears in the lower left corner of the Google Chrome™ browser window. Select the file icon to view the contents of the file. Right-click the file icon to display a menu with options to **Open** the file, **Always open files of this type** and **Show in folder**, which opens a file browser to the location of the saved file.

Saving of files is managed through the native behavior of the Google Chrome™ browser. By default, the Chrome™ browser is set to automatically download files to the Windows® Downloads folder (C:\Users\<username>\Downloads). It is possible to change the default download behavior of the Chrome™ browser to specify a different download folder or to request a file save location every time a file is downloaded. Follow the instructions below to change the default download behavior of the Google Chrome™ browser on a PC.

1. Select the ⋮ icon in the upper right corner of the Chrome™ browser.
2. Select the **Settings** item from the menu to open a 'Settings' tab in Chrome.
3. Select the **Advanced** drop-down menu and choose the **Downloads** item.
4. In the Downloads area on the main portion of the screen, the default location for saving downloads is displayed under the Location header. Select the **Change** button to change the location to which downloads will be saved. This will open a folder browser to select an alternate download location.
5. Below the current location for downloads is a switch titled "Ask where to save each file before downloading." By default, this switch is in the off position. Turn the switch on to have Chrome open a file browser each time a download is performed.
6. Changes to the settings in Chrome are automatically saved. Close the 'Settings' tab. Downloads will now be performed according to the settings that were implemented.

4 Runs

The 'Runs' screen is the first screen presented when you start Portal Access (Figure 10). From this screen you can view all the runs performed on all modules connected to Portal software. For any individual run you can view the details specific to that run and create reports and exports using run templates that have been imported into the software (see Sections 4.4 and 4.5).

4.1 Viewing Runs

From the 'Runs' screen (Figure 10), you can view specific runs performed on any module connected to Portal software. Press the **Runs** button on the left side of the screen to access the 'Runs' screen. Buttons at the top of the screen are used to filter the results by date range. The list of displayed runs is automatically updated as date range filters are selected.

Figure 10. 'Runs' screen. Portal software collects information from method runs on all modules to which it is connected. From the Portal Access 'Runs' screen you can search for specific runs that have been performed on any module.

The table of values on the 'Runs' screen displays the following information for each run:

Column	Description
Serial Number	The serial number of the instrument that performed the run.
User	The user that was logged in when the run was performed.
Run Type	Indication of the type of run that was performed; preprocessing, extraction or post-processing.
Start Date	The date and time the run was started (MM/DD/YYYY h:mm AM/PM).
End Date	The date and time the run was completed (MM/DD/YYYY h:mm AM/PM).
Method Name	The name of the method that was run.
Variant Name	The name of the variant method that was run (Maxprep™-specific).

4.2 Exporting the Runs Table

Use the **Export** button at the bottom of the 'Runs' screen to export a Microsoft® Excel spreadsheet of all runs displayed for the specified date range. The output file is created with the name Runs_YYYY-MM-DDTh-mm-ss.xlsx. The exported runs list contains all of the columns of information displayed on the 'Runs' screen.

4.3 Displaying an Individual Run

Selecting any of the individual items in the table on the 'Runs' screen will open the report for the specified run (Figure 11). The individual run details are displayed in four areas of the screen.

Region	Description
General Parameters	Information regarding the method name, user, variant name, instrument serial number, run type, start time and end time for the run.
Variant Variables	Table listing the variant variables and their values for this run. Variant variables are only populated for Maxprep™ methods. For Maxwell® Extraction Runs, the Variant Variables table will indicate No Records Found.
Sample Information	Table of sample tracking and processing information for all the samples processed in the run. The columns of information that are reported include: SampleID, KitCatalogNumber, KitLotNumber, KitExpirationDate, InputLabwareBarcode, InputSampleBarcode, InputSampleIndex, InputSampleType, InputConcentration, InputNotes, OutputLabwareBarcode, OutputSampleBarcode, OutputSampleIndex, OutputSampleType, OutputConcentration, and OutputNotes. Information populating these columns is method-specific and not all columns may contain information for all runs.
Consumables Usage	Table displaying the consumable tip usage for a run. Tip usage is only displayed for Maxprep™ method runs; the table will display No Records Found for Maxwell Extraction runs.

Figure 11. Example run details. Run-specific details are displayed by selecting any individual item on the 'Runs' screen. From this screen, you can create exports and reports for the displayed run.

Each of the samples displayed in the SampleID column are hyperlinks. Select any individual sample ID to generate a Samples query. Portal Access will automatically open the 'Samples' screen and query the selected Sample ID across all records in Portal software. Section 5 discusses use of the 'Samples' screen.

4.4   Creating a Run Full Report

The details for a run can be exported using the **Full Report** button. To access the details for a run (Section 4.3), scroll to the bottom of the screen and press the **Full Report** button. The details displayed on the screen for the run will be exported to an Excel (.xlsx) file with the file name Run_<Instrument Serial Number>_YYYY-MM-DDTh-mm-ss.xlsx.

4.5   Creating a Run Export

Export templates define the format and content of the information to be exported. You can have as many templates as needed for your laboratory. Export templates can be used to create files to transfer sample information to another software package. For example, after performing a quantitative PCR setup you can export the amplification plate map for import into the thermal cycler software. A template specifically designed for this purpose would export the well locations and Sample IDs associated with the run, but it can also specify wells as unknowns, standards or NTCs. The export file that will be used for import into the thermal cycler software can be created directly on the PC attached to the thermal cycler, eliminating the need for USB or shared network drives to transfer files.

New templates can be managed by administrators (see Section 9.2). Templates can be defined during installation of the system or after installation by contacting Technical Services (**techserv@promega.com**). Follow the instructions below to create run export files.

1.   Display an individual run as described in Section 4.3.

2.   Scroll to the bottom of the run details.

3.   Use the Export Template drop-down menu to select the template for export.

4.   Select the **Export** button to create and download the export file.

5 Samples

The 'Samples' screen in Portal Access enables the user to query Portal software for sample-specific information. Search for specific samples to view the activities performed on those samples across all instrument modules connected to Portal software. Results can be narrowed by date range and a filter can be applied to display only results that contain specific information. Customizable templates can be created to narrow down the displayed information from sample searches. Exports of all returned results can be created in Excel® (.xlsx) format.

5.1   Searching Samples

From the 'Samples' screen (Figure 12), you can search for information in Portal software across a defined date range and sample set. Select the **Samples** button on the left side of the screen to access the 'Samples' screen.
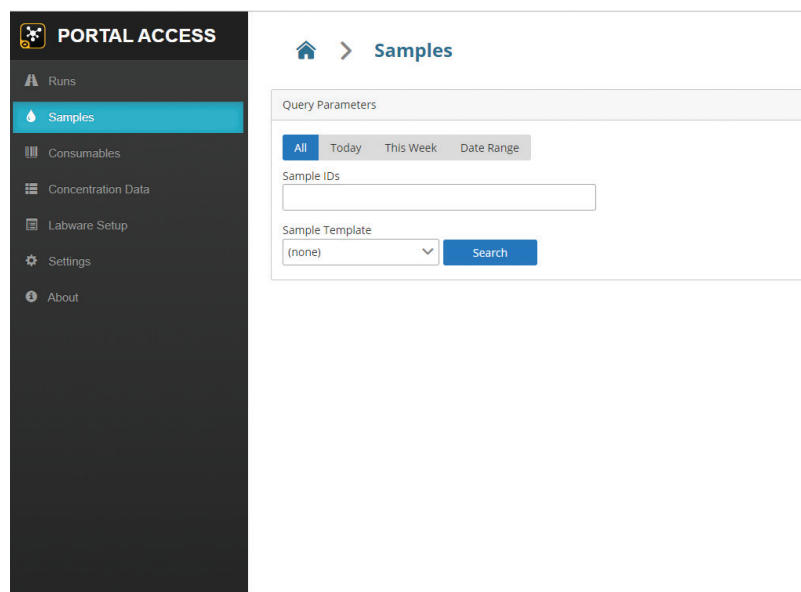

Figure 12. Initial appearance of the 'Samples' screen. Select the **Samples** button on the left side of the screen to access the 'Samples' screen. Specify the parameters for a search of Portal software and select the **Search** button to display results.

Upon first accessing the 'Samples' screen, you will be presented with a Query Parameters region where you can specify search parameters. Follow the steps below to search Portal software for sample information.

1. Specify a date range over which to search by pressing one of the date range buttons at the top of the Query Parameters region (see Section 3.3).

2. If you wish to limit the search to specific sample IDs, type the sample IDs into the Sample IDs text box.

   Notes:

   a. Press enter after entering each sample ID. The Sample ID will change from text to a blue button (Figure 13).

   b. Sample IDs entered in the Sample ID text box will be used to search within the SampleID, InputLabwareBarcode and OutputLabwareBarcode fields.

   c. Only items which contain an exact match to the search term will be returned.

   d. To remove a sample ID search term, select the white **x** at the right side of the blue search term button.
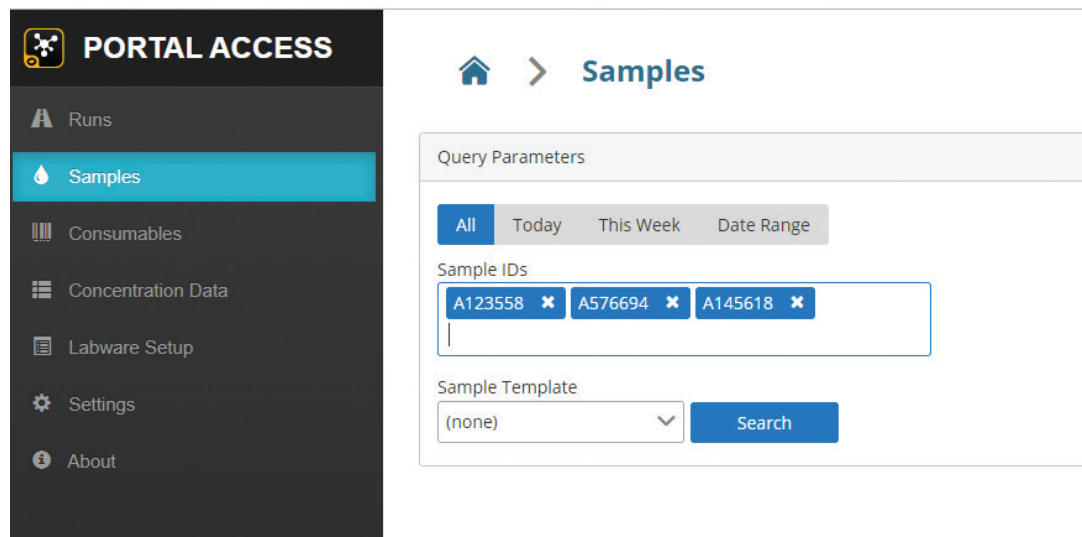

Figure 13. Entering sample IDs. Use the Sample IDs text box to enter sample IDs to search in Portal software. Press enter after typing each sample ID. The text will change to a blue button to indicate the search term has been accepted. To remove a search term from the Sample ID text box, press the white **x** on the right side of the blue button.

3. If desired, choose a sample template using the Sample Template drop-down box to specify the types of information that will be returned from the search. Creating Sample Templates is discussed in Section 5.3. If the (none) sample template is selected, the table will contain all possible columns of information for all possible run types (preprocessing, extraction and post-processing).

4. After all of query parameters have been entered, press the **Search** button to search Portal software for all matching records.

Notes:

a. If no records match the query parameters that were specified, no results table will appear.

b. If there are records that match the specified query parameters, a table of matching records is displayed (Figure 14).

c. A maximum of 1,000 results can be displayed for any query; a warning message will be displayed if more than 1,000 results are returned from the search and only the first 1,000 returned results will be displayed. Narrow the query parameters to limit the number of results returned.

d. To update the results table after changes are made to the query parameters, date range or sample template, press the **Search** button.

5. The results table can be filtered for an additional text string in all displayed columns using the Filter text box. One example of the use of a filter would be to enter a kit lot and filter the table to show only sample results that used that kit lot.

Notes:

a. Enter a full or partial string into the Filter text box and press **Enter** to filter results.

b. Only those results which contain the string in the Filter text box within any column of information will be displayed.

c. To remove a filter, delete the string from the Filter text box and press **Enter**.

Figure 14. Sample search results. After performing a search, a table of records matching the query parameters is displayed. Use the Filter text box to filter the results to only those containing an additional text string.

5.2   Creating a Sample Export

Use the instructions in Section 5.1 to perform a query of Portal software, specifying a date range, sample ID list, sample template and optional filter text. Press the **Export** button at the bottom of the screen (Figure 14) to export all results displayed in the table. The results will be exported as an Excel® file (.xlsx) and will have the file name "samples.xlsx."

5.3   Creating a Sample Template

Sample templates allow you to customize the information displayed in the results table when performing a sample search. They also define the information that is exported to a sample export file (Section 5.2). When creating a sample template, you can specify the name of the template, run types which should be searched (Pre-processing, Extraction and/or Post-processing) and the columns of information to display. Follow the instructions below to create a sample template.

1. On the 'Samples' screen, perform a search as described in Section 5.1. The search must return results for the **Create Template…** button to appear.

2. Press the **Create Template…** button at the bottom of the screen (Figure 14) to open the 'Create Sample Template' screen (Figure 15).

Figure 15. 'Create Sample Template' screen. Use the 'Create Sample Template' screen to create a custom template that will define the run types and columns that will be displayed during a sample search.

3. Specify a name for the template using the Name: text box. This will be the name displayed in the Sample Template drop-down list on the 'Samples' screen.

4. Use the Run Types: drop-down menu to select what types of runs to display (Figure 16).

   Notes:

   a. Searches can be limited to Extraction, Pre-Processing and/or Post-Processing run types by checking the boxes next to each desired run type.

   b. Use the check box at the top of the drop-down menu to select or deselect all options.
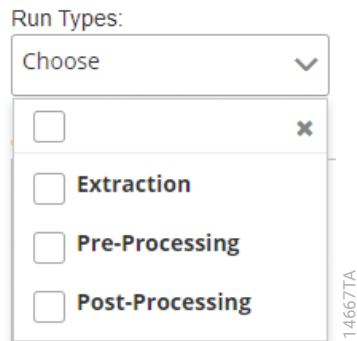

Figure 16. Run Types drop-down menu. Choose the types of runs that will be returned from a sample search. Select the check boxes next to Extraction, Pre-Processing and/or Post-Processing to specify which run types to search. The check box at the top of the drop-down menu will select/deselect all options. All run types will be searched if all options are selected or not selected.

5. Specify which columns of information to display using the Columns: selection box. The currently displayed columns are shown on the left pane. Move column names to the right pane to indicate which columns of information should be displayed for this template.

    Notes:

    a. The template used for the initial search determines which columns of information are shown in the left pane of the Columns: selection box. To display all possible columns of information, perform a search using the (none) sample template.

    b. Use the double arrows facing right or left to add all column names to the right pane or remove all column names from the right pane, respectively.

    c. Use the single arrows facing right or left to add or remove selected column names to or from the right pane. Click a column name to select it (the background of the column name will turn blue) or select multiple column names using Ctrl-Click. One or more column names must be selected when using the single arrows.

    d. Select the display order for column names in the right pane using the vertical arrow buttons on the right side of the screen. Column names at the top of the list will be displayed on the left side of the results table and column names at the bottom of the list will be displayed on the right side of the results table.

    e. Click a single or Ctrl-Click multiple column names in the right pane. Use the double arrows facing up or down to move the selected items to the top or the bottom of the list, respectively.

    f. Click a single or Ctrl-Click multiple column names in the right pane. Use the single arrows facing up or down to move the selected items up or down a single position in the list, respectively.

    g. After the name, run types and columns for the template have been configured, press the **Save** button to save the template. The **Save** button will only be enabled when all options have been configured. To discard all changes to the sample template, press the **Close** button.

6 Consumables

The 'Consumables' screen in the Portal Access enables the user to query Portal software for consumable usage information. Consumable usage searches consolidate the consumables used across all instrument modules connected to Portal software. Results can be searched by date range to evaluate consumable usage over a user-defined time period. Exports of all returned results can be created in Excel® (.xlsx) or tab-delimited text (.txt) formats.

6.1 Searching on the 'Consumables' Screen

From the 'Consumables' screen (Figure 17), you can search for information in Portal software across a defined date range and sample set. Press the **Consumables** button on the left side of the screen to access the 'Consumables' screen. Specify a date range over which to search by pressing one of the date range buttons at the top of the screen (see Section 3.3). The tables of consumable usage will be automatically updated when a date range is selected. If no data are available for a given time period, the affected table will indicate "No records found".

Figure 17. 'Consumables' screen. The 'Consumables' screen displays the consumable usage on all modules connected to Portal software for a user-specified time period. Tables are presented for Maxwell® kit usage, pipette tip usage and other Promega product usage.

The 'Consumables' screen is separated into three tables. The Maxwell® table displays the cartridge usage over a specified time period separated by kit type.

Column Name	Description
Catalog	Catalog number of each kit used over the specified time period.
Cartridges	Number of cartridges of each type used over the specified time period.
Kits	The number of kits corresponding to the number of cartridges used.

The Tips table displays the tip usage over a specified time period separated by tip type.

Column Name	Description
Type	Tip types used over the specified time period.
Tips	Number of tips of each type used over the specified time period.
Tip Racks	The number of tip racks corresponding to the number of tips used.

The Other Promega Products table displays usage of non-Maxwell Promega products over a specified time period separated by catalog number.

Column Name	Description
Catalog	Catalog number of each type used over the specified time period.
Samples	Number of samples processed for each catalog number over the specified time period.

6.2   Creating a Consumables Export

Consumable usage information can be exported in either Excel® (.xlsx) or tab-delimited text (.txt) formats. Use the instructions in Section 6.1 to perform a consumables query of Portal software. Press the **Export to Excel** button at the bottom of the screen (Figure 17) to export all results displayed in the table to Excel® (.xlsx) format; the resulting file will have the file name "Consumables.xlsx". Press the **Export to Text** button at the bottom of the screen to export all results displayed in the table to tab-delimited text (.txt) format; the resulting file will have the file name "Consumables.txt".

7 Concentration Data

Concentration data can be stored in Portal software for use with certain Maxprep™ methods. The 'Concentration Data' screen in Portal Access enables you to define assays to store concentration data, import concentration data into Portal software and moderate the concentration data that exists within Portal software.

7.1 Creating an Assay

Assays are a way of organizing sample concentration data for a type of sample analysis. An assay can contain multiple concentration targets, and you can create as many different assay definitions as desired. For example, a multiplex qPCR reaction could report concentrations from several different amplification products.

Press the **Concentration Data** button on the left side of the screen to access the 'Assays' screen (Figure 18). This screen displays a table of existing assays that have been defined for concentration data storage. Use the following instructions to create a new assay for storage of concentration data.
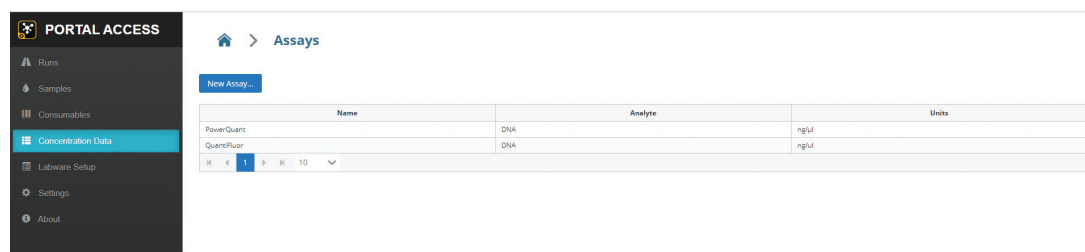

Figure 18. 'Assays' screen. The 'Assays' screen is accessed using the **Concentration Data** button on the left side of the screen. Displayed on this screen are assays that have been defined in Portal software for the storage of concentration data. Press the **New Assay…** button to define a new assay or select any of the existing assays to moderate concentration data.

1. Press the **New Assay…** button at the top of the screen to open the 'New Assay' screen (Figure 19).

2. Enter a name for the new assay in the Name text box. This is the name that will be used to identify this assay on the 'Assays' screen and when using concentration data in Maxprep™ methods.

3. Enter one or more targets for which concentration data will be stored in this assay in the Targets text box. Targets specify the names by which you refer to individual assay targets that are measured by your analysis. Press **Enter** after each target. The target name will become a blue button with a white x on the right side. To remove a target name, press the white **x** on the right side of the blue button.

   Note: You cannot name a target "Concentration" or "Sample".

   Example 1: A multiplex qPCR assay may have targets for three genes and an internal positive control. Figure 19 shows targets of Auto, Y, Deg and IPC entered in the Targets text box.

   Example 2: Spectrophotometry analysis for RNA concentration may have only a single target that you wish to store. You could enter a target of "RNA Conc" in the Targets text box for such an assay.

4. Enter the analyte that the assay measures in the Analyte text box. Common analytes are DNA or RNA, but the analyte refers to anything that you are measuring. The analyte is informational for the user, providing a mechanism to recognize the concentration type associated with this assay. It may also be used to filter the list of possible assays to choose from in Maxprep™ methods.

5. Enter the units of concentration that are used for this assay in the Units text box. The units are informational and help to remind the user of the units associated with the assay. There is no limitation to the types of units that could be specified. Example units are ng/µl, µg/ml, copies/µl, etc.

6. Once all values defining the assay have been entered, press the **Save** button to save the assay. To discard the assay definition without saving, press the **Close** button.

Figure 19. 'New Assay' screen. Define the parameters associated with a new assay to store concentration data in Portal software on the 'New Assay' screen.

7.2 Editing an Existing Assay

Each assay defined in Portal software can be viewed and several of its values can be edited. Select the **Concentration Data** button on the left side of the screen to access the 'Assays' screen (Figure 18). This screen displays a table of existing assays that have been defined for concentration data storage. Follow the instructions below to edit an existing assay.

1. Select an assay from the table of existing assays on the 'Assay' screen. This will open a screen specific to the selected assay (Figure 20).

    Notes:
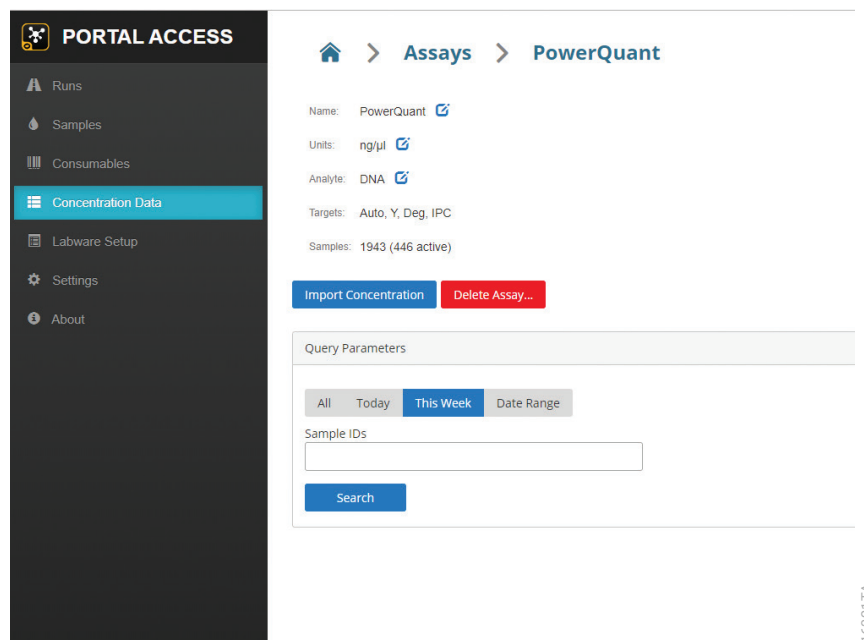
    a. At the top of the screen are listed the assay name, units, analyte, targets, and number of samples that have been imported for this assay.

    b. The number of samples is displayed as the total number of Samples that have been imported, and the number of unique samples is shown in parentheses.

    c. A difference between the numbers indicates that a number of samples have been imported multiple times, potentially from several unique analyses.

2. The name, units, and analyte associated with an existing assay can be edited from the assay-specific screen that is opened. Press the ✏ icon next to any of these fields to edit the current value.

    Notes:

    a. A text box is opened in which the new value can be entered. Press the green button with a white checkmark to accept the new value. To discard the new value and close the text box, press the red button with a white x.

    b. Changing the number of targets or target names is not possible.

3. Assays for which no samples have been imported can be deleted. Select the red **Delete Assay…** button to delete an empty assay.

    Note: Only users that have PromegaAdminstrator privileges can delete an empty assay.

Figure 20. Assay specific information. Information associated with an existing assay can be edited from the assay specific screen.

7.3   Importing Concentration Values

Concentration data associated with specific sample identifiers can be imported into an existing assay from the 'Assays' screen (Figure 21). Press the **Concentration Data** button on the left side of the screen to access the 'Assays' screen. Use the following instructions to import concentration values into an existing assay.
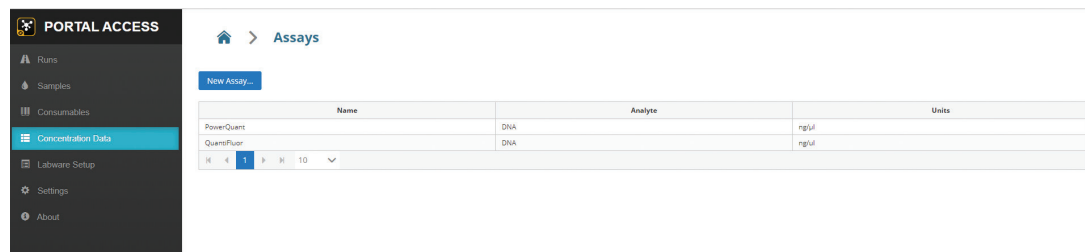
Figure 21. 'Assays' screen. The 'Assays' screen is accessed using the Concentration Data button on the left side of the screen. Displayed on this screen are assays that have been defined in Portal software for the storage of concentration data.

1. Select an assay from the table on the 'Assays' screen to open an assay specific screen (Figure 22).

2. Press the **Import Concentration** button to open the 'Import Concentration Data' screen (Figure 23).

3. Select an Import Template from the drop-down menu that should be used to read the import file and identify which concentration value is associated with which assay target.

    Notes:

    a. Import templates define the mechanism to identify Sample IDs and concentration values in the data table of the import file.

    b. Concentration data files must be Excel®, comma-delimited text or tab-delimited text files.

    c. If you do not have an appropriate import template for the concentration data file you are trying to use, contact Promega Technical Services (**techserv@promega.com**).

4. Press the **+ Select File to Import...** button to open a file browser. Navigate to the location of the desired concentration data file and then press the **Open** button. To leave the file browser without selecting a concentration data file, press the **Cancel** button.

    Note: After pressing **Open**, the software will attempt to identify the sample identifiers and concentration data present in the concentration data file. Samples identified in the file are listed in the table titled Samples found in import file. If no samples are identified in the file, a message indicating "No samples found in file" will be displayed. Double-check that the appropriate import template and import file have been chosen.
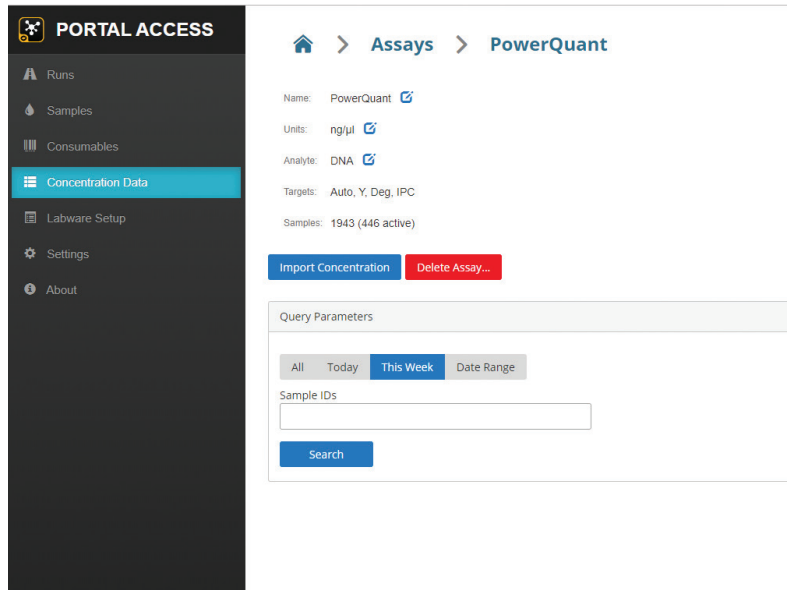
Figure 22. Concentration import. Sample concentrations can be imported into an assay from the assay specific screen. Press the **Import Concentration** button to start the concentration import process.
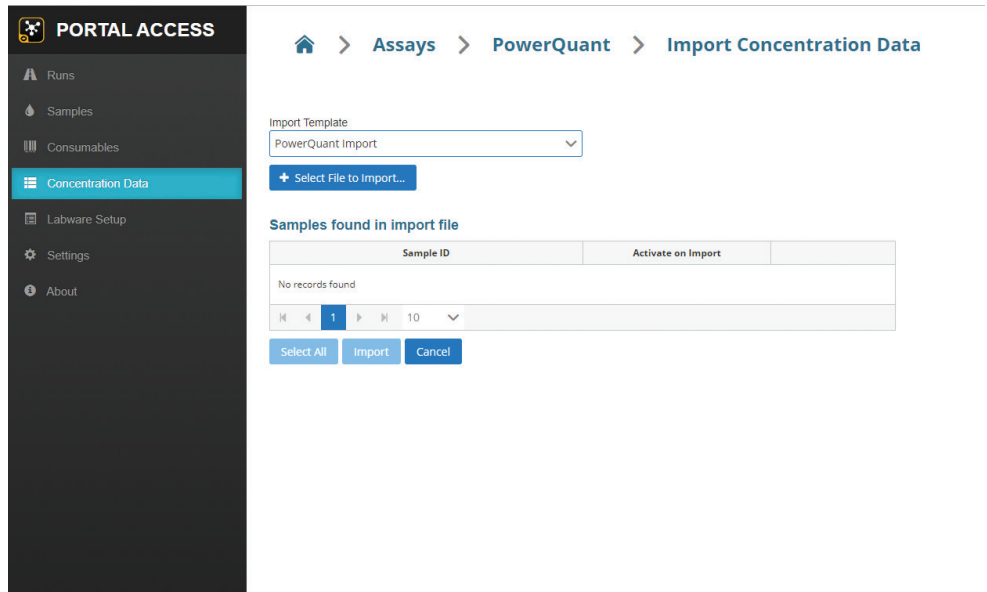
Figure 23. 'Import Concentration Data' screen. Select an import template and a concentration data file to import concentration data for a set of samples.

5. After import of data from the concentration file, the samples found in the file are displayed in a table (Figure 24). The table shows the Sample ID, an Activate on Import column indicating whether the concentration data found in the import file should be made the active concentration for this sample, and a **...** button that can be used to view concentration data associated with each sample. Within Portal software, each sample can only have one active concentration entry per assay. When replicate concentrations exist in Portal software for a given sample, it is up to the user to determine whether the current data being imported or a previous concentration entry should be marked as active in Portal software for that sample.

   Notes:

   a. Samples that do not yet have concentration data in Portal software will automatically have a checkmark in the Activate on Import column. Samples which already contain concentration data in Portal software will not contain a checkmark in the Activate on Import column.

   b. Select the **...** button in any sample row to view the concentration data existing in Portal software for a given sample (Figure 25) on an 'Edit Sample' screen.

   c. Changes to the current active concentration for a sample in Portal software can be made on the 'Edit Sample' screen.

   d. If a checkmark is present in the Activate on Import column of the table of samples identified in the import file, the new concentration will be made the active one upon import.

   e. To mark all samples in the import file as the active concentration in Portal software, choose the **Select All** button below the table.

Figure 24. Successful import of concentration data. A table displays the samples identified in the concentration import file. Samples which do not already have concentration data associated with them in Portal software will automatically contain a checkmark in the Activate on Import column. Select the **...** button on the right side of the table to view any replicate concentration data that exists in Portal software for a sample.

Sample Concentrations

1111

Current Import

Auto	Y	Deg	IPC
22.28	21.88	6.00	27.90

Prevous Imports

Imported Date ⬍	Active	Auto	Y	Deg	IPC
08/22/2019		22.28	21.88	6.00	27.90
05/06/2019	✓	22.28	21.88	6.00	27.90

Close

16324TA

Figure 25. Sample concentration details. Details of all concentration values existing in Portal software for a given sample (e.g., "1111") can be viewed by selecting the **…** button. All replicate concentration entries are shown for the selected sample, and the current active concentration entry has a checkmark in the Active column. Select the **Save** button to accept any changes to the current active concentration entry or select the **Close** button to close the 'Edit Sample' and discard any changes that were made.

6. Once all samples found in the import file have been evaluated for activation on import, select the **Import** button to accept the current concentration import file information and save the new values to Portal software. To discard the current concentration import file information, select the **Cancel** button.

7.4   Viewing and Moderating Concentration Data

Multiple concentration entries can be imported for any sample across multiple assays, however only one concentration entry per assay can be active at any time. For any sample or set of samples, you can view the existing concentration entries within Portal software and change the entry that is marked as the active one. Follow the instructions below to view and moderate concentration information, starting at the 'Assays' screen (Figure 26).
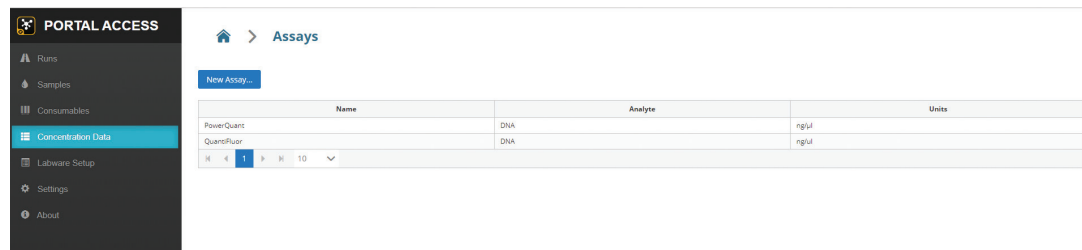
Figure 26. 'Assays' screen. The 'Assays' screen is accessed using the **Concentration Data** button on the left side of the screen. Displayed on this screen are assays that have been defined in Portal software for the storage of concentration data.

1. Select an assay from the table on the 'Assays' screen to open an assay specific screen (Figure 26).

2. Specify search parameters on the assay specific screen to view samples with concentration data sets (Figure 27).

3. Choose a date range over which to search Portal software.

4. Enter any sample IDs to search for specific sample information within Portal software. It is necessary to press enter after entering each sample ID. The Sample ID will change from text to a blue button.

5. After all query parameters have been entered, select the **Search** button to search Portal software for all matching records.

    Notes:

    a. If no records match the query parameters that were specified, no results table will appear.

    b. If there are records that match the specified query parameters, a table of matching records is displayed (Figure 28).

    c. To update the results table after changes are made to the query parameters, date range or sample template, select the **Search** button.
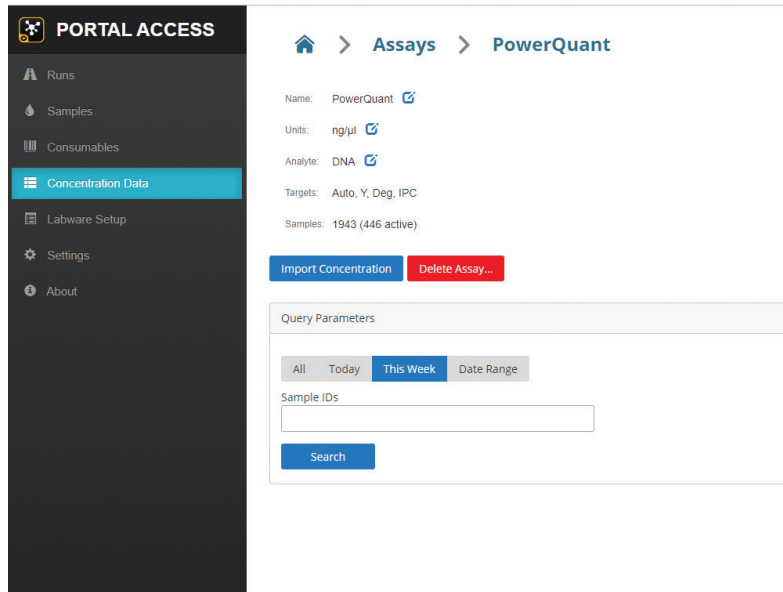
Figure 27. Assay specific information. Search for existing samples with concentration entries from the assay specific screen.
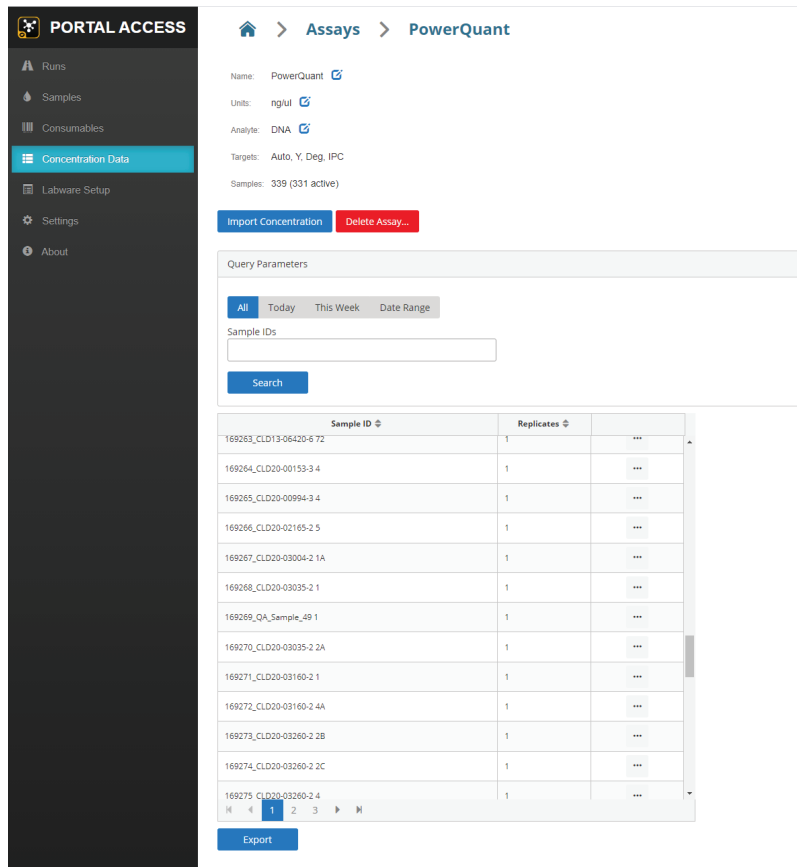
Figure 28. Concentration data search results. After performing a search for concentration data, a table of results will be returned for any data matching the query parameters.

3. The table of search results displays the samples that match the query parameters. Shown in the table are the Sample IDs for each sample and the number of replicate concentration data entries present in Portal software for each sample.

   Notes:

   a. Select any of the column headers to sort the data in increasing/decreasing order.

   b. Samples with only a single concentration entry are already marked as the active data set.

   c. Samples with multiple replicates will have a single concentration entry marked as the active one. Press the **...** button to display all replicates concentration entries for that sample on an 'Edit Sample' screen (Figure 29).

   d. To change the active concentration entry for a sample, select a new active concentration entry on the 'Edit Sample' screen. Select the **Save** button to save the current selection or select the **Close** button to close the 'Edit Sample' screen without saving changes.

Edit Sample

A123554

Imported Date	Active	Auto	Y	Deg	IPC
10/19/2019	☐	0.15	0.75	0.13	28.00
10/19/2019	☑	1.28e-2	6.25e-3	1.29e-2	28.00

Save   Close

16324TB
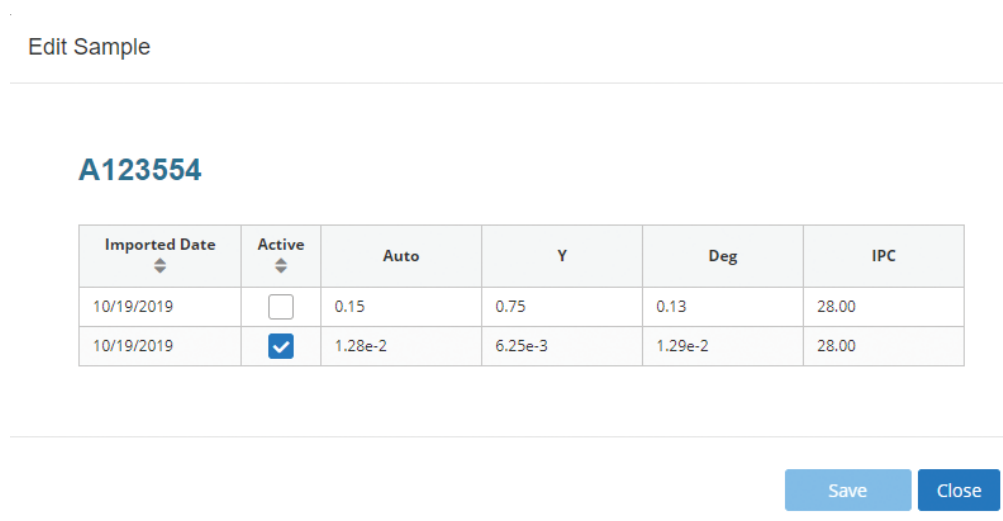
Figure 29. Sample concentration details. Details of all concentration values existing in Portal software for a given sample can be viewed by selecting the **...** button. All replicate concentration entries are shown for the selected sample, and the current active concentration entry has a checkmark in the Active column. Select the **Save** button to accept any changes to the current active concentration entry or select the **Close** button to close the 'Edit Sample' and discard any changes that were made.

7.5   Creating a Concentration Export

Concentration information can be exported in Excel® (.xlsx) format. Use the instructions in Section 7.4 to perform a concentration query of Portal software. Press the **Export** button at the bottom of the screen (Figure 28) to export concentration data for the samples displayed in the table to Excel® (.xlsx) format. The resulting file will have the file name Assay_<Assay Name>.xlsx.

8   Labware Setup

The 'Labware Setup' screen allows you to create sample maps in Portal software for sample labware to be used with Maxprep™ liquid handler methods. Labware maps can either be entered directly into Portal Access or imported from a file for 96-well plates, Maxwell® RSC and Maxwell® RSC 48 deck trays.

Labware maps are used to map the sample identifiers associated with specific wells on a plate and the labware bar code for the labware itself. Press the **Labware Setup** button on the left side of the screen to access the 'Labware' screen (Figure 30). This screen displays two tabs for labware map creation.

8.1   Manual Plate Map Creation

Follow the instructions below to manually enter a new plate map.

Figure 30. 'Labware' screen. Use the functions on the 'Labware' screen to define the samples present in a plate and the labware bar code for that plate.

1. Select the 'New' tab on the 'Labware' screen.

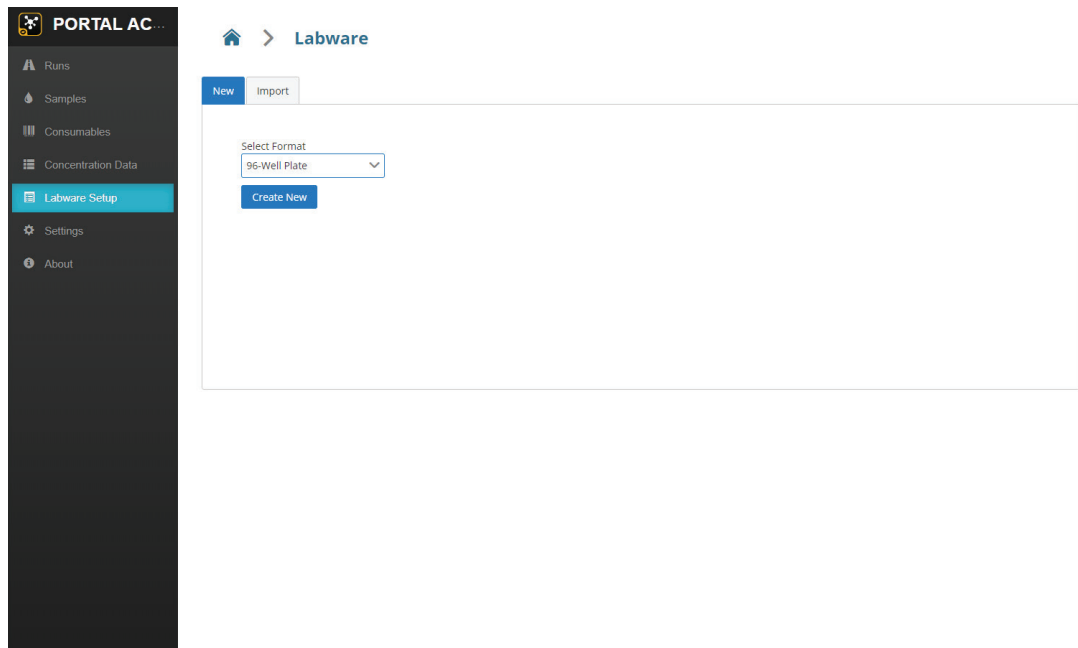2. Use the Select Format drop-down menu to select the type of labware to create. Press the **Create New** button to open the 'Create Plate Map' screen and display a 96-well plate map grid for manual entry of sample identifiers (Figure 31).

Figure 31. Manual plate map entry. Specify a Labware Barcode using the text box above the 96-well plate grid. Enter individual sample identifiers into the well positions of the grid. Select **Save** to create the plate map in Portal software or press **Cancel** to discard changes.

3. Scan or enter the labware bar code into the text box beneath the Labware Barcode: title.

4. On the plate map grid, select a cell and scan or enter individual sample identifiers to match the location of wells within the plate. Pressing the enter key after sample identifier entry will move the cursor to the next well vertically (A1→B1; H1→A2). Pressing the tab key after sample identifier entry will move the cursor to the next well horizontally (A1→A2; H1→H2).

5. Once all sample identifiers and the labware barcode are entered, select **Save** to create the plate map in Portal software or select **Cancel** to discard changes to the plate map and return to the 'Labware' screen.

   Note: Only after a labware bar code and at least one sample identifier has been entered will the **Save** button become active. Empty plate maps cannot be saved.

8.2　Importing a Labware Map

Labware maps are used to map the sample identifiers associated with specific wells on labware and the labware bar code for the plate itself. Select the **Labware Setup** button on the left side of the screen to access the 'Labware' screen (Figure 32). This screen displays two tabs for labware map creation. Use the following instructions to import a labware map from a file. The procedure for importing a Maxwell® RSC or RSC 48 deck tray and a plate map are similar. Differences are noted in the instructions.
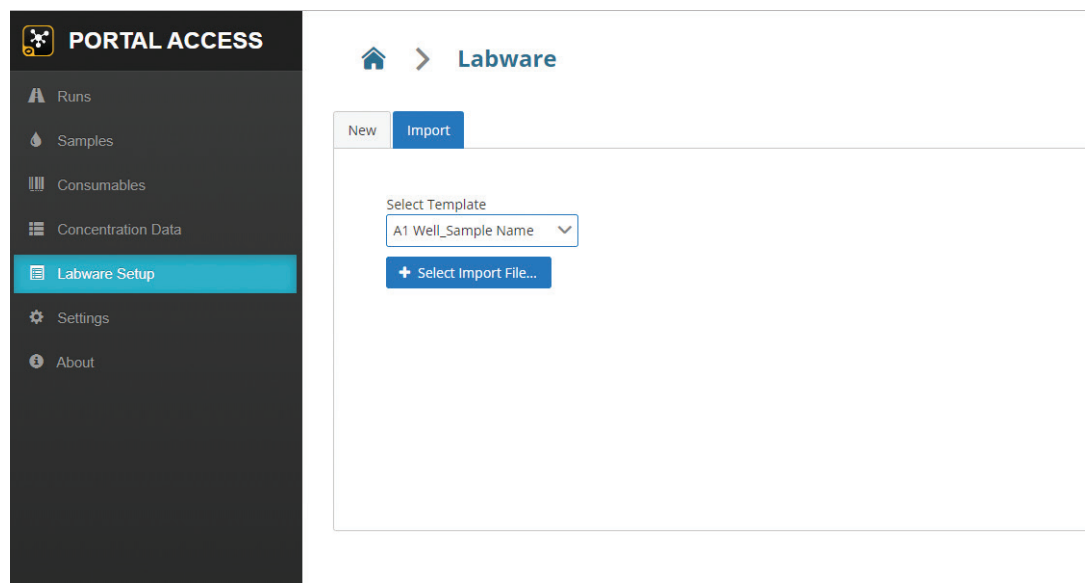
Figure 32. 'Labware' screen. Use the functions on the 'Labware' screen to import a file that will define the samples present in a plate.

1. Select the Import tab on the 'Labware' screen (Figure 32).

2. The Select Format drop-down menu specifies the labware type that is being imported. Select the format appropriate to your labware map.

3. The Select Template drop-down menu specifies the template used to identify the well locations and sample identifiers present in an import file. Select a template appropriate to the file you wish to import and select the **+ Select Import File…** button to open a file browser

4. Select the import file that contains the locations and sample identifiers for the labware map you wish to create. Import files can be single worksheet Excel, comma-delimited text or tab-delimited text files. After selecting a file for import, select the **Open** button in the file browser, or select **Cancel** to close the file browser without opening a file. Maxwell® deck tray import files may optionally include information for catalog number, lot number and expiration date.

5. The software will attempt to locate the information from the import file based on the settings in the import template.

    Notes:

    a. After successful import of a plate map file, the sample identifiers will be shown on the plate map grid in the well locations identified in the plate map file (Figure 33). If desired, make any manual modifications to the plate map.

    b. If import is not successful, you will see a message indicating "No samples found in file". Double-check that the correct file and template were selected and try again.

    c. If you do not have an appropriate import template for the plate map file you are trying to use, contact Promega Technical Services (**techserv@promega.com**).

Figure 33. Plate map import. Sample identifiers from the import file are displayed on the 96-well plate grid. Specify a Labware Barcode using the text box above the 96-well plate grid. Select **Save** to create the plate map in Portal software or select **Cancel** to discard changes.

6. Scan or enter the labware or deck tray bar code into the text box indicated for labware or deck tray bar code. Only after a labware bar code has been entered will the **Save** button become active.

7. Once all sample identifiers and the labware bar code are entered, select **Save** to create the plate map in Portal software or select **Cancel** to discard changes to the plate map and return to the 'Labware' screen.

    Note: Only after a labware bar code and at least one sample identifier has been entered will the **Save** button become active. Empty plate maps cannot be saved.

8.3   Manual Maxwell® Deck Tray Map Creation

Deck tray maps are used to map the sample identifiers and kit information associated with specific cartridges on Maxwell® RSC or Maxwell® RSC 48 deck trays. The process is similar for Maxwell® RSC and Maxwell® RSC 48 deck trays. Follow the instructions below to manually enter a new plate map.

1. Select the 'New' tab on the 'Labware' screen.

2. Use the Select Format drop-down menu to select either **Maxwell 16-Position** or **Maxwell 48-Position**.

3. **Optional:** Select the text field for the Kit Barcode. Scan the "Scan Here" 2D bar code from the Maxwell® RSC kit label.

4. Press the **Create New** button to open the Create Maxwell 16 Tray Map or create Maxwell 48 Tray Map.

5. Scan or enter the tray bar code(s) in the tray bar code text box(es) for a single 16-position deck tray or the front and back Maxwell® RSC 48 deck trays.

6. On the deck tray grid, scan, enter or paste sample identifiers to match the location of the cartridges within the deck tray. Pressing the **Enter** key after sample identifier entry will move the cursor to the next entry.

7. If multiple kit lots and expiration dates are represented on the deck tray, the text may be edited in the field. Lot numbers must have six numerical characters, and expiration dates must be formatted YYYY-MM.

8. Once all sample identifiers and deck tray barcode are entered, Select **Save** to create the deck tray map in the Portal software or select **Cancel** to discard changes to the deck tray map and return to the 'Labware' screen.

9 Settings

The 'Settings' screen allows administrators to define the connection information to Portal software and moderate system templates for importing and exporting data. While all users can view the features available from the 'Settings' screen, only users with access to the PromegaAdministrators group can change settings. Select the **Settings** button on the left side of the screen to access the functions on the 'Settings' screen (Figure 34).
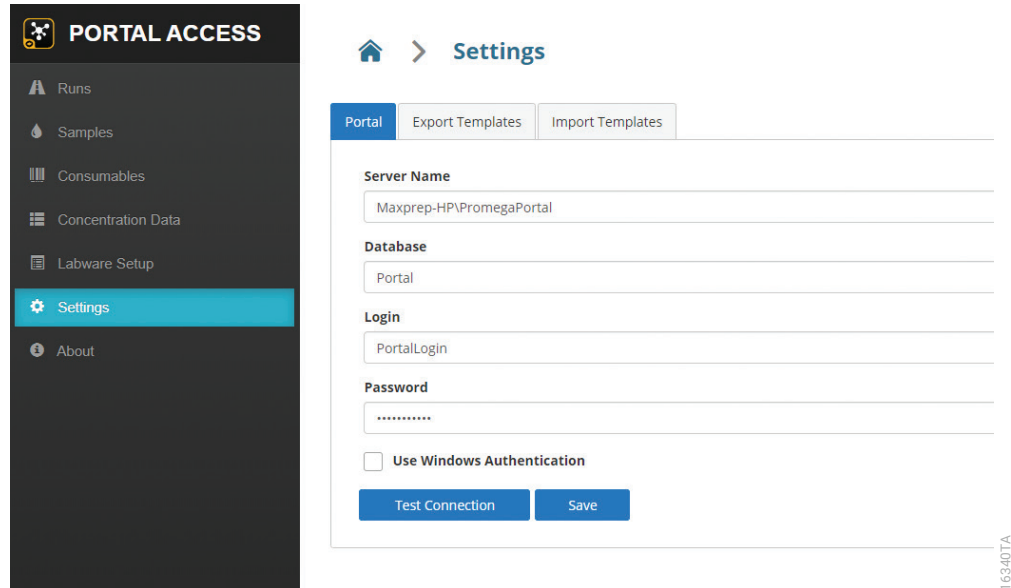
Figure 34. 'Settings' screen. From the 'Settings' screen, administrators can enter connection information to Portal software and moderate templates for importing and exporting data.

9.1   Connecting to Portal Software

The 'Portal' tab presents connection information settings for Portal software. This information is necessary for Portal Access to communicate with Portal software.

1. Enter the following information into the specified text boxes:

    Server name: Name of the server hosting Portal software [Default = <Computer Name or IP Address>\ PromegaPortal]

    Database: Name of the SQL database containing Portal information [Default = Portal]

    Username: Username necessary to access Portal software [Default = PortalLogin]

    Password: Password necessary to access Portal software [Default = PortalLogin]

    Use Windows® Authentication: Check this box if Portal software has been set up using a database that requires Windows® Authentication [Default = Unchecked]

    Note: Contact your laboratory administrator to determine whether a standard or modified Portal software installation is being used at your site.

2. Once Portal software connection information has been entered, select the **Test Connection** button to determine whether Portal Access can successfully connect to Portal software. A message will be displayed indicating whether the connection was successful. If unsuccessful, confirm that the connection information was correctly entered and try again.

3. Select the **Save** button to save the connection settings.

9.2   Adding, Exporting and Deleting Templates

The 'Export Templates' and 'Import Templates' tabs on the 'Settings' screen allow the administrator to add, delete and export templates used to create export files for runs and samples and to define import files for concentration data sets and sample plate maps (Figure 35). These two tabs present lists of the different import and export templates in Portal Access. Templates are available to all users, regardless of the computer used to view the Portal Access.
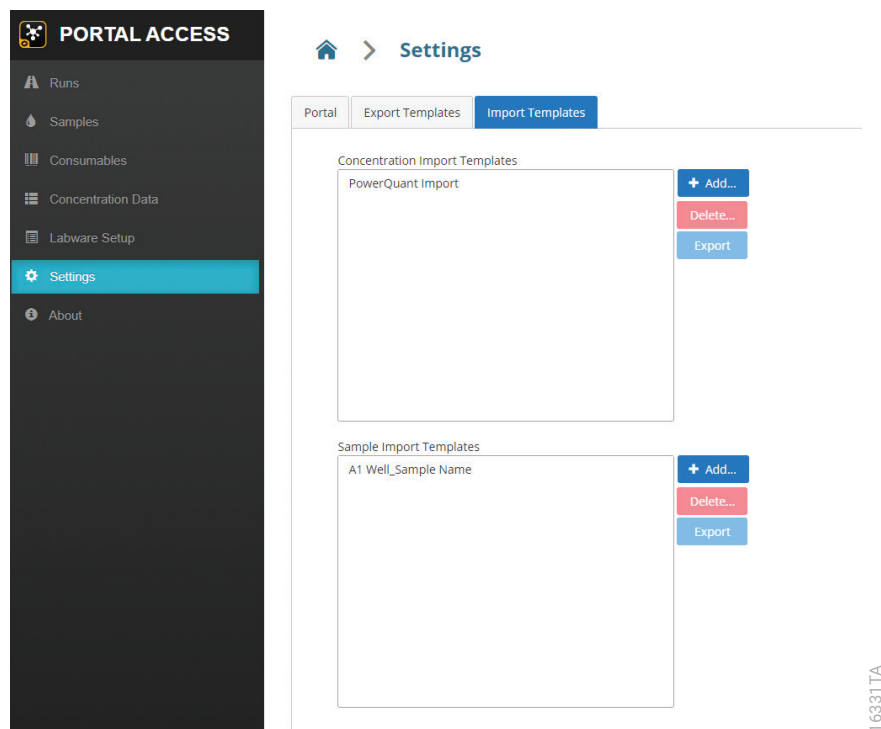
Figure 35. Moderating import and export templates. The 'Export Templates' and 'Import Templates' tabs provide administrators a mechanism to import, delete and export templates in Portal Access.

Both the 'Export Templates' and 'Import Templates' tabs have the same appearance. Lists of templates are displayed with **+ Add…, Delete…** and **Export** buttons located at the side of each list. The following table details the types of templates found on each tab.

Template Type	Tab	Description
Run Export Templates	Export Templates	• Used to create export files based on individual method runs. • Access when exporting run data using the **Runs** button on the left side of the screen (see Section 4.5). • Run Export Templates are defined at the time of system installation, or can be requested from Promega Technical Services (**techserv@promega.com**).

Template Type	Tab	Description
Sample Export Templates	Export Templates	• Used to define the columns of data and types of methods presented and exported from a samples search. • Access when exporting samples searches using the **Samples** button on the left side of the screen (See Section 5.2). • Sample Export Templates can be defined by users from the 'Samples' screen (see Section 5.3).
Concentration Import Templates	Import Templates	• Used to define the format of files for importing concentration data into Portal Software. • Access when importing concentration data using the **Concentration Data** button on the left side of the screen (see Section 7.3). • Concentration Import Templates are defined at the time of system installation, or can be requested from Promega Technical Services (**techserv@promega.com**).
Sample Import Templates	Import Templates	• Used to define the format of files for importing plate maps into Portal Software. • Access when importing plate maps using the **Labware** button on the left side of the screen (see Section 8.2). • Concentration Import Templates are defined at the time of system installation, or can be requested from Promega Technical Services (**techserv@promega.com**).

On the right side of each template list are three buttons used to add, delete and export templates. Follow the instructions below to perform these functions.

9.2.1   Adding a Template

1. Save the template file to a network-accessible drive location. Note which type of template file you wish to import into Portal Access.

2. Identify the appropriate tab (Export Template or Import Template) and table (Run Export Templates, Sample Export Templates, Concentration Import Templates or Sample Import Templates) for the template type. Press the **+ Add...** button on the right side of the appropriate table to open a file browser.

3. Browse to the location of the template file and press **Open** to import the template or press **Cancel** to close the file browser without importing the template.

4. Added templates will show up on the list of templates and in the expected drop-down menu.

   Notes:

   a. The display name of the template is defined within the template file.

   b. The file name of the template file will not be shown on the list.

9.2.2   Deleting a Template

1. Identify the tab and table that contains the template you wish to delete.

2. Select the template name in the list; the background of the list item will turn blue.

3. Press the **Delete...** button to delete the selected template.

   Notes:

   a. You will be prompted to confirm that you wish to delete the selected template. Press the **Yes** button to delete the selected template. Press the **No** button to cancel deletion of the template.

   b. Deleted templates are not shown on the table of templates or available in drop-down menus.

9.2.3   Exporting a Template

1. Identify the tab and table that contains the template you wish to export.

2. Select the template name in the list; the background of the list item will turn blue.

3. Select the **Export** button to export the selected template. Templates will be exported to the default export location specified in Google Chrome.

10 Generating External Reports

Portal Access reports are typically executed by an individual user through the Portal Access browser interface. The Portal Exporter command line tool allows for the execution of sample reports without the browser interface. These externally executed sample reports may be triggered by a third-party software package such as a Laboratory Information Management System or scheduled using Windows® Task Scheduler.

10.1   Portal Exporter

Portal Exporter is a command line tool used to execute sample reports outside of the Portal Access browser interface. The Portal Access installer deploys this tool alongside Portal Access when a full installation is chosen. The Portal Access installer can also install only Portal Exporter when the Portal Exporter option is selected. In this case, Portal Access must be installed on another PC or server available to the Portal Exporter PC because both software platforms are required to create a report.

The default path for the Portal Exporter executable is C:\Program Files (x86)\Promega\ PortalExporter\Promega.Portal.Exporter.exe. The program must be launched through the Windows Command Prompt. The table below shows the command options available when executing a sample report through Portal Exporter. Any parameter values that contain spaces, should be surrounded by double quotes (e.g "Sample Report Format.xml")

Option	Description	Details
-s, --server	Required. Portal Access server URL	If Portal Exporter and Portal access are located on the same PC or server, this has an value **http://localhost**. Otherwise, the value will be the Portal Access PC name or IP address (e.g. **http://MYPORTALPC** or **http://192.161.1.1**)
-u, --user	Windows® username	The parameter may be omitted to use the currently logged in user.

Option	Description	Details
-p, --password	Windows® password for the user specified	The parameter may be omitted to use the currently logged in user.
-d, --days	Required. Number of days to query	This parameter specifies the starting date of the report as the number of days prior to the current day. A value of 0 will result in a report spanning the current calendar day.
-t --template	Required. Sample template name.	The sample template must be defined in Portal Access before execution of the report. The sample template name should include the .xml extension.
-f, --folder	Required. Report destination folder.	The report folder path is defined relative to the Portal Exporter PC or server. The folder must exist prior to executing the report as Portal Exporter will not create a new folder. The report folder may be on a shared drive, but it must be accessible at the time or report generation.
-i --filter	Text filter	The resulting report will be filtered for entries that contain the value of this parameter. All fields included in the report template are searched. For example, entering a tube bar code will produce results when that bar code was present in both input and output locations if both input and output bar code fields are included in the report template.
-n, --filename	Required. File name.	Minimally this parameter must define a filename for the report. Optionally, a date stamp reflecting the report generation time may be described as part of the filename. A value of "Samples-<yyyy-MM-dd-hh-mm-ss>.txt" could result in a report filename Samples-2021-03-01-02-48-03.txt.
--help	Displays help text in the Command Prompt.	
--version	Displays software version in the Command Prompt.	

An example command follows.

> Promega.Portal.Exporter.exe -s http://localhost -d 10 -t "Default.xml" -f c:\exports
> -n "Reports-<yyyy-MM-dd-hh-mm-ss>.txt" -i 1111

This command will result in a report beginning 10 days prior to execution using the default report template. The results will be filtered for the text, "1111". That report will be saved in a file C:\exports\Reports-timestamp.txt. Portal Exporter is located on the same PC as Portal Access.

10.2   Scheduling Reports

Portal Exporter report generation can be scheduled using Windows Task Scheduler. What follows are instructions to schedule a reoccurring report in Windows Task Scheduler. More complex scheduling options are possible, but they are outside of the scope of these instructions. Only users with Administrator access in the Windows® operating system can set up new tasks.

1. Launch Start → Windows Administrative Tasks → Task Scheduler.

2. From the Action menu, select **Create Basic Task....** This will open a wizard to guide you through the steps to create the task.

3. Assign the task a name and description and select **Next**.

4. Select the frequency for the report and choose **Next**. Note that the PC must be running at the time that the report is scheduled.

5. Depending on the frequency selected, the next windows will display options for the frequency including start and end dates and specific day or time of day. After selecting these options, choose **Next**.

6. On the 'Action' tab, select **Start a program** and choose **Next**.

7. Enter the details of the Portal Exporter command line execution.

    a. In the field for Program/script, enter "C:\Program Files (x86)\Promega\PortalExporter\ Promega.Portal.Exporter.exe", including the quotation marks.

    b. The parameter arguments for your report should be entered in the box for "Add arguments".

8. Select **Next** then **Finish** to save your task. The task will be listed under Active Tasks.

11 About

The 'Version' screen displays software version information and allows the user to generate log files that detail communication to and from Portal software (Figure 36). Access the 'Version' screen by selecting the **About** button on the left side of the screen.

At the top of the 'Version' screen, the following information is displayed:

Title	Description
Software Version	Software version of Portal Access.
Schema Version	Database schema version of Portal software.
Database	Database version details for Portal software.

Press the **Export Log Files** button on the 'Version' screen to generate a zip file of database communication logs. These logs detail the communication between Portal Access and Portal software and are useful for troubleshooting purposes.

Figure 36. 'Version' screen. Software, database schema and database version information are displayed on the 'Version' screen. Press the **Export Log Files** button to generate a zip file containing database communication logs.

12 Troubleshooting

For questions not addressed here, please contact your local Promega Branch Office or Distributor. Contact information available at: **www.promega.com**
E-mail: **techserv@promega.com**

Symptoms	Causes and Comments
Communication failure with Portal software	In the event of a communication failure with Portal software, no reports can be generated.
	If a PC is hosting Portal software, make sure the PC is on and connected to the network.
	Contact your IT department to determine whether a network outage or communication failure has occurred.
	Double-check that the connection strings necessary to communicate with Portal software are correctly entered on Portal tab of the 'Settings' screen. Use the **Test Connection** button to test communication with Portal software.
Unable to connect to Portal software	Confirm that Portal software has been installed on your network and that the network settings allow communication from the computer you are using to the location of Portal software.
	Confirm that the computer or server hosting Portal software is on and that there are no network communication issues.
	Double-check that the connection strings necessary to communicate with Portal software are correctly entered on 'Portal' tab of the 'Settings' screen. Use the **Test Connection** button to test communication with Portal software.

Symptoms	Causes and Comments
Unable to connect to Portal Access	Confirm that Portal Access has been installed on your network and that the network settings allow communication from the computer you are using to the location of Portal Access. Confirm that the computer or server hosting Portal Access is on and that there are no network communication issues. Confirm that the correct address for the computer or server hosting Portal Access has been entered into the address bar of the browser. Confirm that you are using Google Chrome version 76 or later on the computer being used to connect to Portal Access. Other browsers or previous versions of Google Chrome cannot be used.
Unable to change settings, import, delete or add templates to Portal Access	Only users with PromegaAdministrator permissions on the computer on which Portal Access is installed can access the functions on the 'Settings' screen. Consult with your laboratory administrator to determine your access level and/or identify a user with appropriate permissions to perform the desired action.
Unable to import plate maps or concentration data	Import templates define the expected contents of an import file. Double-check that the correct import template has been selected for the desired import file. If additional import templates are required, contact Promega Technical Services (**techserv@promega.com**).
Export files do not contain the desired data or are incompatible with downstream software packages	Export templates define the expected contents of an export file and are specific to run types or sample searches. Double-check that the correct export template has been selected for the desired run type or sample search. If additional export templates are required either create sample templates (see Section 5.3) or contact Promega Technical Services (**techserv@promega.com**).
Import or export template does not show up in the correct dropdown menu	Confirm that you have added the template file into the correct Import Template or Export Template list on the 'Settings' screen (see Section 9.2). Templates are specific to import or export of information for specific functions and must be added to their expected list.

Symptoms	Causes and Comments
Import or export of information fails	Confirm that you have added the template file into the correct Import Template or Export Template list on the 'Settings' screen (see Section 9.2). Templates are specific to import or export of information for specific functions and must be added to their expected list. Confirm that you have selected the appropriate file for import or run type/data set for export for the selected template.
Searches do not locate expected runs or samples	Confirm that Portal software has been installed on your network and that the network settings allow communication from the computer you are using to the location of Portal software. Confirm that the module producing the expected data is connected to Portal software. See the module-specific Technical Manual for information on connecting to Portal software. Confirm that the computer or server hosting Portal software is on and that there are no network communication issues. Double-check that the connection strings necessary to communicate with Portal software are correctly entered on the 'Portal' tab of the 'Settings' screen. Use the **Test Connection** button to test communication with Portal software.

Symptoms	Causes and Comments
Plate maps generated in Portal Access are not accessible on modules	Confirm that Portal software has been installed on your network and that the network settings allow communication from the computer you are using to the location of Portal software. Confirm that Portal Access is connected to Portal software (see Section 9.1). Confirm that the computer or server hosting Portal software is on and that there are no network communication issues. Confirm that the module attempting to access the plate map is connected to Portal software. See the module-specific Technical Manual for information on connecting to Portal software. Double-check that the connection strings necessary to communicate with Portal software are correctly entered on the 'Portal' tab of the 'Settings' screen. Use the **Test Connection** button to test communication with Portal software.
Maxprep™ software will not run following Portal Access installation.	Occasionally, a shared component of both Portal Access and Maxprep™ software becomes corrupted during the Portal Access update process. This is easily resolved by reinstalling the Maxprep™ software. During the installation, uncheck the options to deploy default labware definitions and Nimbus Class Configuration. Methods, variants and data will be preserved in this process.

13 Summary of Changes

The following changes were made to the 3/24 revision of this document:

1. Added subsection 1.1.1.
2. Updated font.
3. Made minor text edits.