

Crystal Reports for Web

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Web Reports

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It is often helpful to develop reports for desktop first to see how all of the child grids interact and to gather field names. However, as Lucity Web is maturing, it is becoming easier to see relationships and field names. Working on reports pointed with the Web connections and skipping the desktop development will become more common.

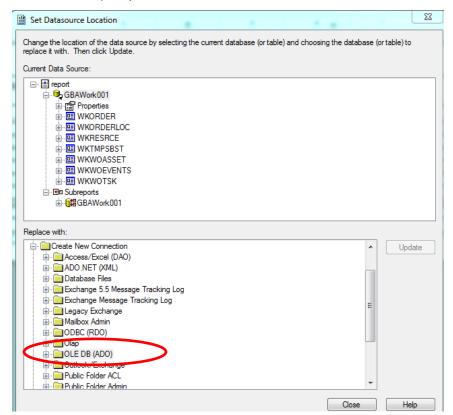
Custom Reports that have been created for the desktop version of Lucity will **NOT** work in the Web application as is. Desktop reports must be converted for Web use.

Converting Desktop Reports for use in Lucity Web

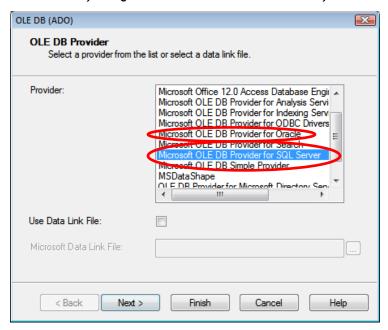
1. Make a copy of the report and add Web to the end of the report name.

Example: Desktop report WOSumAssetByCat.rpt would be copied and renamed for the Web WOSumAssetByCatWeb.rpt.

- 2. The Web report would then be converted as follows.
- 3. Open the report in Crystal Reports.
- 4. Go to Database>>Set Datasource Location.
- 5. Within the lower box (Replace with:) open Create New Connection.
- 6. Select OLE DB (ADO)

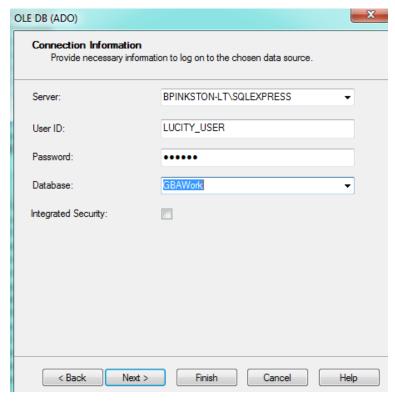


7. You will then be prompted to select a provider. If you are using SQL Server use the Microsoft OLE DB Provider for SQL Server. For Oracle use Microsoft OLE DB Provider for Oracle.

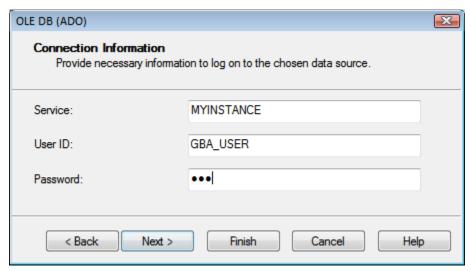


- 8. Next, enter the Connection information.
 - For SQL Server, include the SQL Server Name, User ID, Password, and Database. Your Lucity Administrator should be able to provide this information. The Database is specific to the report database that it was created with such as GBAWork or GBAEquip.

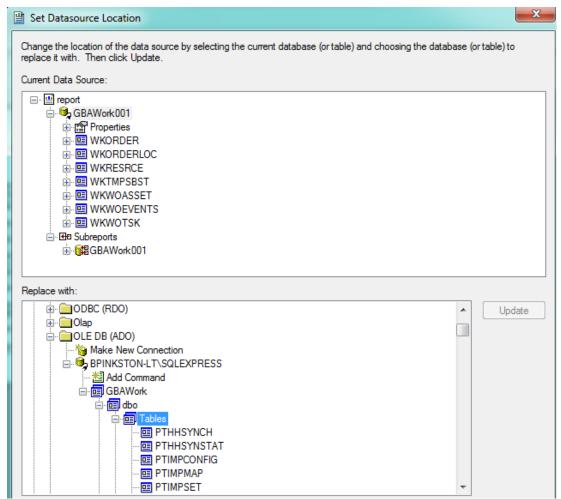
Note: For 2015r2 post data unification it will be one database. The name will be whatever you have assigned the database.



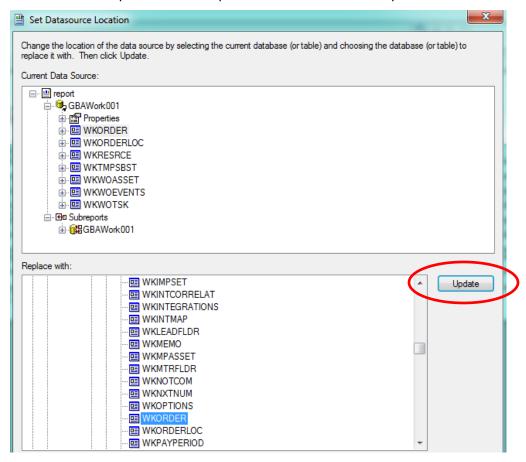
o For Oracle, include the Service, User ID, and Password.



9. Once you create a connection you will need to individually (manually) map **EVERY TABLE** from the report one at a time.



10. To do this, click on a table in the top box (*Current Data Source*) and the same table in the bottom box (*Replace with*) and then click on *Update*. Do this for each table, even the ones listed under Subreports. Note: *Properties* is not a table to be updated.



11. After the report is converted for Web use it will need to be added to the appropriate report folder.

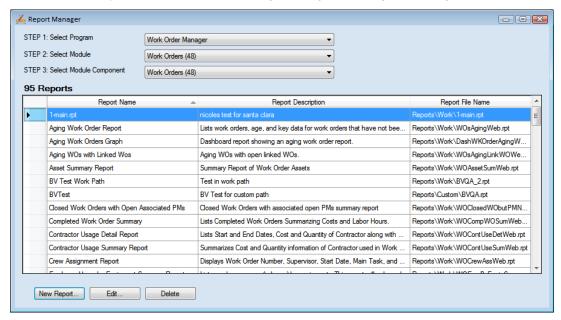
Adding Custom Web Reports (Prior to V2015)

The converted report then needs to be added to a report folder, typically found at intpub\wwwroot\LucityWeb\Reports. Drop the report in the correct folder such as Work or Equip. Depending on your system and number of custom reports, you may have a separate Custom Reports folder and within this there may be folders for the type of reports such as Work or Sewer.

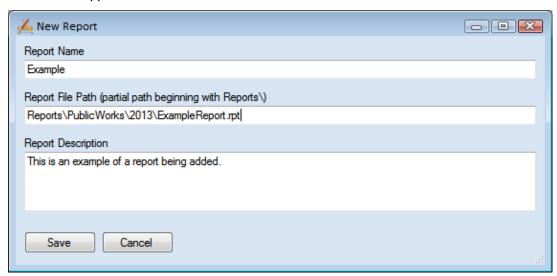
Then the report will need to be added to the list of available reports in the module the report is to be run from. There are two different methods for adding reports in the web.

Method 1 - Through the Lucity Administration Tool

1. Launch the Lucity Administration Tool and go to Reports > Report Manager.



- 2. Use the drop downs at the top of the tool to navigate to the module that the report is meant for.
- 3. Click the **New Report** button at the bottom of the Report Manager dialog. The following window will appear:

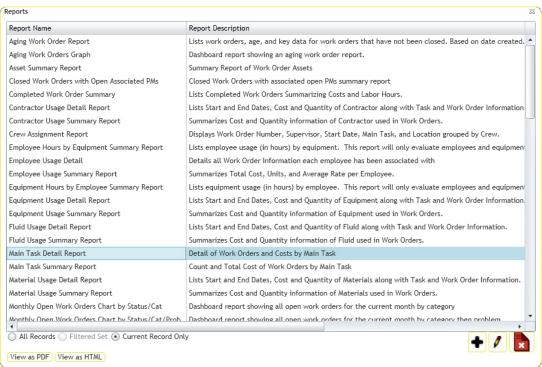


- 4. Enter the Report Name.
- 5. Enter the **Report File Path**. This should always start with **Reports**\ and then the rest of the path to the report including the .rpt file extension.
- 6. Enter the Report Description.
- 7. Click **Save**. The new report will be added to the Report Manager.

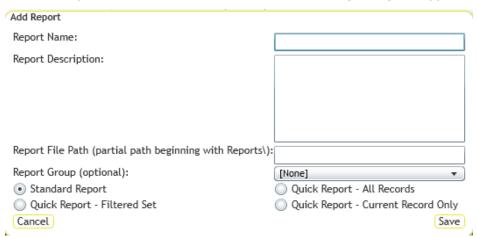
Method 2 - Through Lucity Web

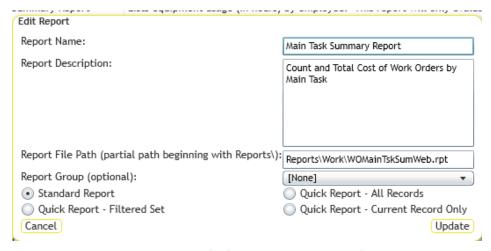
- 1. Open the Web module that the report will be run from.
- 2. Open the Reports Tool.

To launch the Reports tool click the on the toolbar. The following window will appear:



3. To add a new report, click the Add button •. The following dialog will appear:





- 4. Enter a *Report Name*, *Report Description*, and the *Report Filename* (starting with Reports\) then the folder name where the report is located followed by a backslash (Work\) then the name of the actual .rpt file. Remember to add the .rpt portion on at the end of the report filename.
- 5. Choose the type of report this will be:
 - Standard Report The report will be run by clicking the report tool, selecting the report and how to run it, and running it.
 - Quick Report All Records Adds the report to the quick report dropdown list next to the report tool. The report will always be run against all records.
 - Quick Report Filtered Set Adds the report to the quick report dropdown list next to the report tool. The report will always be run against the current filter set.
 - Quick Report Current Record Only Adds the report to the quick report dropdown list next to the report tool. The report will always be run against the current record.
- 6. Click Save.

Adding Custom Web Reports (V2015 and Beyond... for now)

The Lucity software is moving the web design to be used as Software As A Service (SAAS). To accommodate this direction, the Custom Web reports are handled in a different way.

There are two locations that Lucity will now use to manage custom reports.

- One is a new folder that can be seen in inetpub > wwwroot > LucityWeb that is called ReportsCustom. The client should never be in this folder.
- The other is a new location that the client sets up. (Report Share) Once this is set up and the existing reports moved into this new folder then this folder should not be directly used by the client unless copying a report to be modified. Indirectly, the new custom reports will be uploaded to this location.

Understanding the Process

How Lucity Manages Custom Reports

Lucity makes it easy for an agency to manage its custom reports by managing the file locations for them and providing an easy user interface for uploading report files. To make this process work there are several components on the back end. The following table describes those components and the diagrams show how they work together to complete a process.

Components

Lucity Web Reports Tool

A tool that enables **Lucity Web** users to add, update and run **Lucity** reports.

Document Server

A **Lucity Web Server** application that enables users to move files (including reports) around using **Lucity Web**.

Report Share

The folder that stores a user-accessible copy of each custom report's .rpt file.

- The path is set in the Lucity Administration Tool > System > Settings > Documents > Path where reports are stored setting.
- Lucity Web does not run reports from this location.
- Users can copy reports out of this folder to modify them.
- The reports in this folder are copied to the /ReportsCustom folder daily.

/Reports Folder

The folder that stores a **Lucity Web**-accessible copy of each standard report's .rpt file.

- Lucity Web runs all of Lucity's built-in, standard reports from this location.
- Historically, custom reports were added to this folder and they were mixed in with standard Lucity reports.
- Users can copy reports out of this folder to make custom reports.
- The reports in this folder should not be modified.

/ReportsCustom Folder

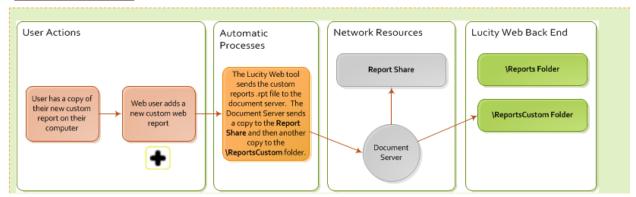
The folder that stores a **Lucity Web**-accessible copy of each custom report's .rpt file.

- Lucity Web runs all custom reports from this location.
- The reports in this folder should not be modified.
- The reports in this folder are overwritten with copies from the Report Share folder.

Processes

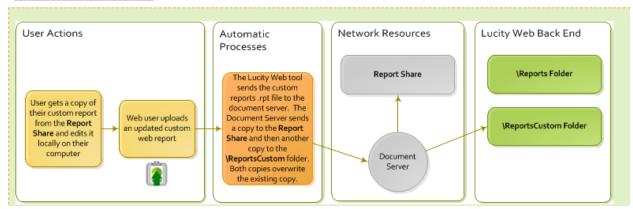
These are the processes that occur in the background when users are working with *Lucity Web* and custom reports.

▼User adds a custom report

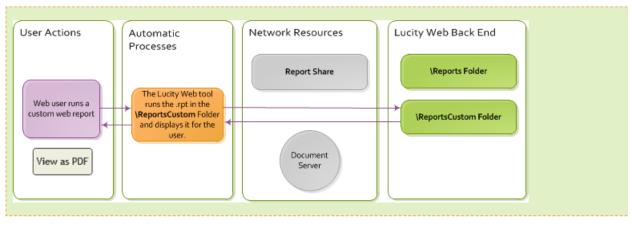


Note: Give this process a minute to complete before attempting to run the new report from Lucity.

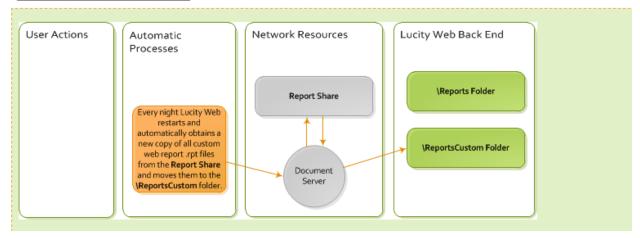
▼ User updates a custom report



▼ User runs a custom report



▼Automatic custom report processes



Best Practice for Making the Change

The existing custom reports were supposed to be working with the upgrade but did not quite make this transition correctly. There have also been some issues relocating the established custom reports and updating the new path. Support has established the best method for handling custom web reports is to add them into the system as if they were new reports.

Setup

1. If the client doesn't currently have a location outside of Lucity to store and work on custom reports then this should be established first.

It might be a good idea to have one shared file for all custom reports for your company. This is separate from Lucity!

All existing custom reports currently in **wwwroot\LucityWeb\Reports** should be placed in this new folder or subfolders in this location.

Example folder name: CompanyCustomWebReports.

2. A second location needs to be established which Lucity will use. This needs to be a folder that the WebServer (IIS) can get to. Ideally, this would not be on the web server. That means it will be on a network share. Something like \\<Servername>\Shared\CustomWebReports.

Example: \\ClientServ-01\WaterGroup\CustomWebRpts15

Where "\ClientServ-01" references the server, "WaterGroup" the Shared location and "CustomWebRpts15" the folder name for the custom web reports.

3. This path then needs to be entered in:

Lucity Administration Tools > System > Settings... > Documents tab > Path where Reports are stored. Enter the new path for the Custom Web reports.

(Example: \\ClientServ-01\WaterGroup\CustomWebRpts15)

Save

4. Clear Caches

Lucity Administration Tools > System > Clear All Site Caches... > Clear All Caches button.

- 5. An agency may wish to create a directory structure in this location to separate reports by system; however, this is optional:
 - \\\Servername\\Shared\\Custom\Web\Reports\\Work\\\end{equation} <reports for the work program go here>\\\\Servername\\Shared\\Custom\Web\Reports\\Sewer\\\\end{equation} <reports for the sewer program go here>
- 6. Once the custom report path has been established and the custom reports are in the new location outside of Lucity (example: CompanyCustomWebReports), then the reports should be added back into Lucity.
- 7. Within the module the custom web report originally ran from, delete the report and add as a new report.

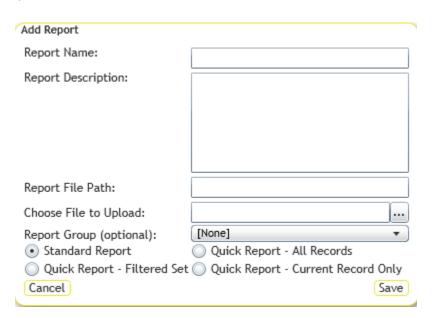
How To Add New Custom Reports



Going forward, when adding new custom reports, upload the report using *Lucity Web*. The system will place the report in the report-share automatically.

- 1. In Lucity Web, open the module you would like to add the report to.
- 2. Click the Reports button on the toolbar. The *Report* tool opens.
- 3. To add a new report, click the Add button •. The following dialog appears:

V2015



V2015r2



- 4. Enter the Report Name and Report Description.
- 5. In the *Report File Path*, enter the name of the subfolder to which you want to upload the report file (ex. Work, Sewer) or leave blank.

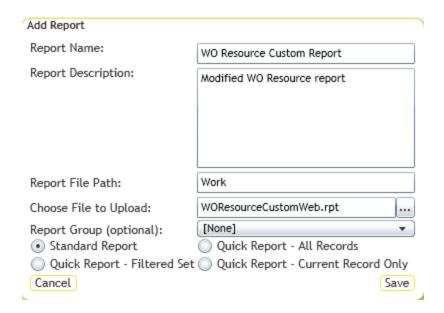
Note: Reports are automatically uploaded to the location specified in the Lucity Administration Tool's "Path where Reports are stored" setting, which may be found in the **System > Settings > Documents tab.**

Note: If the folder name entered does not exist, the system will create a folder with that name within the folder to which the reports are uploaded.

6. Under Choose File to Upload, click the Browse button and select the .rpt file you would like to upload to the web server. The report would ideally be located in the folder established in Step 1 at the top of this document (CompanyCustomWebReports) or a subfolder within, however, it can be brought in from any location. This will put the report into the location created for Custom Web reports that was designated in the System Settings Report File Path.

Note: The name of the .rpt file being uploaded cannot match any other .rpt files.

- 7. Assign the report to a *Group* (optional).
- 8. Choose or change the *Type* of report (V2015):
 - Standard Report The report is generated when the user clicks the Report tool, selects the report and chooses how to run it.
 - Quick Report All Records Adds the report to the Quick Report drop-down list, located next to the Report tool. The report always runs against all records.
 - Quick Report Filtered Set Adds the report to the Quick Report drop-down list, located next to the Report tool. The report always runs against the current filter set.
 - Quick Report Current Record Only Adds the report to the Quick Report drop-down list, located next to the Report tool. The report always runs against the current record.



For V2015r2 these options are available in the Edit mode.

9. Click Save.

Editing Reports



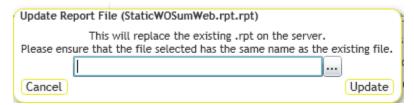
Editing allows changes in the Report Name, Description, Group or Standard/Quick Report options. *Update* is used to save the changes.

Updating Custom Reports



When existing Custom reports need to be revised, this should be done outside of the Lucity system. The revised reports could be worked on or loaded into the location established for your company, mentioned in step 1 (Example: CompanyCustomWebReports).

- 1. Open Lucity Web and go to the module associated with the report.
- 2. Click the Reports button on the toolbar. The Report tool opens.
- 3. Select the report to update from the list and click the Update Report File button .



Note: The file name has to be identical to the file being replaced.

- 4. Click the Browse button and select your updated .rpt file from the location of the revised report (Example: CompanyCustomWebReports).
- 5. Click Update.
- 6. The new copy of the report will be uploaded and will replace the existing report file in the Lucity system (the location established in the System Settings Report Path).
- 7. Wait a minute before trying to run the updated version of the report.

Note: The reports that Lucity provides with the software (standard reports) cannot be updated.

Delete Report



For version 2015 sp0, if the User's Report Security isn't set up properly, a user can delete the entire report file. This caused problems with several clients so this was changed.

In 2015 sp1 the Delete option gueries if the user would like to delete the report.



If you select Yes, the report is removed from the dialog but the report remains out in the Custom Report folder as an orphan. The IT administrator can retrieve it if necessary or delete it.

The plan for version 2016 is to be able to run a report that would show the Report orphans. There will possibly also be a way of deleting the report file (.rpt) from the report dialog thus eliminating the orphan file all together.

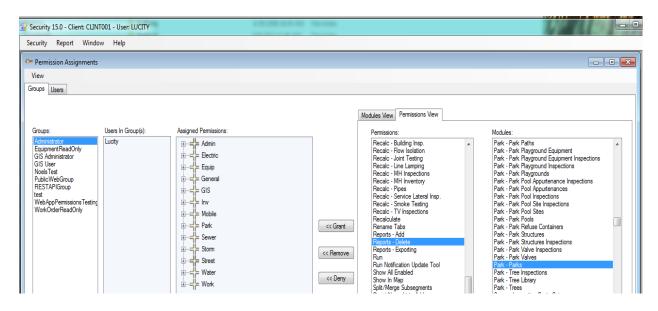
Report Security

The **Report Delete** permission can be denied.

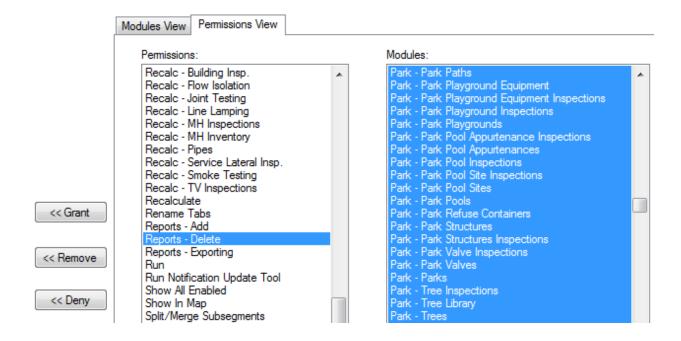
- 1. In Lucity Security > Permissions Setup
- 2. In either the **Groups** and/or **Users** tab, Select the Group.
- 3. On the right side Permissions View, Permissions box, click on Reports Delete.
- 4. In the Modules box select individual modules or multiples.
- 5. In the center select the << Deny button.

6. In the Assigned Permissions box you can check the module's Reports - Delete permission.





Larger view of right side with multiple modules selected.



Page Limit

Prior to V2015r2

When reports are run in the Web with the PDF view the page limitation is ten.

In order to increase the web page limit you will need to add a new line statement to the appsettings.config file located on your Web Server in the C:\inetpub\wwwroot\LucityWeb folder:

Open the file with Notepad and paste the following line between the <appSettings> and </appSettings>:

<add key="MAXPDFPAGES" value="10" />

o Adjust the "10" to the total number of pages you want the report(s) to account for.

Note: the larger the number the longer it will take to generate.

The file when complete will probably look like this:

<appSettings>

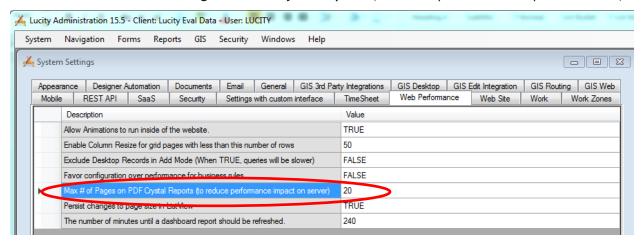
<add key="MAXPDFPAGES" value="50" />

</appSettings>

This may require an IIS reset to take the changes.

V2015r2

PDF (Basic View) page number can be modified in Lucity Administration > System > Settings > Web Performance tab > Max # of Pages on PDF Crystal Reports (to reduce performance impact on server)

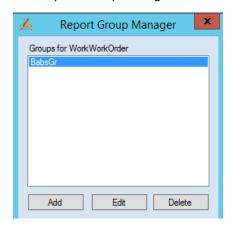


Web Report Grouping

In Lucity 2014R2 there is a new option for Report Grouping.

- 1. In Lucity Administration Tools go into Reports > Report Manager
 - a. Select Program
 - b. Select Module
 - c. Select Module Component
- 2. Click on Report Groups

The Report Group Manager window will show.



- Select Add to add a group.
 - Type in a Group Name
 - Save
- Select Edit to edit an existing group.
 - o Type in a revised Group Name
 - Save
- Select Delete to delete an existing group.
- 3. Close the Report Group Manager window.
- 4. In the Report Manager select a report to include in a group.
- 5. Click Edit...
- 6. In the Update Report window there is an option for *Report Group (optional)* with a drop down arrow. Select the group the report is to be associated with.
- 7. Save

The Group Name should now show in the Report Group column for the selected report.

- 8. Repeat from step 4 for all reports to be associated with the group.
- 9. When the Web module's report list is opened, the top left corner now has a drop down box for Report Group. When the group is selected, only the reports assigned to the group will show.

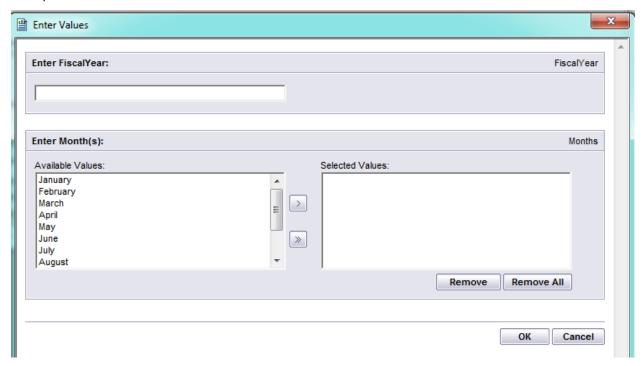
If the newly added group does not show in the list then close Lucity and go into Lucity Administration Tools > System > Manage Web Site Caches...

- Scroll to the bottom and click Clear all Caches.
- Close
- Reopen the Web module's report list and the Report group should now be present in the Report Group drop down box.

Parameters

Parameters are special Crystal fields that query the user for information to be used in the report before the report will run.

Example



Prior to V2015r2, reports used as dashboard reports should avoid the use of parameters. Otherwise the report will show as a link to run the report as opposed to seeing the report.

Web reports allow the use of parameters but may have some limitations depending on the version of Lucity and Crystal being used.

Common parameters used in Lucity reports include *subtitles* and *date queries*.

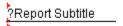
• These can be removed by clicking on the Parameter field and selecting *Delete*.

The report no longer uses the parameter field, but the parameter exists in *Field Explorer*. Unused parameter fields have been an issue in some Web reports. It can be confusing. The unused parameter still queries but then the parameters are not used in the report.

To permanently remove the parameter field in *Field Explorer*:

- Right click on the specific parameter field and select *Delete* OR
- o Click the parameter field and press the delete key.

Parameter fields are recognizable by the "?" at the beginning of the field:

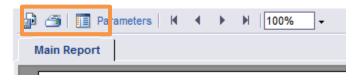


A parameter that is set up to allow multiple values will only accept a single value when the report is run. If the report is developed in Crystal XI or earlier, the report will not allow multiple values to be selected. If the report is created in Crystal 2008 or later it is possible to query again once the report

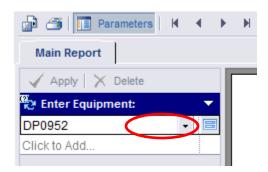
has been run in the HTML view to allow multiple values. This is set-up within the Parameter field. The Value Option is "Show on (Viewer) Panel". The setting options are Editable, Do not show and Read Only.



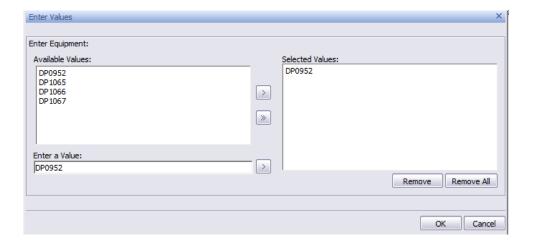
When this setting is **Editable** and the Web report opened with the HTML view, the **Parameter** button will be active for use to modify the Parameter selection. To use this option, complete the following steps:



1. Click on **Parameters** to open a panel to the left of the report.



2. The actual parameter screen can be opened to either select a new value or multiple values (if the parameter was set up to allow multiples) by clicking on the Parameter value and then clicking the "Edit parameter value" button.



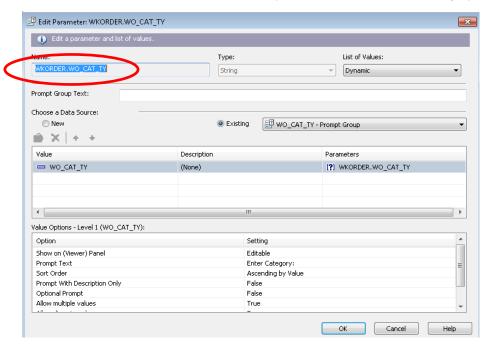
- 3. After the new selection values have been set up, click on OK.
- 4. At the top of the Parameter column select "Apply".

Note: If parameters are set up in a subreport, they should not have the same name as parameters in the main report.

Dynamic Parameters

Starting in v2015, the Dynamic Parameter pick list is available when running the report in Lucity Web. The way to achieve this is by naming the parameter the same as the field name.

For example, if the Work Category field was to be set up as a dynamic pick list, the Name would be entered as WKORDER.WO_CAT_TY. The Prompt Text usually defaults to the Name field (Enter WKORDER.WO_CAT_TY) so this would likely be modified to "Enter Category".



Barcode Reports

Desktop

Reports developed with Crystal XI or before could show barcodes but it required the font 39 software to be present on the machine the report was run from. The field in the report also needed to be placed in a formula for the font software to create the barcode.

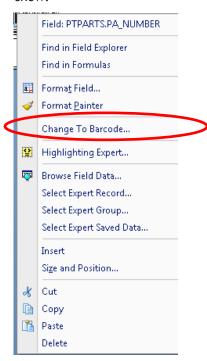
Example: "*"+uppercase({PTLOCATION.PL_NUMBER})+"*"

Because Lucity Desktop uses Crystal XI to generate reports, this is the only option for developing and running barcode reports in desktop.

Web

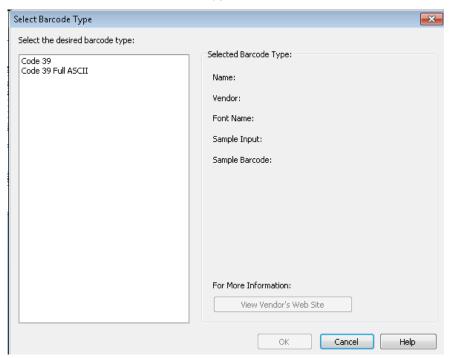
Reports developed with Crystal 2008 or newer have a barcode option to apply to individual fields. Lucity Web uses Crystal 2008 to run Crystal reports so this feature may be used.

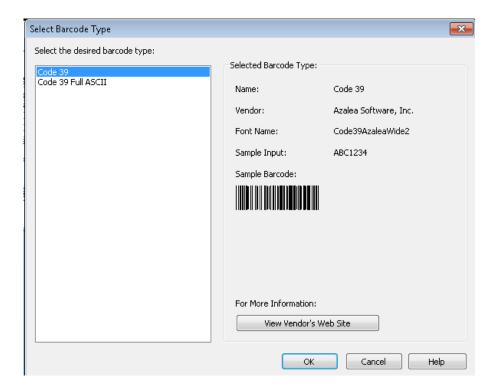
For the field to show as a barcode bring the field into the report and right click. The following options show:



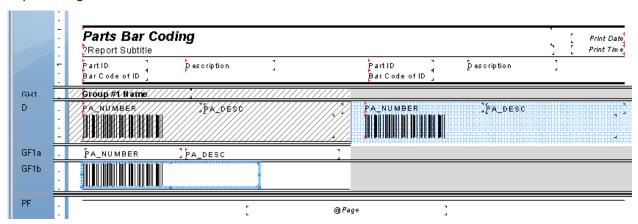
Select Change To Barcode...

Then select the desired Barcode Type.





Report Design view



Report View

Prior to V2015r2 the Web report viewing options were PDF and HTML. Both report views query for any parameters in the report.

The PDF view shows the report with a scrolling format - 10 page limit (unless modified).

The HTML view shows the report as paged with a Parameter tab at the top. If the report is set up with editable parameters, this tab would open the parameters to be modified and applied for the report to run again with the new parameters. The HTML view is also available to export.

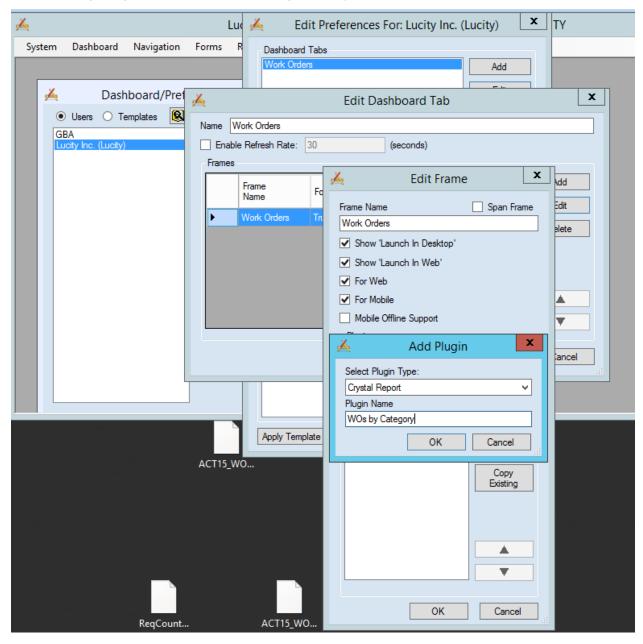
For V2015r2 sp0 the web viewing options remain the same. The Dashboard reports have changed the viewing options to **Report** (old PDF - with 20 page limit unless modified in Settings) and **Paged Report** (old HTML).

For V2015r2 sp1 the viewing options will change for both Web and Dashboard. Basic View (old PDF) and Advanced View (old HTML).

Notes:	 	 	

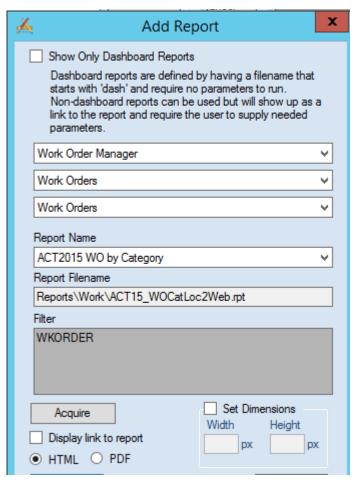
Dashboard Reports

Dashboard reports prior to V2015r2 were set up in Lucity Administration Tools.



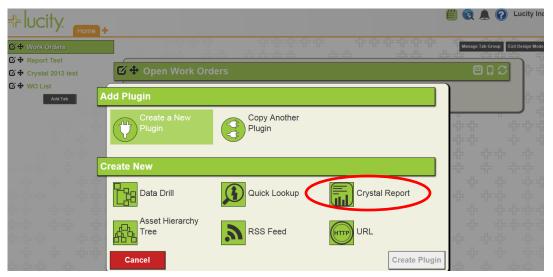
Once a Plugin Type of Crystal Report is selected then an Add Report dialog is opened.

The Show Only Dashboard Reports option will show a list of reports created with no parameters and to fit a frame size.

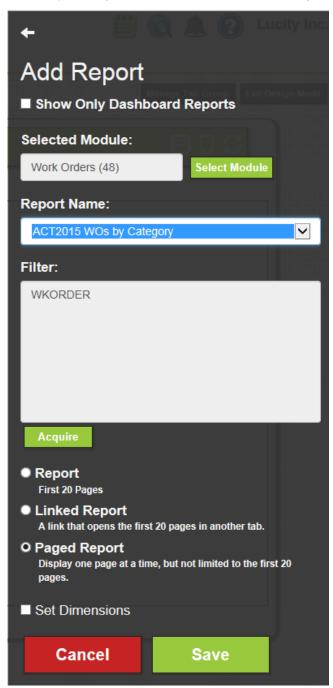


If this option is unchecked then all reports are available to add to Dashboard. If the report has a parameter it will show as a link to open the report.

As of v2015r2 the Dashboard design has been removed from Lucity Administration and the Dashboard is now set up in the Web screen.



When Crystal Report is selected then the following dialog opens.



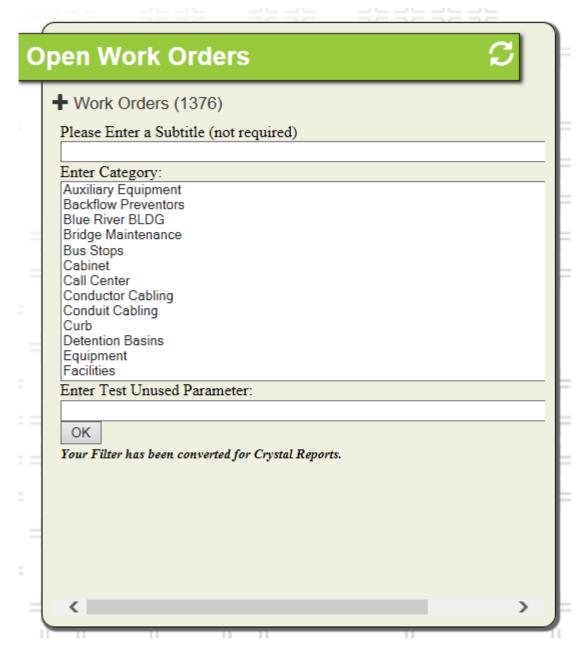
V2015r2 sp0 viewing options do not work correctly. **Report** (old PDF) shows as blank, Linked shows as old PDF and Paged Report (old HTML) shows as old PDF. There is a patch and will go out correctly in V2015r2 sp1.

For a report with parameters set up in Dashboard as (old HTML), the parameters will be offered before

the report runs. Refresh



will reoffer the parameters.



Font

For Web reports avoid the use of the Calibri font. There are issues with viewing the report as PDF.

Web Date Filters

If a date filter is built in the desktop, the filter uses the "#" sign.

WKORDER.WO_STRT_DT BETWEEN #01/01/2014# AND #12/31/2014#

If this is used in the web and the report is run with 'From Filtered Set', it will error.

Instead use the single quotes in the filter.

WKORDER.WO_STRT_DT BETWEEN '01/01/2012' AND '12/31/2012'

Wildcard Use

For Lucity desktop filtering the wildcard symbol is the asterisk "*". If a filter is built in the Lucity web version the wildcard symbol is the percent sign "%". Crystal recognizes the asterisk. The web version converts the symbol before it runs the report. If you typically use the percent sign for a wildcard make sure that when you are working in Crystal that you use the asterisk.

Notes:	 	 	