

Visualizing ECL Results

Technical Preview

Provided by HPCCSystems

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Introduction

The ECL compiler now supports adding external resources to a Workunit using a manifest file. The manifest, in XML format, adds external resources such as XSLT transformations, or other objects to the archive before it is compiled and deployed to the server. In future versions, you should be able to add different types of resources, for example, a Cascading Style Sheet (css file).

In the examples we provide, we will demonstrate how to use this feature to visualize ECL job results using Google Chart Tools. This library provides an easy way to visualize data from ECL results.

See <http://code.google.com/apis/chart/interactive/docs/index.html> for more information.



In this version of the HPCC Platform, these features are being released as a *technical preview*. Some planned functionality has not yet been implemented, but the portions that are available have been tested and are ready for use.

Overview of the process

This section is a summary of the details in this guide. After you have completed the detailed steps that follow, you can use this summary to refresh your memory later.



We suggest **reading** this document in its entirety before beginning.

To use Google Charts, you should:

1. Write ECL Code that produces an output containing data that fits the visualization you select. (In this exercise, we will use the ones provided in the examples.)
2. In the code, make sure your ECL OUTPUT action has the NAMED option with the desired visualization nominated, as shown below.

```
OUTPUT(dPie, NAMED('PieChart_Pie_Chart_Test'));
```

3. Create an XSLT template to handle the output. (In this exercise, we will use the ones provided in the examples.)
4. Create a Manifest file including the XSLT template(s). (In this exercise, we will use the ones provided in the examples. The example XSLT files contain code that will select a visualization based on the output name used in the ECL code)
5. Using either the ECL IDE or the ECLCC command line, create an archive with **-manifest=argument** naming the manifest file.

For example (in the IDE's compiler arguments):

```
-manifest="C:\Documents and Settings\All Users\Documents\HPCC  
Systems\ECL\My  
Files\visualizations\google_charts\files\manifest.xml "
```

For example (on command line):

```
eclcc pie.ecl -E -manifest="C:\Documents and Settings\All  
Users\Documents\HPCC Systems\ECL\My  
Files\visualizations\google_charts\files\manifest.xml "  
>myarchive.xml
```

6. Deploy the Archive to an ESP server. This is automatic when you submit using the IDE, If you used the ECLCC command line to create the archive, then you must use the ECL command line tool to deploy the Archive.

For example:

```
ecl deploy myarchive.xml --server=10.239.219.8 --cluster=thor  
ecl publish <WUID> --server=10.239.219.8 --cluster=thor --activate  
--name=pie
```

7. Run the Workunit and view the Results in ECL Watch

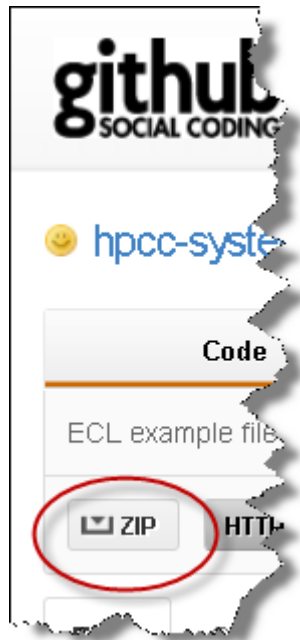
Get the Samples

The collection of visualization sample files contains a set of ECL files, a set of XSLT transformation templates, and a sample manifest file to use to include these XSLT files into a workunit.

- Get the sample code from GitHub:

https://github.com/hpcc-systems/ecl-samples/tree/master/visualizations/google_charts

- Click on the Zip button to download.



- Copy to the folder you use for ECL code.

Detailed Steps Using the IDE

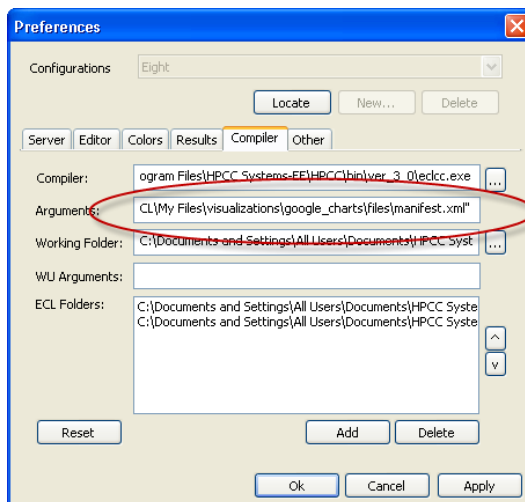
- Open the ECL IDE and Open Preferences
- Create a new configuration pointing to the server you wish to use.
- Add the following compiler argument:

-manifest=<fullpathtomanifestfile>

For example:

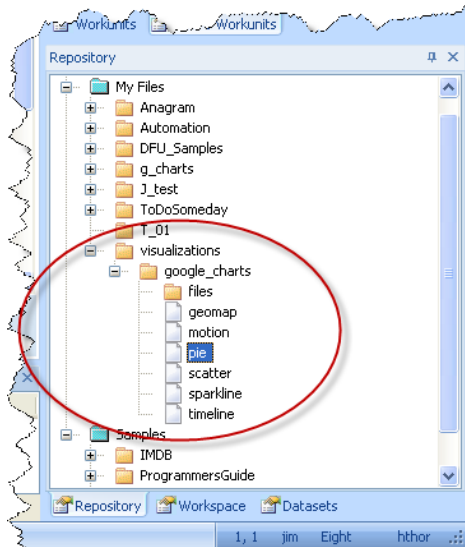
```
-manifest="C:\Documents and Settings\All Users\Documents\HPCC  
Systems\ECL\My  
Files\visualizations\google_charts\files\manifest.xml"
```

If the path contains spaces, you must enclose in double quotes.

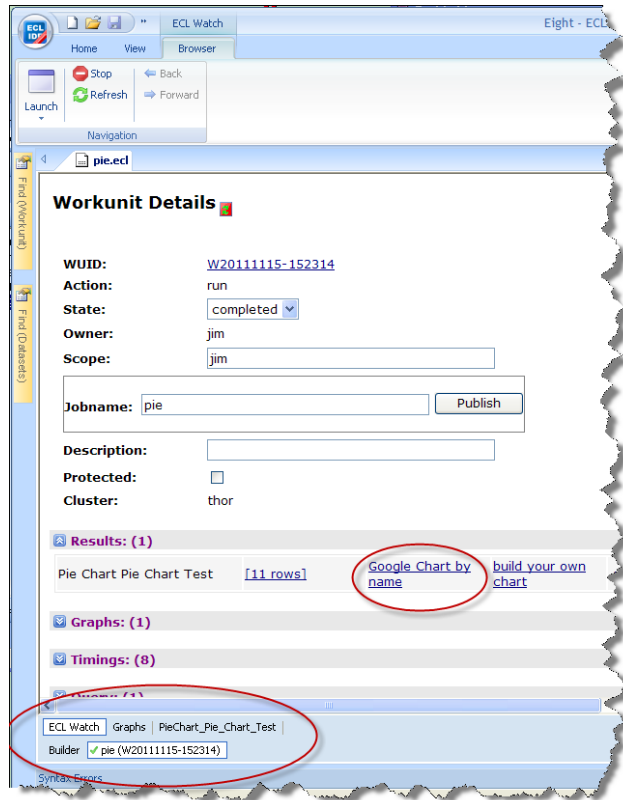


NOTE: This configuration includes the manifest in every submission, so only use it for ECL that needs the manifest resources (Google Charts).

- Make sure you can see the new samples. (You may need to refresh)



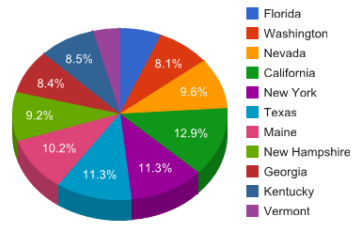
- Open one of the example files, for this example use [pie](#).
- Syntax Check the code (This is always a good idea)
- Select **thor** as your target cluster
- Press the **Submit** button.
- After the job completes, select the Workunit's ECL Watch view:



- Scroll down, and expand the Result section.
 - Click on the **Google Chart by Name** link
- The visualization displays

http://10.239.219.8:8010/?Wuid=W20111115-152314&ResultName=PieChart_Pie_Chart_Test

Pie Chart Test



Detailed Steps using command line tools

- Open a command window in the location of your ECL files.

- Type the following command:

```
eclcc pie.ecl -E -manifest=<manifestfilepath> >myarchive.xml
```

where <manifestfilepath> is the location of your manifest file

For example:

```
eclcc pie.ecl -E -manifest="C:\Documents and Settings\All
Users\Documents\HPCC Systems\ECL\My
Files\visualizations\google_charts\files\manifest.xml"
>myarchive.xml
```

This invokes the ECLCC compiler to create an archive named myarchive.xml.

- Type the following command:

```
ecl deploy myarchive.xml --server=10.239.219.8 --cluster=thor
```

where --server= is the IP address of your ESP server and
--cluster= is the target cluster name.

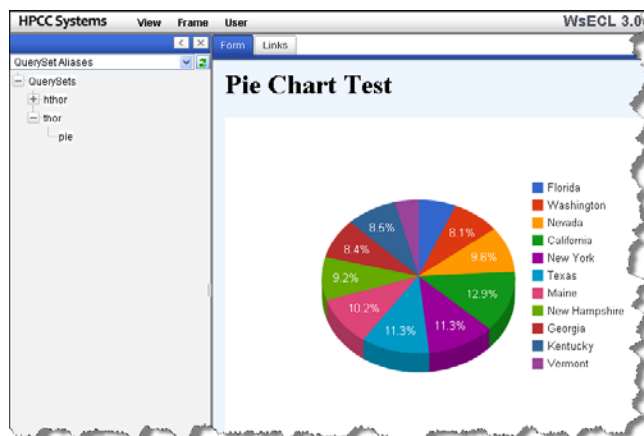
- Take note of the WUID returned by the pervious command.
- Type the following command:

```
ecl publish <WUID> --server=10.239.219.8 --cluster=thor --activate
--name=pie
```

where <WUID> is the workuint id number, --server= is the IP address
of your ESP server, and --cluster= is the target cluster name.

- In a browser, open the URL for the WsECL service (typically found on port 8002 of your ESP Server).
- Expand the **thor** branch on the left, then click on the **pie** service link.
- Press the Submit button.

The visualization displays.



Next Steps

- Try the remaining examples:
 - geomap
 - motion
 - pie
 - scatter
 - sparkline
 - timeline
- Try creating your own XSLT files and Manifest to use other Google Charts.
- Try creating your own XSLT files and Manifest to use other third-party visualizations.