HPCC Systems

Running HPCC in a Virtual Machine

Boca Raton Documentation Team

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August 2011 Version 3.0.4

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Introduction

These instructions will guide you through installing and running an HPCC[1] System on a single node inside a Linux virtual machine running on a Windows host.

Packaged to run inside a virtual machine, this version provides a hands-on experience with an HPCC system. You can experiment with it and even create real-world data analytics applications-all on your desktop or laptop PC.

This version includes the tools and functionality of an HPCC without the need for a physical cluster of servers. It provides enough for you to evaluate an HPCC system and learn to use ECL[2]. Naturally, you do not get the power of parallel processing, but you can use this version as an evaluation, learning, and experimentation tool.

Reading this document in its entirety before beginning. The steps in this document can take an hour or two, depending on your download speed.

[1] **H**igh **P**erformance **C**omputing **C**luster (HPCC) is a massively parallel processing computing platform that solves Big Data problems. See http://hpccsystems.com/Why-HPCC/How-it-works for more details.

[2] **E**nterprise **C**ontrol **L**anguage (ECL) is a declarative, data-centric programming language used to manage all aspects of the massive data joins, sorts, and builds that truly differentiate HPCC (High Performance Computing Cluster) from other technologies in its ability to provide flexible data analysis on a massive scale.

System Requirements

Running HPCC in a virtual machine requires (at minimum):

- A personal computer running Windows XP, Vista, Windows 7 (either 32- or 64-bit)
- A minimum of 2 GB ram, with at least 1.5 GB of free memory available. We recommend 4 GB or more
- Intel Pentium D (or better) or AMD Athlon64/Opteron/Phenom processor
- Minimum 5 GB of available disk space, we recommend 20 GB
- VMWare® Player or Server (version 3.0 or later)
- Internet Explorer® 7, Google Chrome 10, or Firefox™ 3.0 (or later)

Users should have familiarity with installing and running Windows applications.

Getting the Tools and the VM Image

To run this version of the HPCC System, you need the VM player (version 3.0 or later) from VMWare®.

In the following sections, you will:

- Download and install the VM Player
- Download the HPCC virtual machine image from HPCC Systems.
- Open the image in the VM Player

Once you have completed these steps, you can evaluate the HPCC Platform and learn how to use it. .

Download and Install the VMWare player

If you already have VMPlayer (version 3.0 or later) installed, you can skip this section and go to the section called “Get the latest HPCC Virtual Image File”.

1. Go to the VMWare site: http://www.vmware.com/products/player/.
2. Click on download link, then follow the instructions to download the version for 32-bit and 64-bit Windows.

   Registration is required, but the player is free.
3. Download the VMWare Player (save to a folder on your machine).
4. Follow VMWare's on-screen instructions and install the VM Player.

Get the latest HPCC Virtual Image File

1. Download the latest HPCC virtual machine image file from:

   http://hpccsystems.com/download/hpcc-vm-image

   Note: You may need to register and login.

2. Save the .zip file to a folder on your machine, and extract the contents to a folder on your machine.

3. Go to the folder where you extracted the files and double-click on the .vmx. file (HPCCSystemsVM-*n.n.n.n*.vmx , where n.n.n.n is the version number).

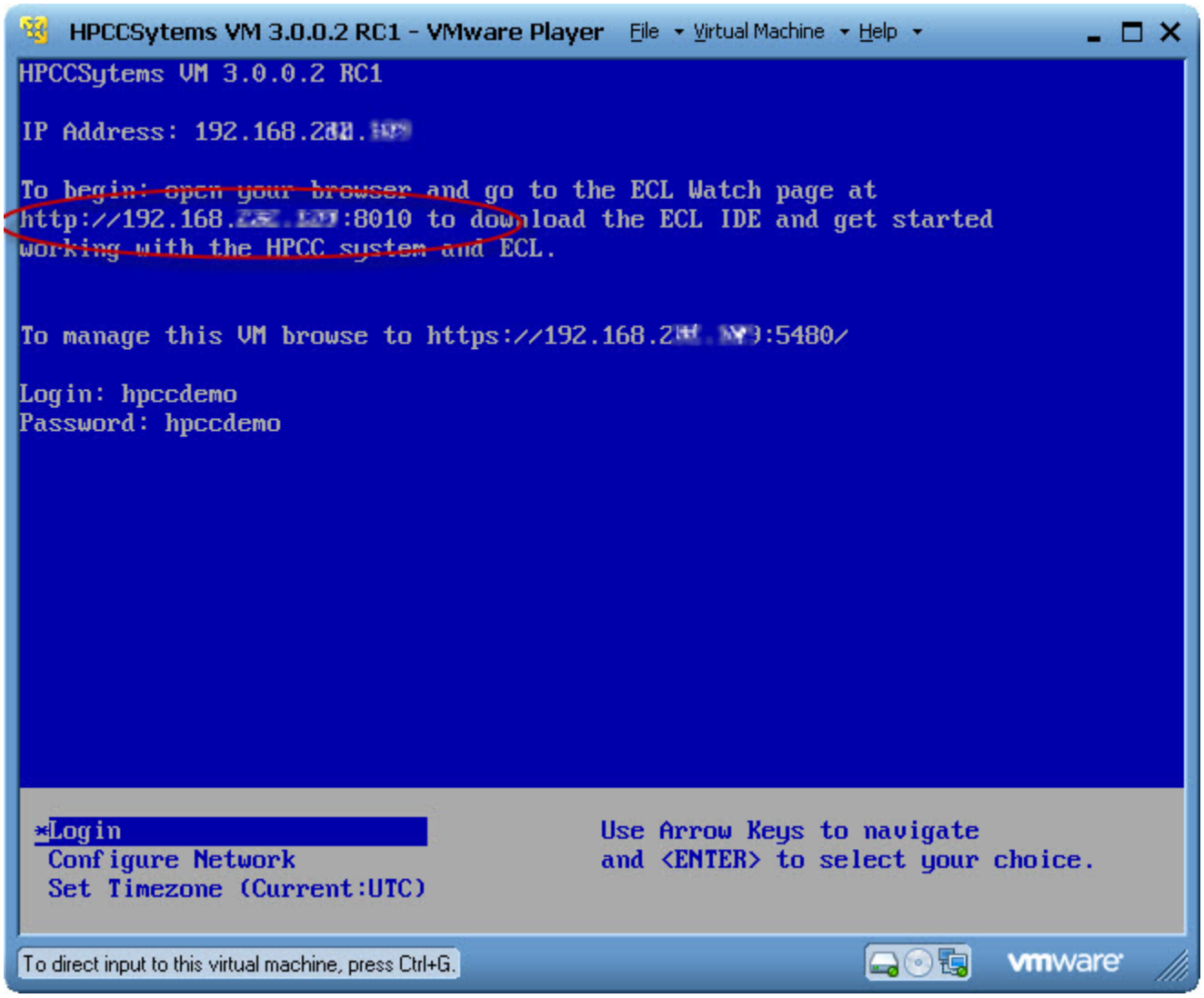
   The .vmx file should open in the VMWare player. If your VMPlayer is not installed correctly, the .vmx file will not open. Please check your VMPlayer installation.

4. Wait for the HPCC virtual machine to load to the desktop in the VM player. This may take a few minutes.

   Note: The first time you use the VM Player, you must accept the license agreement. You may also be prompted to install add-ons, but they are not necessary for the HPCC virtual machine.

5. Once the VM initialization completes, you will see a window similar to the following:

Figure 1. VM Welcome Screen



	Your virtual IP address could be different from the ones provided in the example images. Please use the IP address provided by **your** installation.

Do not resize this window, you will not interact with it. In addition, there is no need to Login, Configure Network, or Set Timezone.

Running the HPCC VM

In this section, we will access the HPCC using the web-based interface: ECL Watch[1].From ECL Watch, we will download the ECL IDE[2]. If you already have the ECL IDE installed, you can skip this section and continue at *Running the HPCC ECL IDE when you had a previous version installed*.

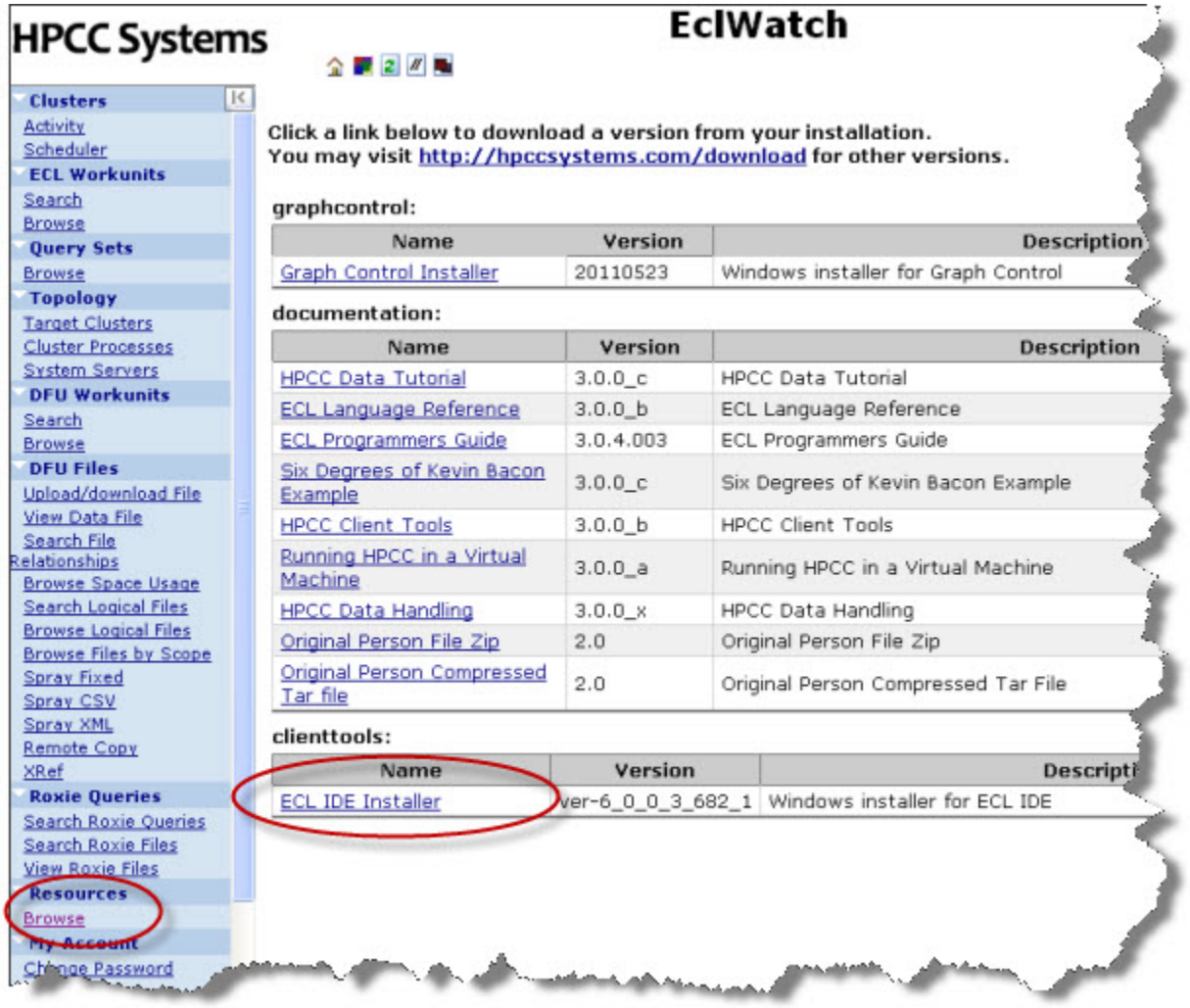
1. In your browser, go to the **ECL Watch** URL displayed (circled in red) in Figure 1, "VM Welcome Screen". For example, http://nnn.nnn.nnn.nnn:8010, where nnn.nnn.nnn.nnn is your Virtual Machine's IP address. .

Your virtual IP address could be different from the ones provided in the example images. Please use the IP address provided by **your** installation.

2. From ECL Watch page, click on the **Resources** link in the menu on the left side.

[1]ECL Watch is a Web-based interface to your HPCC system. It enables you to examine and manage many aspects of the HPCC and allows you to see information about jobs you run, data files, and system metrics.
[2]The ECL IDE (Integrated Development Environment) is the tool used to create queries into your data and ECL files with which to build your queries. This is a Windows application.

Figure 2. ECL Watch Resource Page



3. Click on the ECL IDE Installer link. When prompted save this file to your PC and then run it—do not run directly from your browser. This is a Windows installer for a Windows application.

4. You can close your browser, if desired.

5. Install the ECL IDE, following the prompts in the installer. Once the ECL IDE is installed successfully, you can proceed.

Running the ECL IDE for the first time

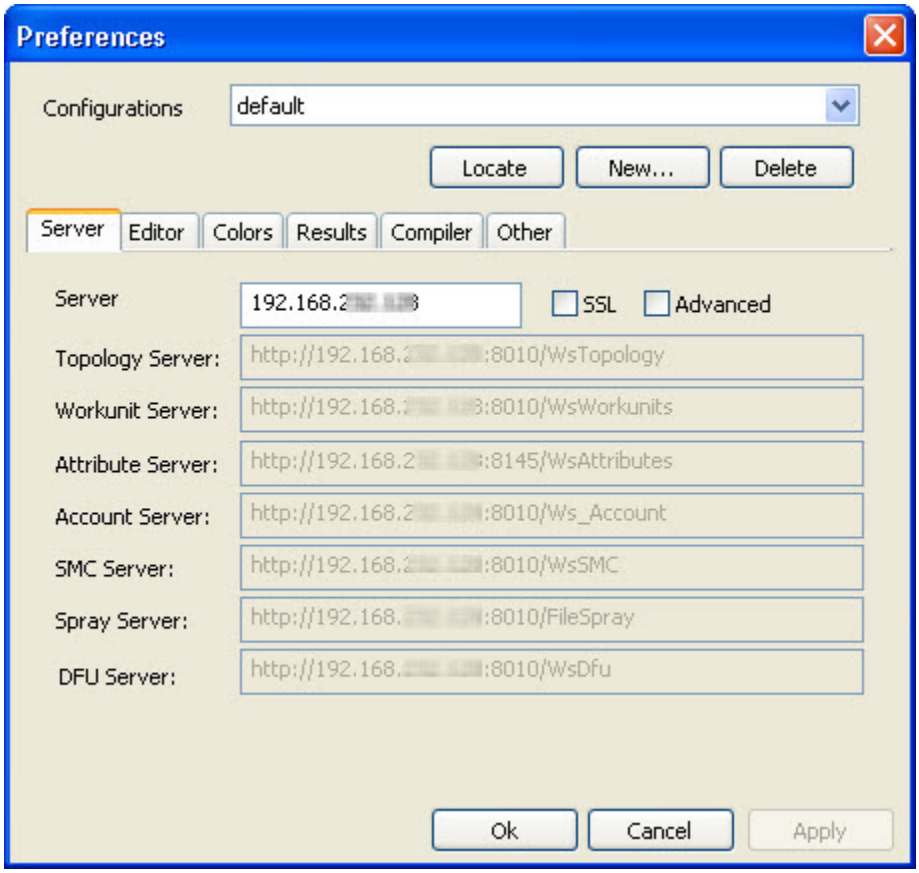
In this section, we will configure the ECL IDE.

1. Open the ECL IDE, from your start menu. (Start ► All Programs ► HPCCSystems ► ECL IDE ► ECL IDE).

	You can create a shortcut on your desktop to provide quick access to the ECL IDE.

2. Enter the IP Address shown in Figure 1, "VM Welcome Screen" for the server in the **Server** box (as shown in Figure 3, "ECL IDE Preferences") and press the **OK** button.

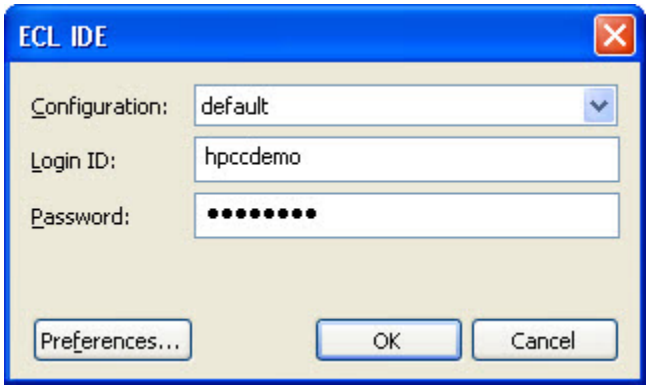
Figure 3. ECL IDE Preferences



3. Enter the **Login ID** and **Password** provided in the Login dialog.

Login ID	hpccdemo
Password	hpccdemo

Figure 4. Login Window



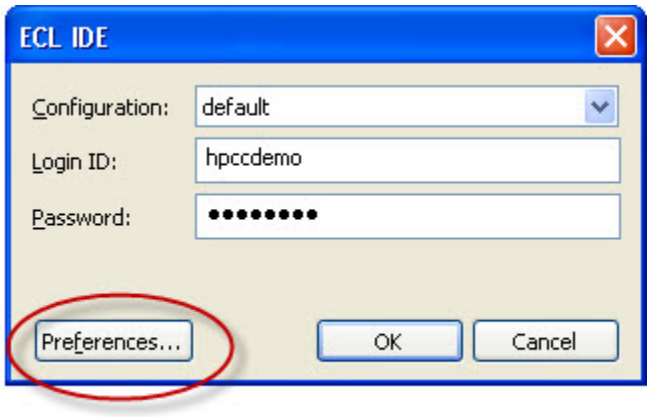
4. Press the **OK** button.

   At this point you are now connected and ready to work with the HPCC!

Running the HPCC ECL IDE when you had a previous version installed

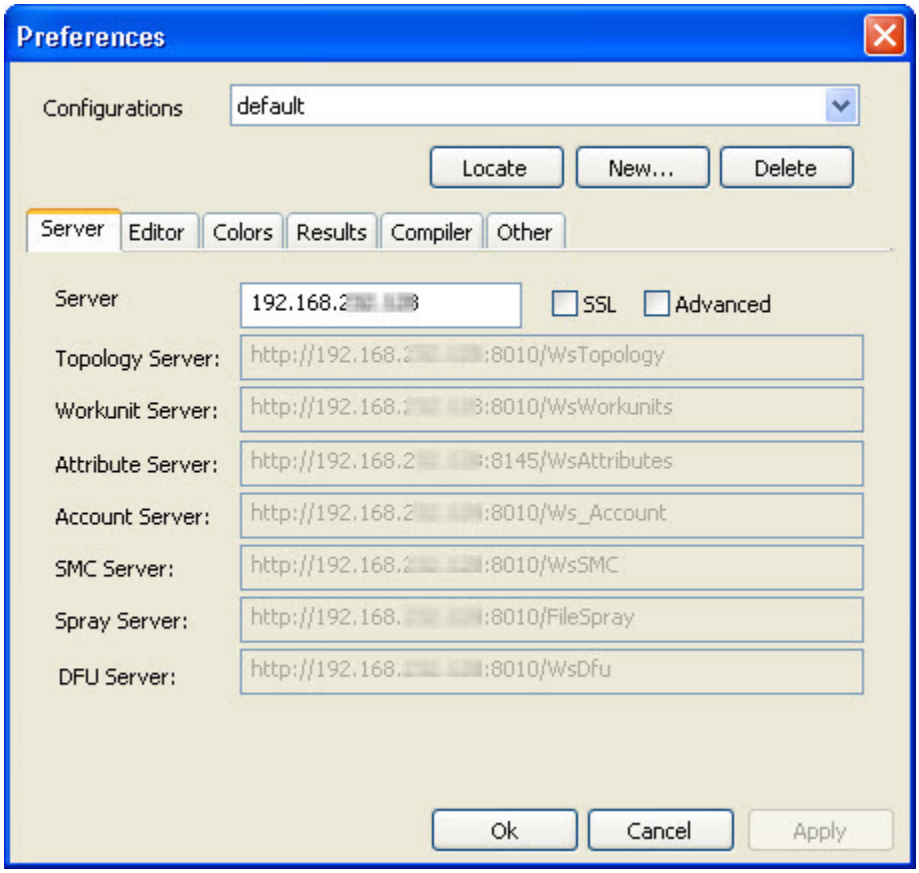
1. Open the ECL IDE, from your Start menu. (Start ► All Programs ► HPCCSystems ► ECL IDE ► ECL IDE)
2. Press the **Preferences** button in the Login dialog that displays upon start up.

Figure 5. Login Window



3. Enter the IP Address shown in Figure 1, "VM Welcome Screen" for the server in the **Server** box (as shown in Figure 6, "ECL IDE Preferences") and press the **OK** button.

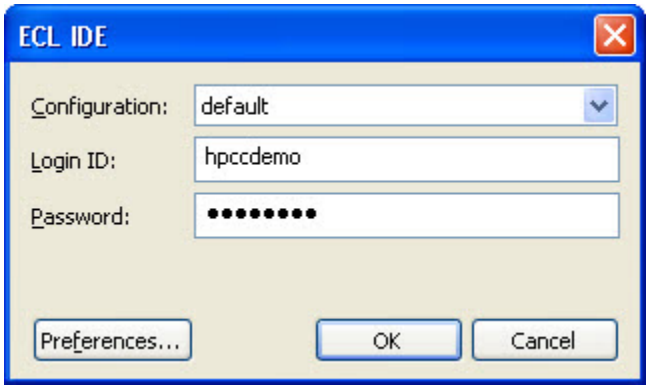
Figure 6. ECL IDE Preferences



4. Enter the **Login ID** and **Password** provided in the Login dialog.

Login ID	hpccdemo
Password	hpccdemo

Figure 7. Login Window



5. Press the **OK** button.

   You are now connected and ready to work with the HPCC!

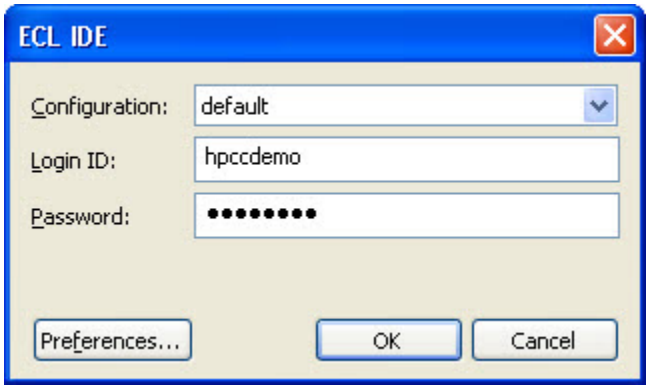
Write some ECL

Let's write, compile, and execute a simple "Hello World" program on our HPCC.

1. Open ECL IDE, from your Start menu. (Start ► All Programs ► HPCCSystems ► ECL IDE or use the desktop shortcut, if you have created one.)

   The Login Window displays.

   Figure 8. Login Window

2. Provide your credentials (hpccdemo) then press the **OK** button.

3. Open a new **Builder Window** (CTRL+N) and write the following code:

   ```
   OUTPUT('Hello World');
   ```

   This could also be written as:

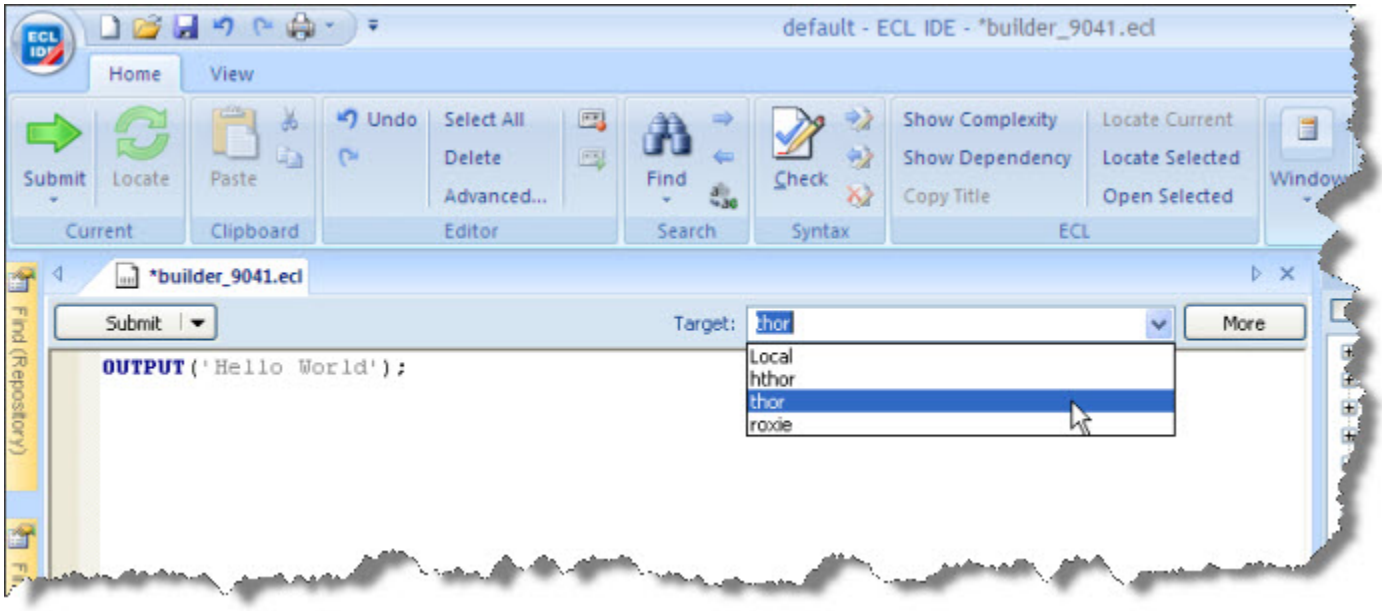
   ```
   'Hello World';
   ```

   In the second program listing, the OUTPUT keyword is omitted. This is possible because the language is declarative and the OUTPUT action is implicit.

4. Select **thor** as your target cluster.

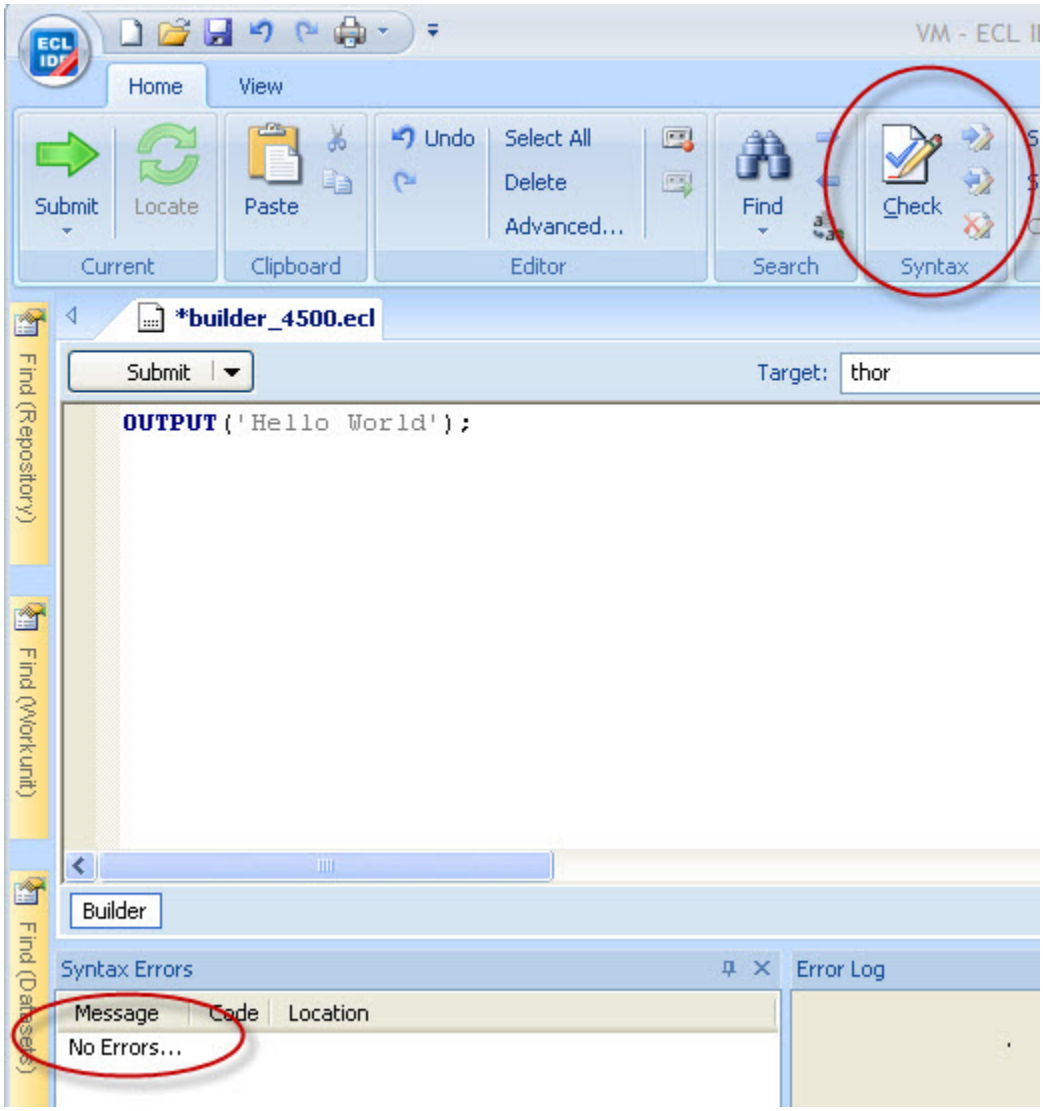
   Thor is the Data Refinery component of your HPCC. It is a massively parallel computer cluster, optimized for sorting, manipulating, and transforming massive data. This process is also known as ETL (Extract, Transform, and Load)

Figure 9. Select target



5. Press the syntax check button on the main toolbar (or press F7).

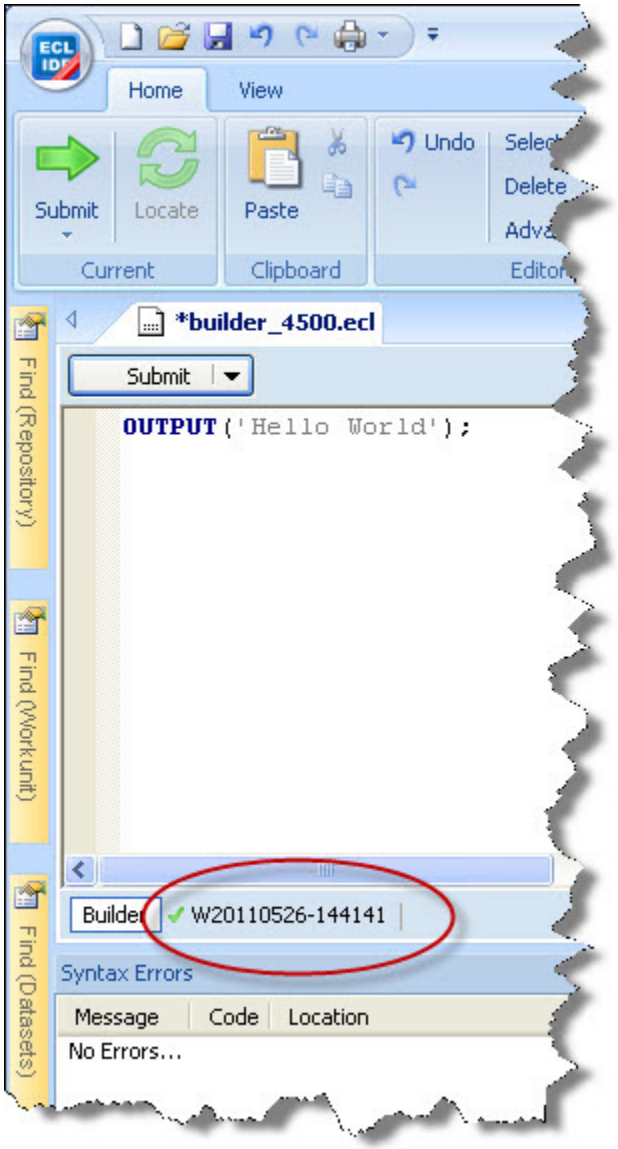
Figure 10. Syntax Check



A successful syntax check displays the "No Errors" message.

6. Press the **Submit** button (or press CTRL+ENTER).

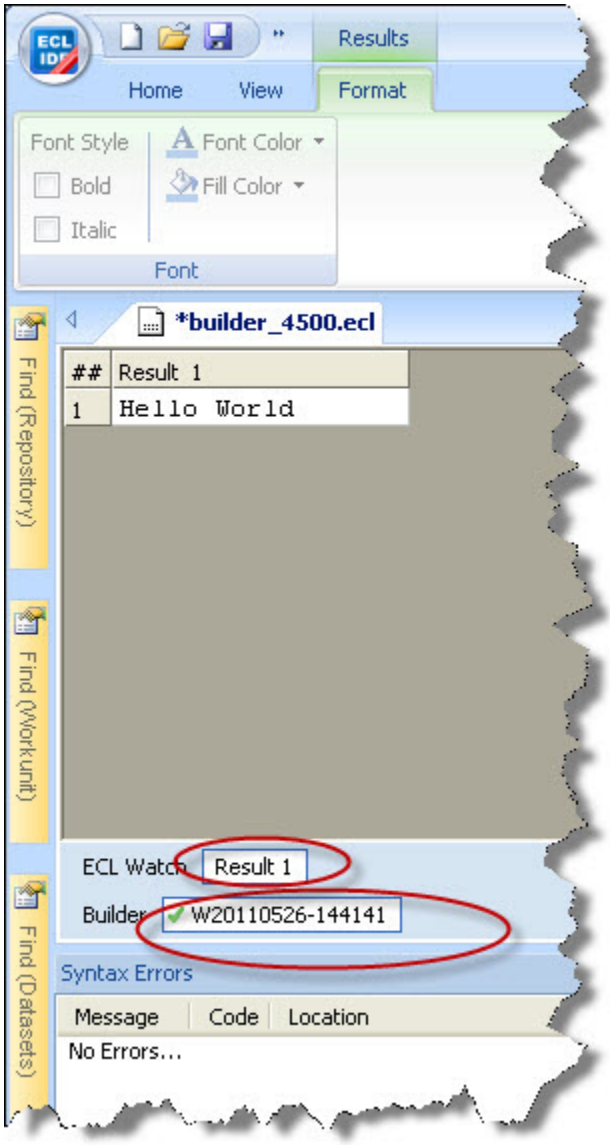
Figure 11. Completed job



The green check mark indicates successful completion.

7. Click on the workunit number tab and then on the Result 1 tab to see the output.

Figure 12. Completed job output



Working with ECL

Now that you have submitted some ECL code, it's time to try some more complex operations.

The following examples are provided to get you started.

ECL Example: Anagram1

This example takes a STRING and produces every possible anagram from it. This code is the basis for a second example which evaluates which of these are actual words using a word list data file.

1. Open a new **Builder Window** (CTRL+N) and write the following code:

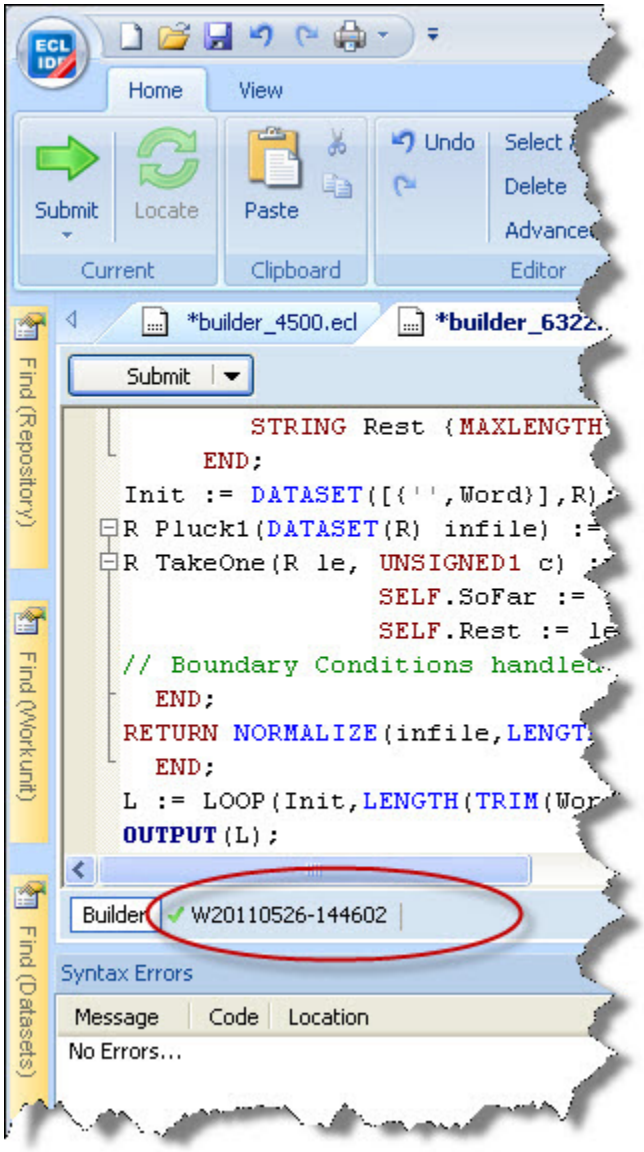
```
STRING Word := 'FRED' :STORED('Word');
R := RECORD
        STRING SoFar {MAXLENGTH(200)};
        STRING Rest {MAXLENGTH(200)};
     END;
Init := DATASET([{'',Word}],R);
R Pluck1(DATASET(R) infile) := FUNCTION
R TakeOne(R le, UNSIGNED1 c) := TRANSFORM
                SELF.SoFar := le.SoFar + le.Rest[c];
                SELF.Rest := le.Rest[..c-1]+le.Rest[c+1..];
// Boundary Conditions handled automatically
  END;
RETURN NORMALIZE(infile,LENGTH(LEFT.Rest),TakeOne(LEFT,COUNTER));
  END;
L := LOOP(Init,LENGTH(TRIM(Word)),Pluck1(ROWS(LEFT)));
OUTPUT(L);
```

2. Select **thor** as your target cluster.

3. Press the syntax check button on the main toolbar (or press F7)

4. Press the **Submit** button (or press CTRL+ENTER).

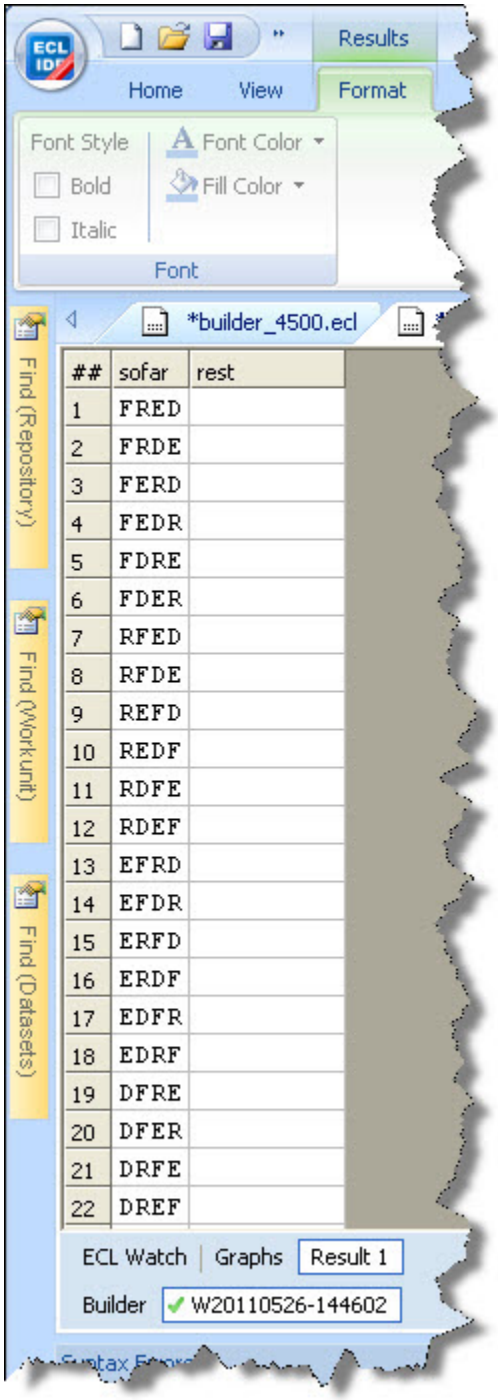
Figure 13. Completed job



The green check mark indicates successful completion.

5. Click on the workunit number tab and then on the Result 1 tab to see the output.

Figure 14. Completed job output



##	sofar	rest
1	FRED	
2	FRDE	
3	FERD	
4	FEDR	
5	FDRE	
6	FDER	
7	RFED	
8	RFDE	
9	REFD	
10	REDF	
11	RDFE	
12	RDEF	
13	EFRD	
14	EFDR	
15	ERFD	
16	ERDF	
17	EDFR	
18	EDRF	
19	DFRE	
20	DFER	
21	DRFE	
22	DREF	

Roxie Example: Anagram2

In this example, we will download an open source data file of dictionary words, spray that file to our Thor cluster, then validate our anagrams against that file so that we determine which are valid words. The validation step uses a JOIN of the anagram list to the dictionary file. Using an index and a keyed join would be more efficient, but this serves as a simple example.

Download the word list

We will download the word list from from http://wordlist.sourceforge.net/

1. Download the *Official 12 Dicts* Package

2. Extract the **2of12.txt** file to a folder on your local machine. The files are available in tar.gz or ZIP format.

Load the Dictionary File to your Landing Zone

In this step, you will copy the data files to a location from which it can be sprayed to your HPCC cluster. A Landing Zone is a storage location attached to your HPCC. It has a utility running to facilitate file spraying to a cluster.

For smaller data files, maximum of 2GB, you can use the upload/download file utility in ECL Watch. This data file is only ~400 kb.

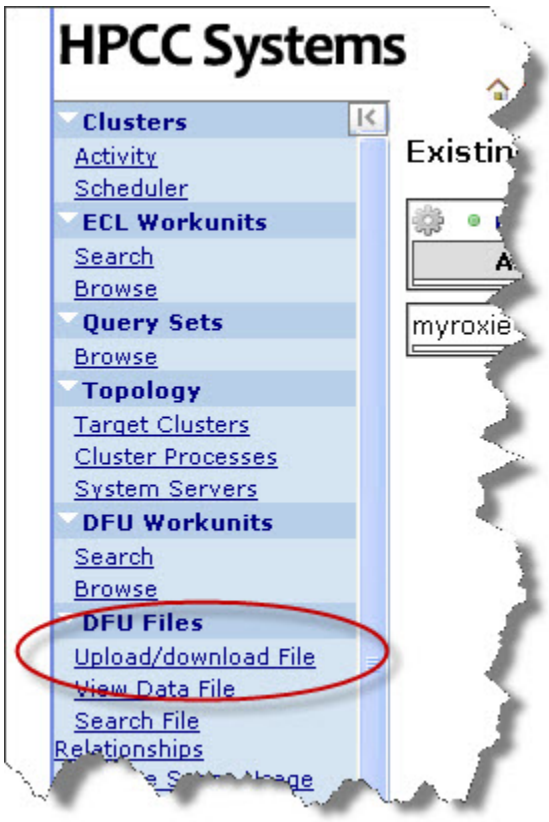
Next you will distribute (or Spray) the dataset to all the nodes in the HPCC cluster. The power of the HPCC comes from its ability to assign multiple processors to work on different portions of the data file in parallel. Even though the VM Edition only has a single node, the data must be sprayed to the cluster.

1. In your browser, go to the **ECL Watch** URL For example, http://nnn.nnn.nnn.nnn:8010, where nnn.nnn.nnn.nnn is your ESP Server's IP address.

Your IP address could be different from the ones provided in the example images. Please use the IP address provided by **your** installation.

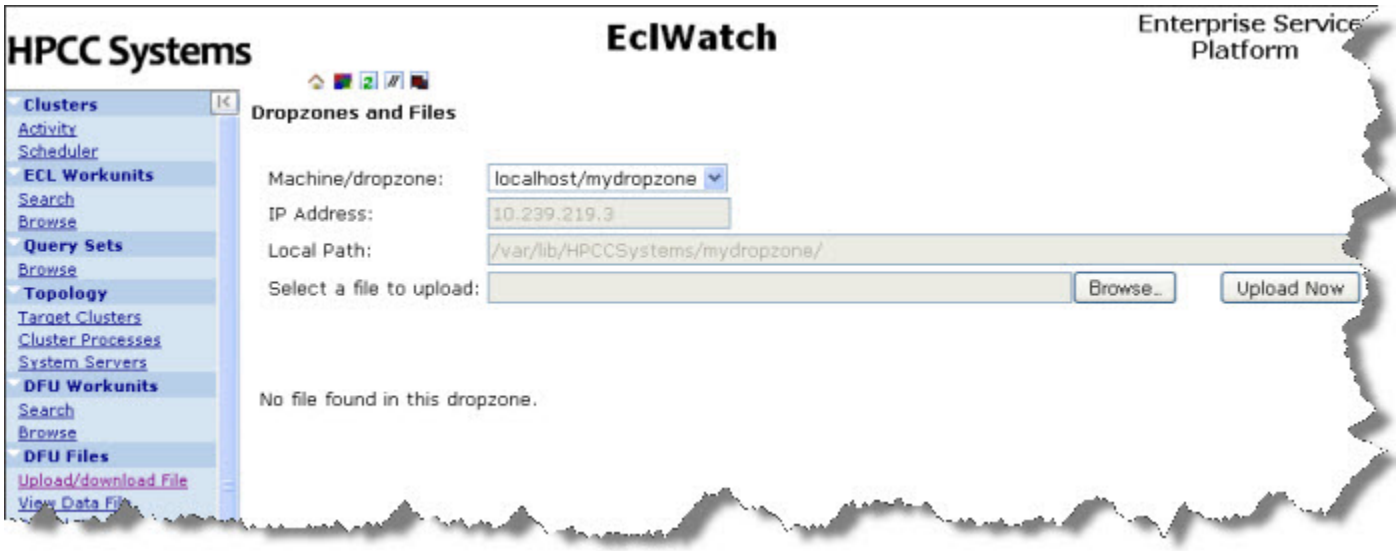
2. From ECL Watch page, click on the **Upload/download File** link in the menu on the left side.

Figure 15. Upload/download



Once you click on the Upload/download file link, it will take you to the Dropzones and Files page, where you can choose to **Browse** your machine for a file to upload:

Figure 16. Dropzones and Files



3. Press the **Browse** button to browse the files on your local machine, select the file to upload and then press the **Open** button.

   The file you selected should appear in the **Select a file to upload:** field. The data file is named: **2of12.txt**.

4. Press on **Upload Now** to complete the file upload.

Spray the Data File to your *Data Refinery (Thor) Cluster*

To use the data file in our HPCC system, we must "spray" it to all the nodes. A *spray* or *import* is the relocation of a data file from one location (such as a Landing Zone) to multiple file parts on nodes in a cluster.

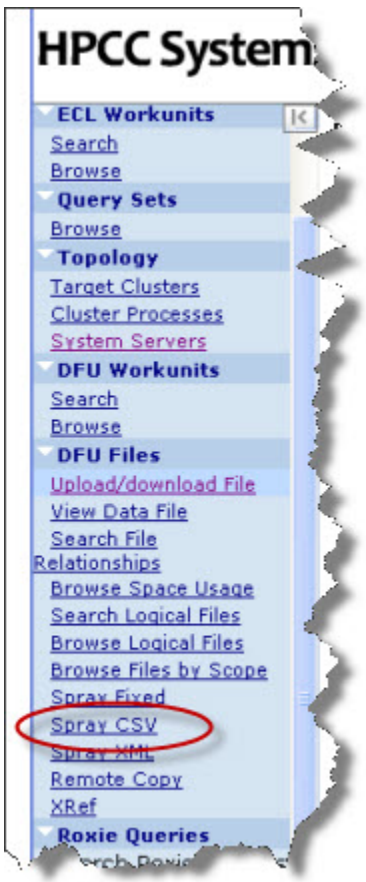
The distributed or sprayed file is given a *logical-file-name* as follows**: thor::word_list_csv** The system maintains a list of logical files and the corresponding physical file locations of the file parts.

1. Open ECL Watch using the following URL:

   http://nnn.nnn.nnn.nnn:pppp(where nnn.nnn.nnn.nnn is your ESP Server's IP Address and pppp is the port. The default port is 8010)

2. CLICK on the Spray CSV hyperlink under the DFU Files menu on the left.

Figure 17. Spray CSV



The **DFU Spray CSV** page displays.

3. Select mydropzone in the Source **Machine/dropzone** drop-list.

   The IP Address is automatically filled and the Local Path is partially filled with the default folder on your landing zone. Note: The VM and Community Edition typically only has one landing zone defined.

4. Complete the Local Path to include the complete file name or use the **Choose File** button to select the file from a list of files in the folder. The file is **2of12.txt**.

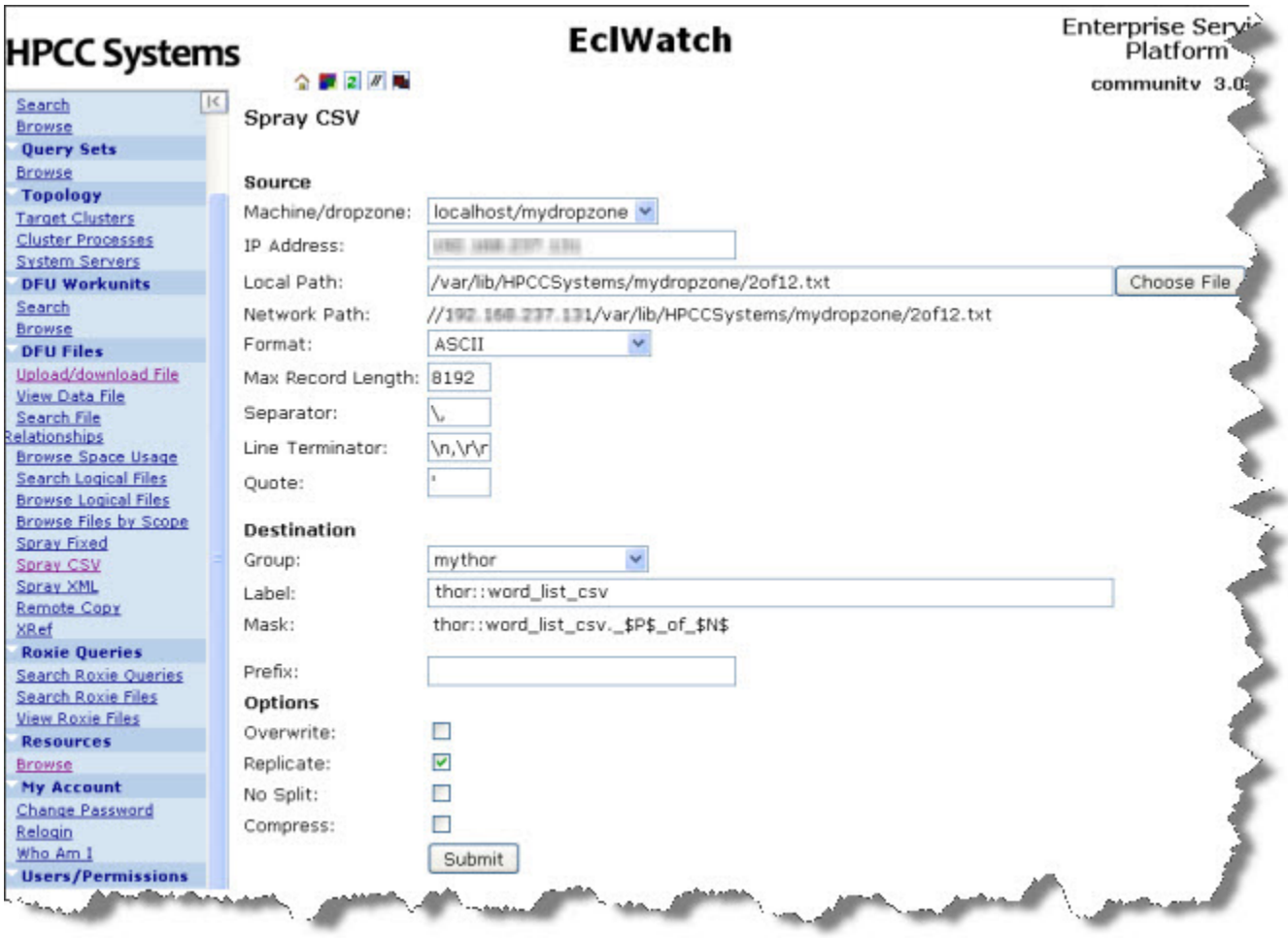
5. Fill in the rest of the parameters (if they are not filled in already).

   - Max Record Length 8192
   - Separator \,
   - Line Terminator \n,\r\n
   - Quote: '

6. Fill in the Label using the Logical File name desired: **thor::word_list_csv**

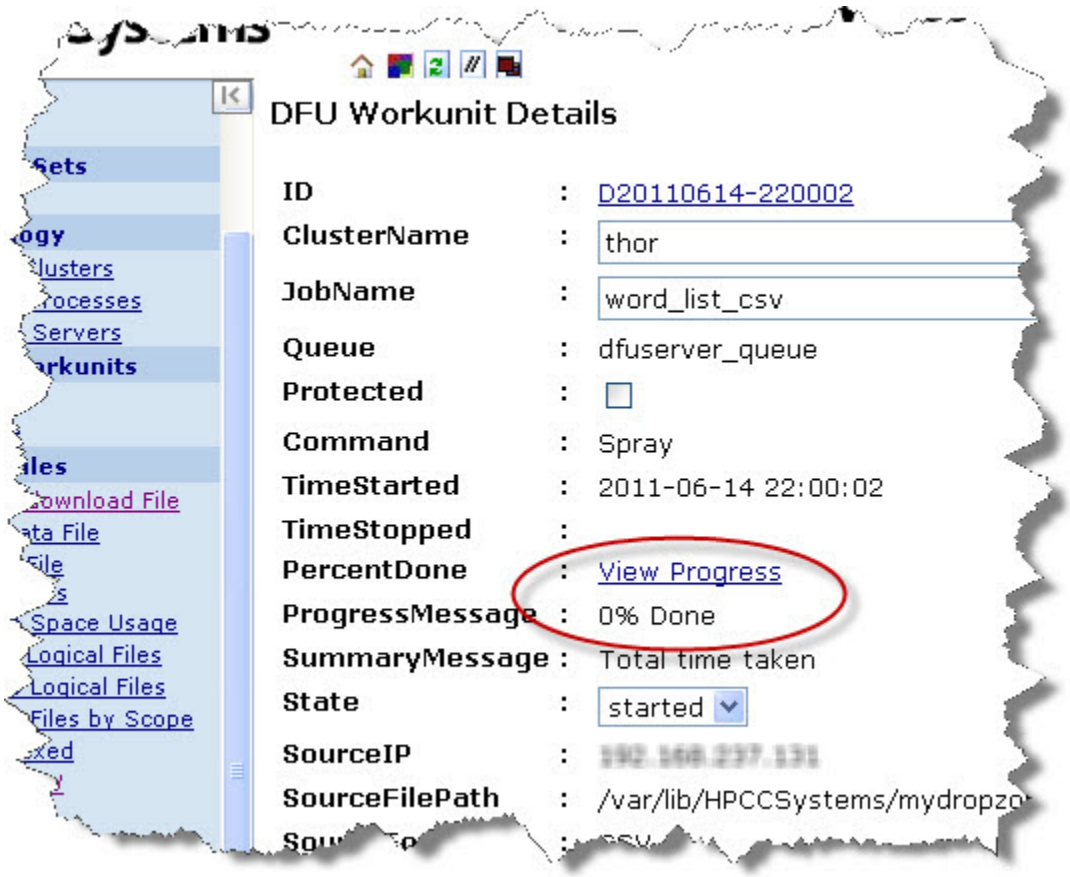
7. Make sure the **Overwrite** and **Replicate** boxes are checked.

Figure 18. Spray the File



8. Press the Submit button

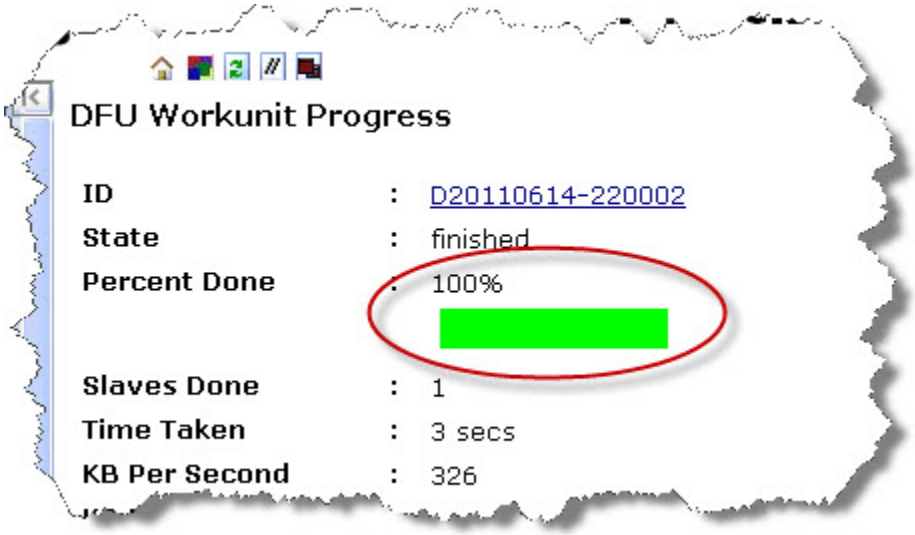
Figure 19. View Progress



9. Click the View Progress link

10. The Workunit progress page displays.

Figure 20. Workunit Progress



Run the query on Thor

1. Open a new **Builder Window** (CTRL+N) and write the following code:

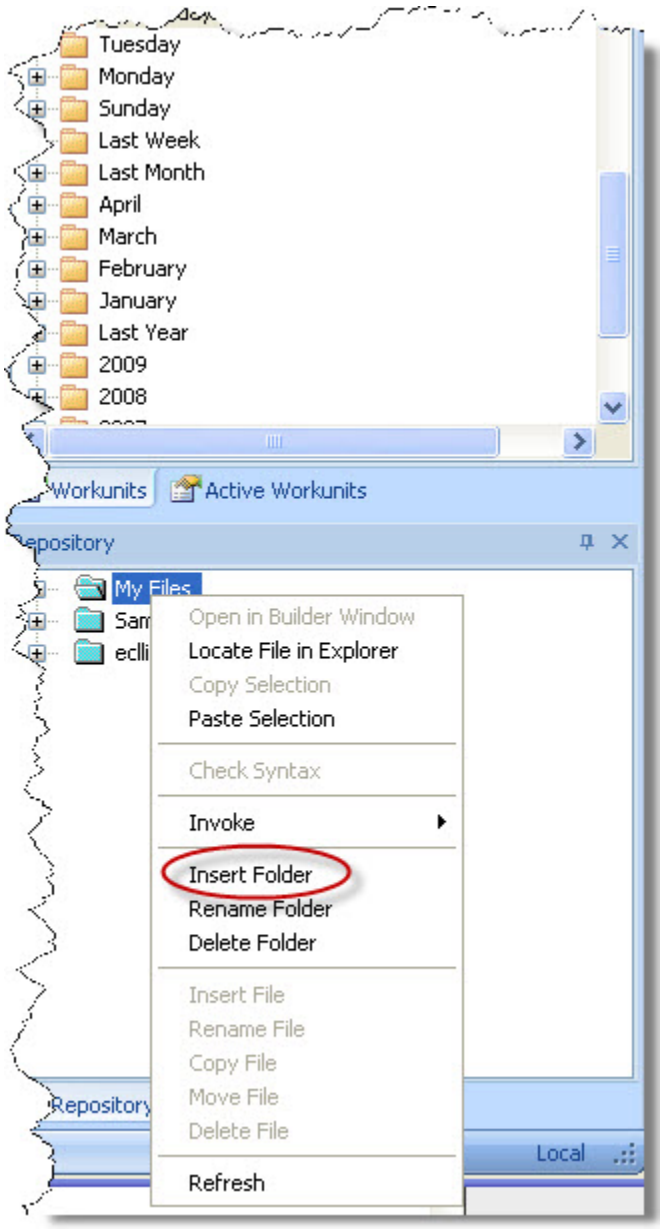
```
IMPORT Std;
layout_word_list := record
  string word;
end;
File_Word_List := dataset('~thor::word_list_csv', layout_word_list,
                          CSV(heading(1),separator(','),quote('')));
STRING Word := 'teacher' :STORED('Word');
STRING SortString(STRING input) := FUNCTION
  OneChar := RECORD
    STRING c;
  END;
  OneChar MakeSingle(OneChar L, unsigned pos) := TRANSFORM
    SELF.c := L.c[pos];
  END;
  Split := NORMALIZE(DATASET([input],OneChar), LENGTH(input),
  MakeSingle(LEFT,COUNTER));
  SortedSplit := SORT(Split, c);
  OneChar Recombine(OneChar L, OneChar R) := TRANSFORM
    SELF.c := L.c+R.c;
  END;
  Recombined := ROLLUP(SortedSplit, Recombine(LEFT, RIGHT),ALL);
  RETURN Recombined[1].c;
END;

STRING CleanedWord := SortString(TRIM(Std.Str.ToUpperCase(Word)));

R := RECORD
  STRING SoFar {MAXLENGTH(200)};
  STRING Rest {MAXLENGTH(200)};
END;
Init := DATASET([{'',CleanedWord}],R);
R Pluck1(DATASET(R) infile) := FUNCTION
  R TakeOne(R le, UNSIGNED1 c) := TRANSFORM
    SELF.SoFar := le.SoFar + le.Rest[c];
    SELF.Rest := le.Rest[..c-1]+le.Rest[c+1..];
    // Boundary Conditions
    // handled automatically
  END;
  RETURN DEDUP(NORMALIZE(infile,LENGTH(LEFT.Rest),TakeOne(LEFT,COUNTER)));
END;
L := LOOP(Init,LENGTH(CleanedWord),Pluck1(ROWS(LEFT)));
ValidWords := JOIN(L,File_Word_List,
LEFT.SoFar=Std.Str.ToUpperCase(RIGHT.Word),TRANSFORM(LEFT));
OUTPUT(CleanedWord);
COUNT(ValidWords);
OUTPUT(ValidWords)
```

2. Select **thor** as your target cluster.
3. Press the syntax check button on the main toolbar (or press F7)
4. Press the **Submit** button.
5. When it completes, select the Workunit tab, then select the Result tab.
6. Examine the result, then close the Builder window.

Compile and Publish the query to Roxie

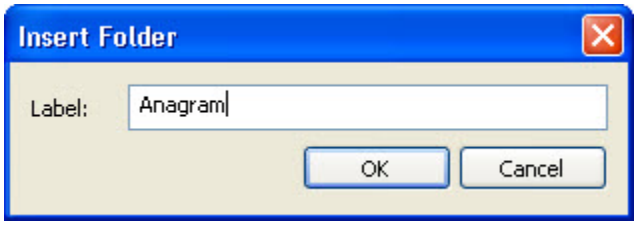
1. RT-CLICK on the **MyFIles** folder in the Repository window, and select **Insert Folder** from the pop-up menu.

Figure 21. Insert Folder



2. Enter **Anagram** for the label, then press the OK button.

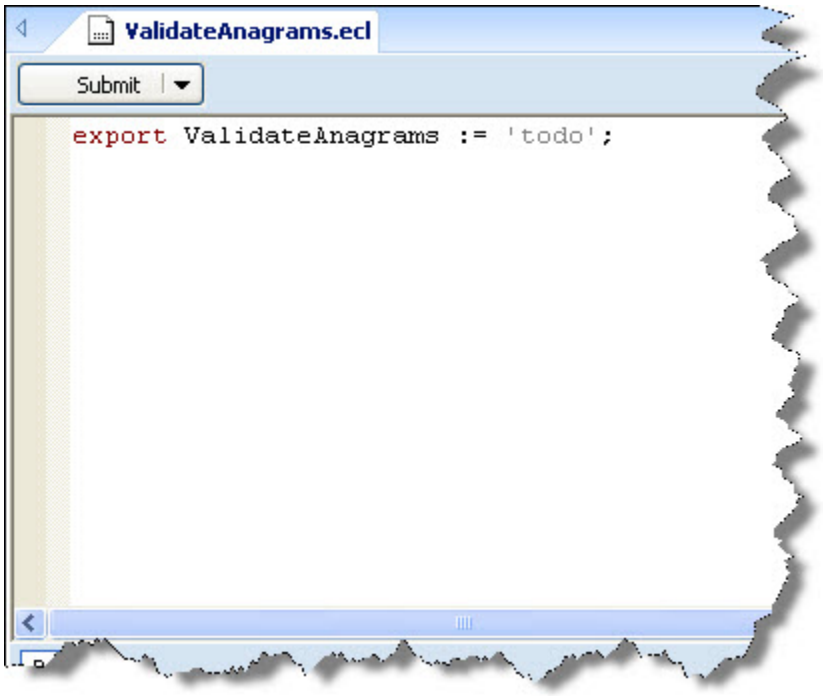
Figure 22. Enter Folder Label



3. RT-CLICK on the **Anagram** Folder, and select **Insert File** from the pop-up menu.
4. Enter **ValidateAnagrams** for the label, then press the OK button.

   A Builder Window opens.

Figure 23. Builder Window



5. Write the following code (you can copy the code from the other builder window):

```
IMPORT Std;
layout_word_list := record
  string word;
end;
File_Word_List := dataset('~thor::word_list_csv', layout_word_list,
                          CSV(heading(1),separator(','),quote('')));
STRING Word := 'teacher' :STORED('Word');
STRING SortString(STRING input) := FUNCTION
  OneChar := RECORD
```

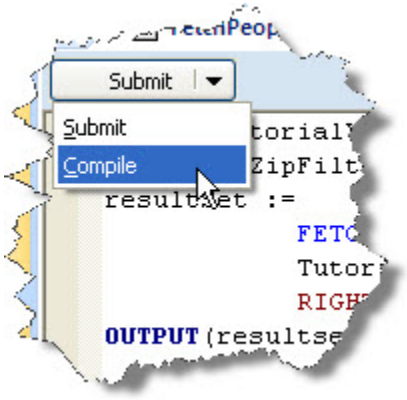
```
    STRING c;
  END;
  OneChar MakeSingle(OneChar L, unsigned pos) := TRANSFORM
    SELF.c := L.c[pos];
  END;
  Split := NORMALIZE(DATASET([input],OneChar), LENGTH(input),
  MakeSingle(LEFT,COUNTER));
  SortedSplit := SORT(Split, c);
  OneChar Recombine(OneChar L, OneChar R) := TRANSFORM
    SELF.c := L.c+R.c;
  END;
  Recombined := ROLLUP(SortedSplit, Recombine(LEFT, RIGHT),ALL);
  RETURN Recombined[1].c;
END;

STRING CleanedWord := SortString(TRIM(Std.Str.ToUpperCase(Word)));

R := RECORD
  STRING SoFar {MAXLENGTH(200)};
  STRING Rest {MAXLENGTH(200)};
END;
Init := DATASET([{'',CleanedWord}],R);
R Pluck1(DATASET(R) infile) := FUNCTION
  R TakeOne(R le, UNSIGNED1 c) := TRANSFORM
    SELF.SoFar := le.SoFar + le.Rest[c];
    SELF.Rest := le.Rest[..c-1]+le.Rest[c+1..];
    // Boundary Conditions
    // handled automatically
  END;
  RETURN DEDUP(NORMALIZE(infile,LENGTH(LEFT.Rest),TakeOne(LEFT,COUNTER)));
END;
L := LOOP(Init,LENGTH(CleanedWord),Pluck1(ROWS(LEFT)));
ValidWords := JOIN(L,File_Word_List,
LEFT.SoFar=Std.Str.ToUpperCase(RIGHT.Word),TRANSFORM(LEFT));
OUTPUT(CleanedWord);
COUNT(ValidWords);
OUTPUT(ValidWords)
```

6. Select **Roxie** as your target cluster.

7. Press the syntax check button on the main toolbar (or press F7)

8. In the Builder window, in the upper left corner the **Submit** button has a drop down arrow next to it. Select the arrow to expose the **Compile** option.

Figure 24. Compile

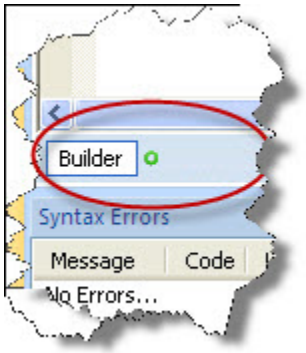


9. Select **Compile**

10. When it completes, select the Workunit tab, then select the Result tab.

11. When the workunit finishes, it will display a green circle indicating it has compiled.

Figure 25. Compiled



Publish the Roxie query

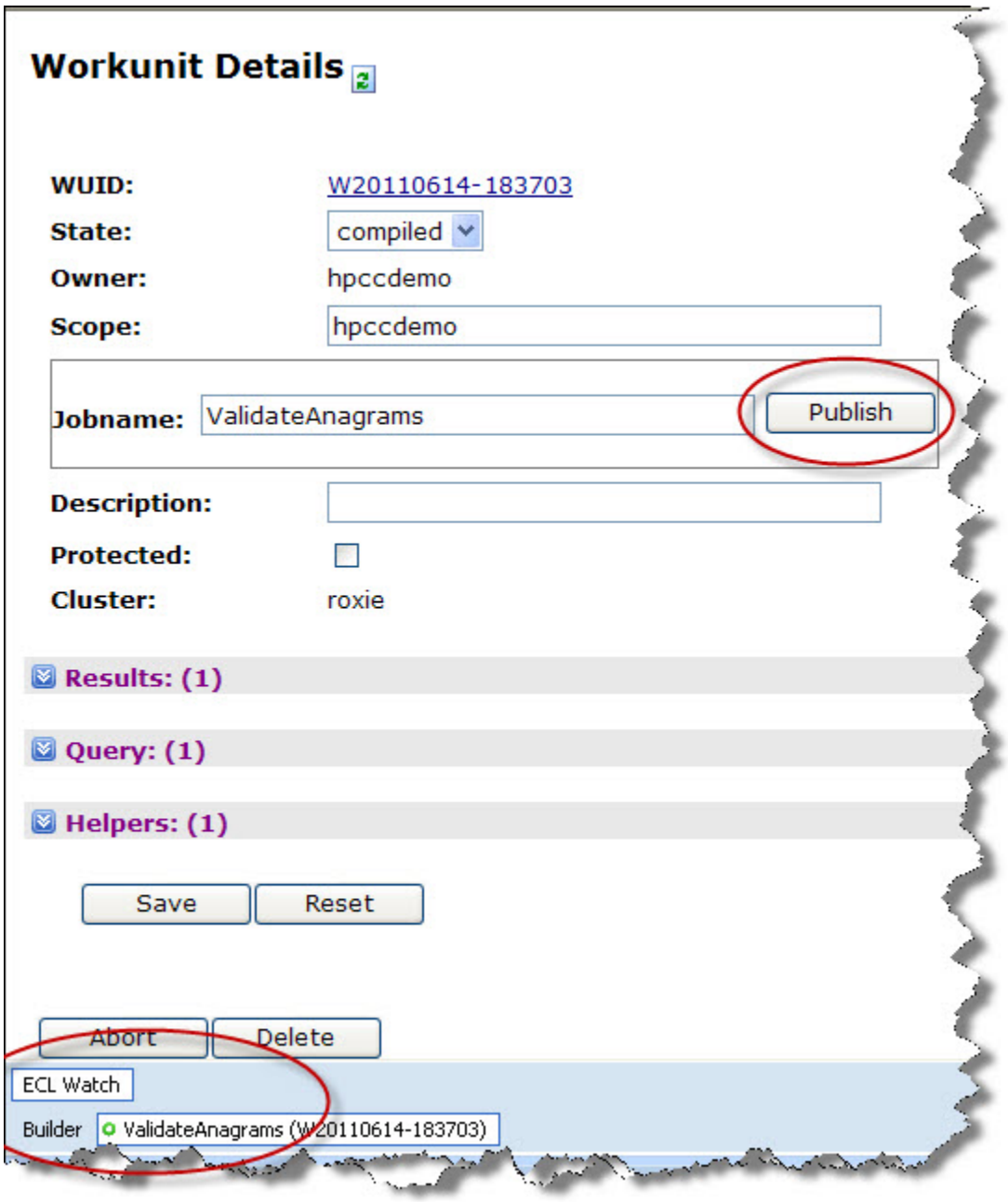
Next we will publish the query to a Roxie Cluster.

1. Select the workunit tab for the ValidateAnagrams that you just compiled.

2. Select the ECL Watch tab.

3. Press the **Publish** button (you may need to scroll down the main window)

Figure 26. Publish Query



When it successfully publishes, you will see:

Figure 27. Workunit Published

Run the Roxie Query in WsECL

Now that the query is published to a Roxie cluster, we can run it using the WsECL service Using the following URL:

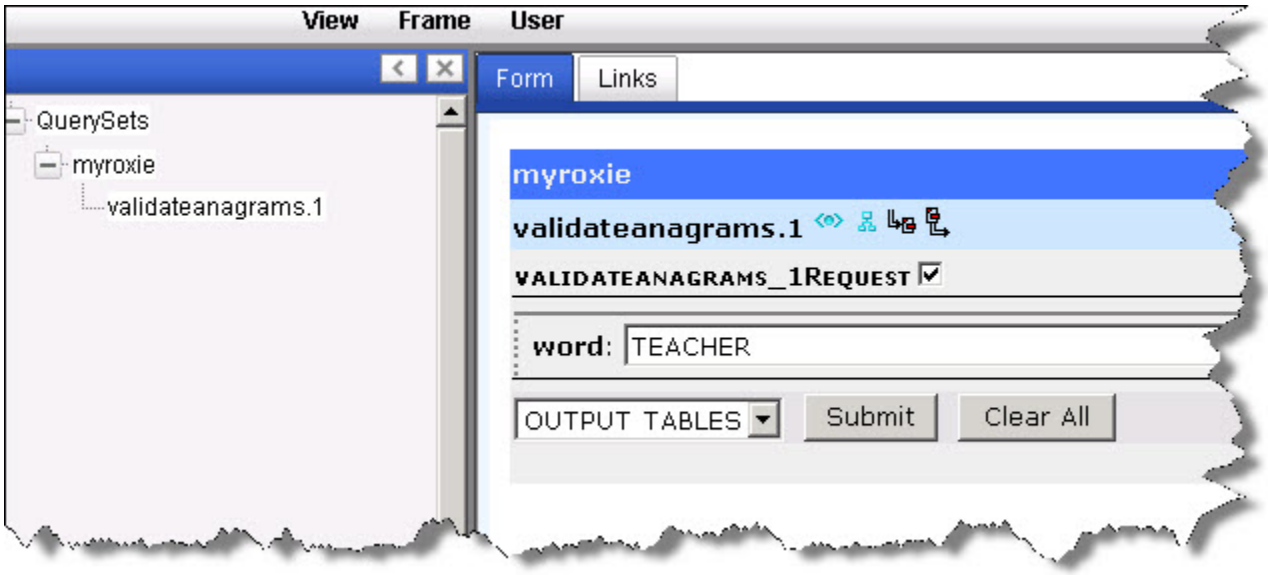
http://nnn.nnn.nnn.nnn:pppp (where nnn.nnn.nnn.nnn is your ESP Server's IP address and pppp is the port. The default port is 8002)

1. Click on the + sign next to **myroxie** to expand the tree.

2. Click on the **ValidateAnagrams.1** hyperlink.

   The form for the service displays.

Figure 28. RoxieECL

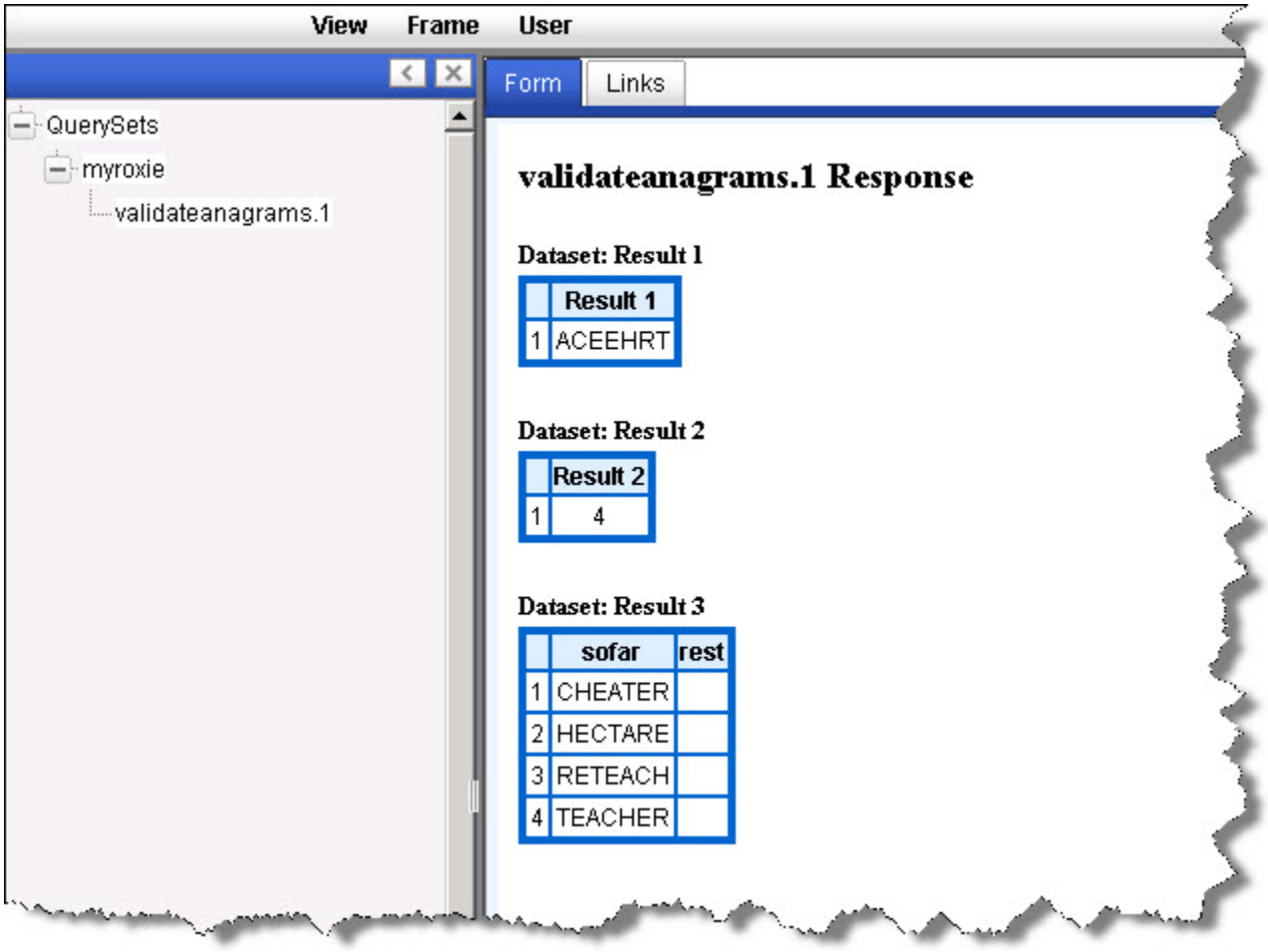


3. Select Output Tables in the drop-list.

4. Provide a word to make anagrams from (e.g., TEACHER), then press the Submit button.

   The results display.

Figure 29. RoxieResults



Working with data files

Once you start working with your HPCC system, you will want to process some real data, this section shows you how to load data to your HPCC system.

Before you begin

A typical production HPCC system would have much more data capacity than using a virtual system for testing purposes. The size of the file you wish to work with is limited by the size of your virtual machine.

- The virtual machine has a limit of 20GB.
- The size of the file(s) you can work with in your virtual machine is also limited by your machine's available disk space. Make sure you have adequate disk space available.

If you exceed the file size limits your VM state will not be saved and you risk losing your work. Make sure that you have ample space to not only store your data, but your virtual machine's "state" to be able to save your work.

Uploading a file

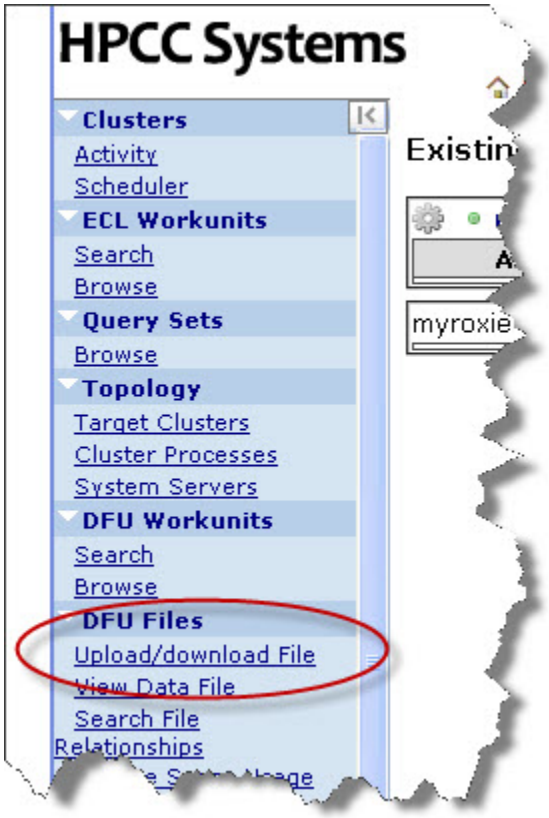
For smaller data files, maximum of 2GB, you can use the upload/download file utility in ECL Watch.

1. In your browser, go to the **ECL Watch** URL displayed (circled in red) in Figure 1, "VM Welcome Screen". For example, http://nnn.nnn.nnn.nnn:8010, where nnn.nnn.nnn.nnn is your Virtual Machine's IP address.

Your virtual IP address could be different from the ones provided in the example images. Please use the IP address provided by **your** installation.

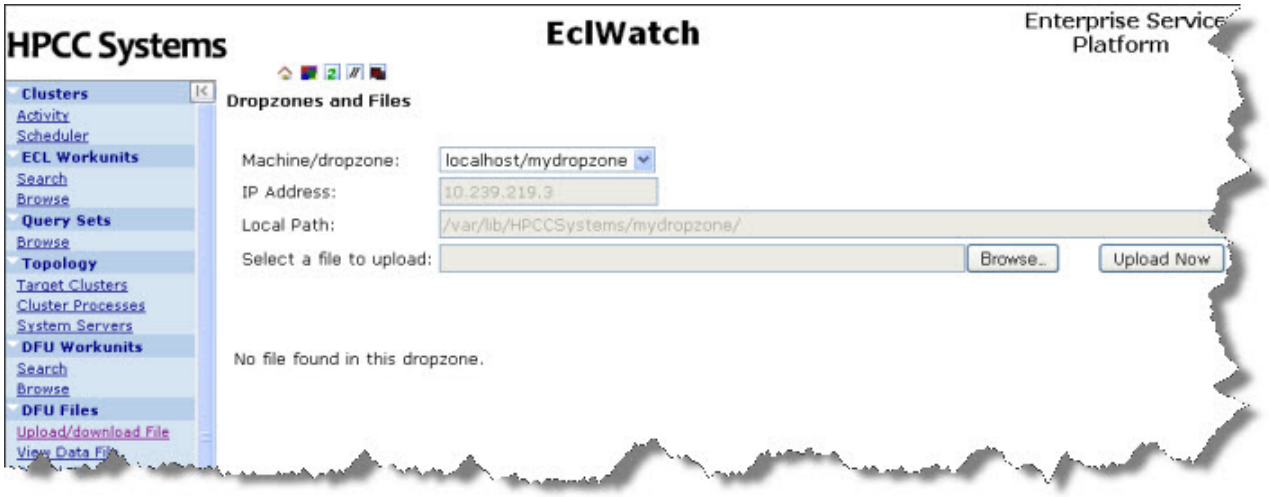
2. From ECL Watch page, click on the **Upload/download File** link in the menu on the left side.

Figure 30. Upload/download



Once you click on the Upload/download file link, it will take you to the dropzones and files page, where you can choose to **Browse** your machine for a file to upload:

Figure 31. Dropzones



3. Press the **Browse** button to browse the files on your local machine, select the file to upload and then click **Open** button.

   The file you selected should appear in the **Select a file to upload** field.

4. Press on **Upload Now** to complete the file upload.

5. Now that the file is on your Landing Zone, you can spray the file to your cluster and write ECL code to process it.

Uploading files with a Secure Copy Client

To upload a large file for processing to your virtual machine, you will need a tool that supports the secure copy protocol. In this section, we discuss using WinSCP. There are other tools available, but the steps are similar.

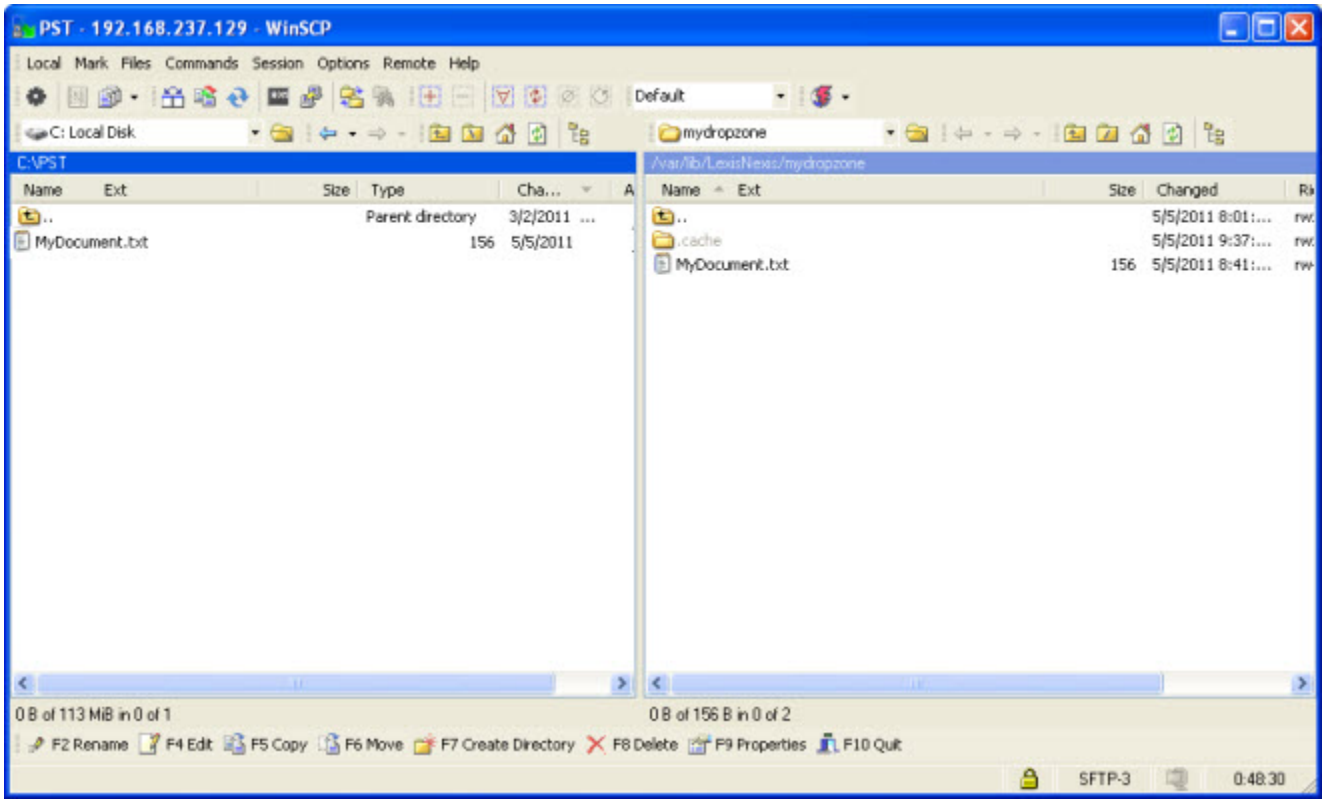
1. Open the WinSCP tool, and login to your Virtual Machine's IP address using the username and password given.

Login ID:	hpccdemo
Password:	hpccdemo

2. Once logged in, it should, navigate automatically to the landing zone folder. (/var/lib/HPCCSystems/mydropzone)

3. Navigate to where your local file is in the left part of the window.

Figure 32. WinSCP



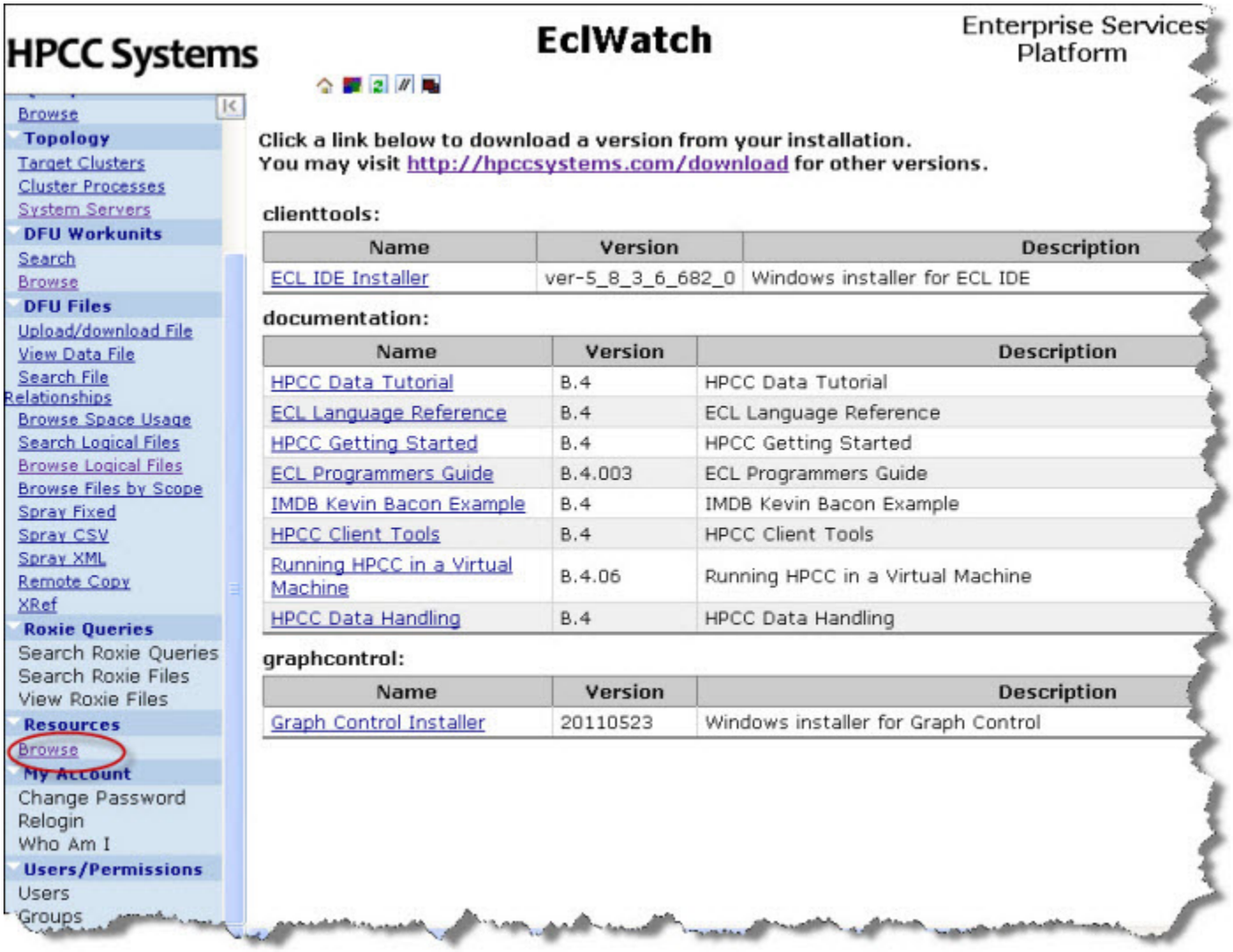
4. Select the data file to send and copy it to the landing zone, using drag-and-drop.

5. Now that the file is on your Landing Zone, you can spray the file to your cluster and write ECL code to process it.

Next Steps

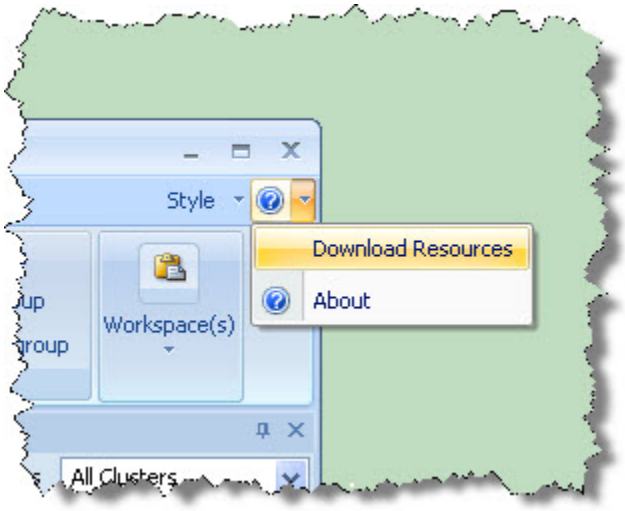
Available from the menu in ECL Watch are several documents which provide details on various aspects of the HPCC.

Figure 33. ECL Watch Resource Page



You can also access them from the help menu: Help ► Download Resources.

Figure 34. Help Menu



To familiarize yourself with what your system can do, we recommend:

- The **ECL Data Tutorial**

  This is a simple, step-by-step tutorial that shows the end-to-end process from receiving a receiving a raw data file to publishing a web-based query to search the data. Along the way, you will learn how to process the data, index it, then write and publish a query to search the data. The self-led tutorial and accompanying data file is available on the ECL Watch Resource Page.

- The **Six Degrees of Kevin Bacon Example**

  This is a more complex example (*also available on the ECL Watch Resource Page) that uses a database of movie data to find the degree of separation between actors in films.

- The HPCC Systems Portal (http://hpccsystems.com) is another valuable resource for more information including:

  - Video Tutorials
  - Additional examples
  - White Papers
  - Documentation
  - Support Forums

Frequently Asked Questions

1. Can I run the VM while connected to my network using a Virtual Private network (VPN)?

No. Most VPN clients take control of your network device and routing and do not allow split tunnels.

2. Can I install this virtual machine on multiple nodes?

No. If you want to evaluate a multi-node system, you should use the Community version available from the HPCC Systems Portal at http://hpccsystems.com.

3. What are the limits of this version?

The HPCC VM Edition runs on a single node, has a limit of 20 GB in it workspace, and doesn't support custom configurations.

4. Can I run the VM on my Linux machine?

You can run the HPCC VM using the Linux VM Player. The HPCC ECL IDE is a Windows application, but can run under WINE. See the Client Tools Manual for details.

5. Can I run the VM on my Mac?

Not at this time. There is no Mac version of the VM Player.

6. Can I run the VM on my Windows Server?

Yes, You can run on Windows Server 2003 or 2008, providing you have access to it using Remote Desktop Protocol (RDP).

7. Do I need a 64-bit processor to run the VM Edition?

No. The VM Player runs in either 32- or 64-bit environments and does not require a 64-bit processor.

8. Do I need a 64-bit processor to run the Community Edition?

Yes. Community Edition binaries run natively on 64-bit Linux server(s). You can access that HPCC from any Windows workstation (32- or 64-bit) that can run the ECL IDE and a supported browser.

9. What happens to my work when I close the virtual machine?

The VM Player saves the state of your system when it closes. It saves all of your workunit information, data files, and published query sets as long as there is available space. The maximum size of the saved session is 20 GB.

10. Why won't my VM allow access to my network interface?

Check your Firewall settings. You may need to disable the Firewall for your VM's network interface.

11. Will this version utilize my multi-core processor?

This VM is designed to utilize a single core.

12. Where can I find more information?

Visit the HPCC Systems Portal at http://HPCCsystems.com.