

HPCC Systems™

HPCC Configuration Manager

Boca Raton Documentation Team

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Using Configuration Manager	4
Running the Configuration Manager	5
Configuration Manager Advanced View	11
Using ConfigMgr in Advanced Mode	12

Using Configuration Manager

Configuration Manager is the utility with which we configure the HPCC platform. The HPCC platform's configuration is stored in an XML file named **environment.xml**. When you install a package, a default single-node environment.xml is generated. After that, you can use the Configuration Manager to modify it and add nodes and configure components.

The Configuration Manager Wizard creates a similar file, but after it is generated, you must rename it and put it into place on each node.

Configuration Manager also offers an **Advanced View** which allows you to add instances of components or change the default settings for components. Even if you plan to use Advanced View, it is a good idea to start with a wizard generated configuration and use Advanced View to finish it.

This document will guide you through configuring an HPCC environment using the Configuration Manager.

Running the Configuration Manager

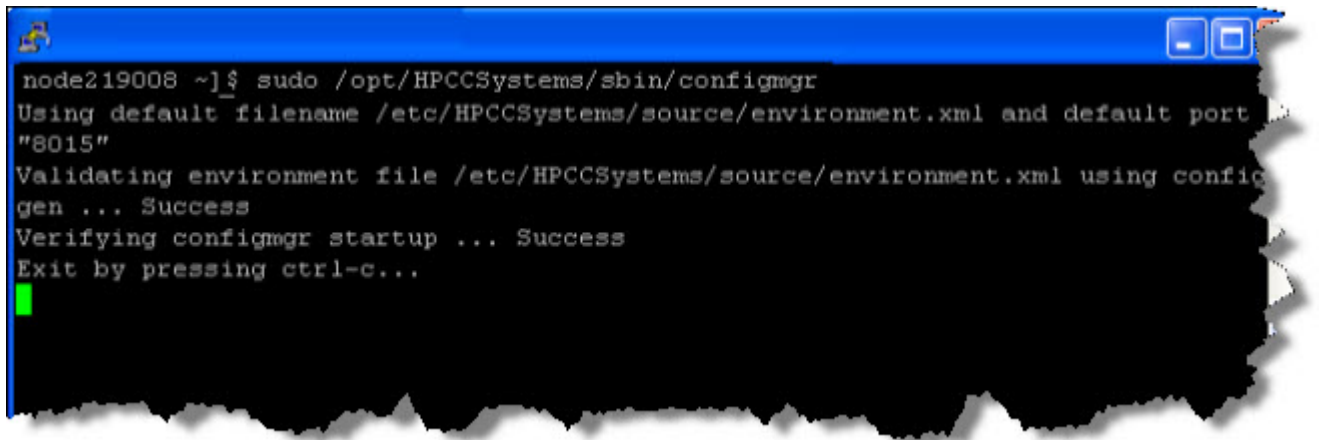
This document will guide you through configuring an HPCC environment using the Configuration Manager.

- The HPCC packages should already be installed on ALL nodes.

You can use any tool or shell script you choose.

- SSH to the first box in your environment and login as a user with sudo privileges.
- Start the Configuration Manager service on one node (usually the first node is considered the head node and is used for this task, but this is up to you).

```
sudo /opt/HPCCSystems/sbin/configmgr
```

A terminal window with a blue title bar and a black background. The text inside the terminal shows the execution of the 'sudo /opt/HPCCSystems/sbin/configmgr' command. The output includes: 'Using default filename /etc/HPCCSystems/source/environment.xml and default port "8015"', 'Validating environment file /etc/HPCCSystems/source/environment.xml using configmgr ... Success', 'Verifying configmgr startup ... Success', and 'Exit by pressing ctrl-c...'. A green cursor is visible at the end of the last line.

```
node219008 ~]$ sudo /opt/HPCCSystems/sbin/configmgr
Using default filename /etc/HPCCSystems/source/environment.xml and default port
"8015"
Validating environment file /etc/HPCCSystems/source/environment.xml using config
mgr ... Success
Verifying configmgr startup ... Success
Exit by pressing ctrl-c...
```

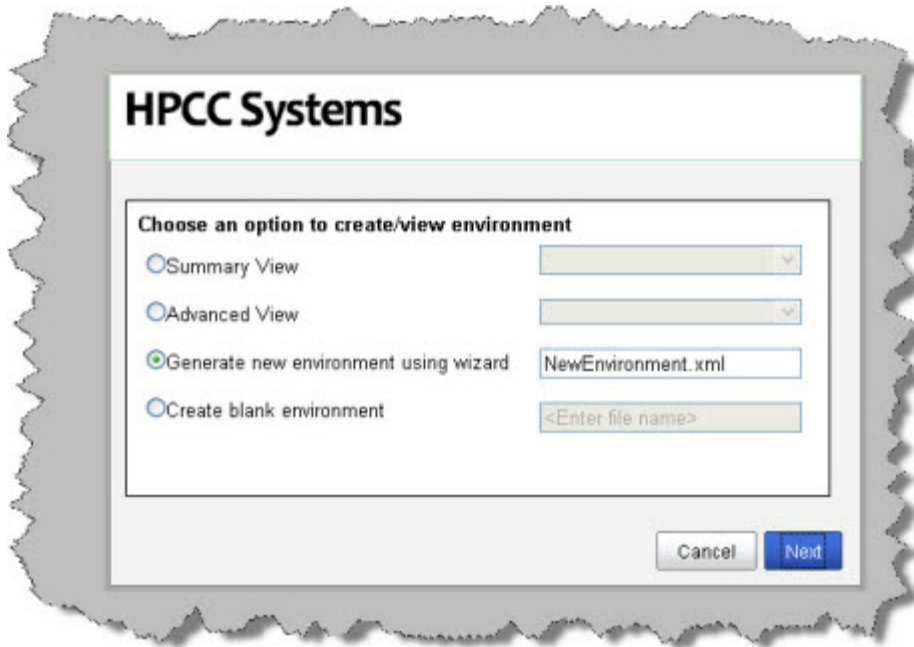
- Using a Web browser, go to the Configuration Manager's interface:

```
http://<ip of installed system>:8015
```

- The Configuration Manager startup wizard displays.

There are a few different ways to configure your HPCC. You can use the Generate environment wizard or experienced users can use the Advanced View.

- To use the wizard select the **Generate new environment using wizard** button.



- Provide a name for the environment file.

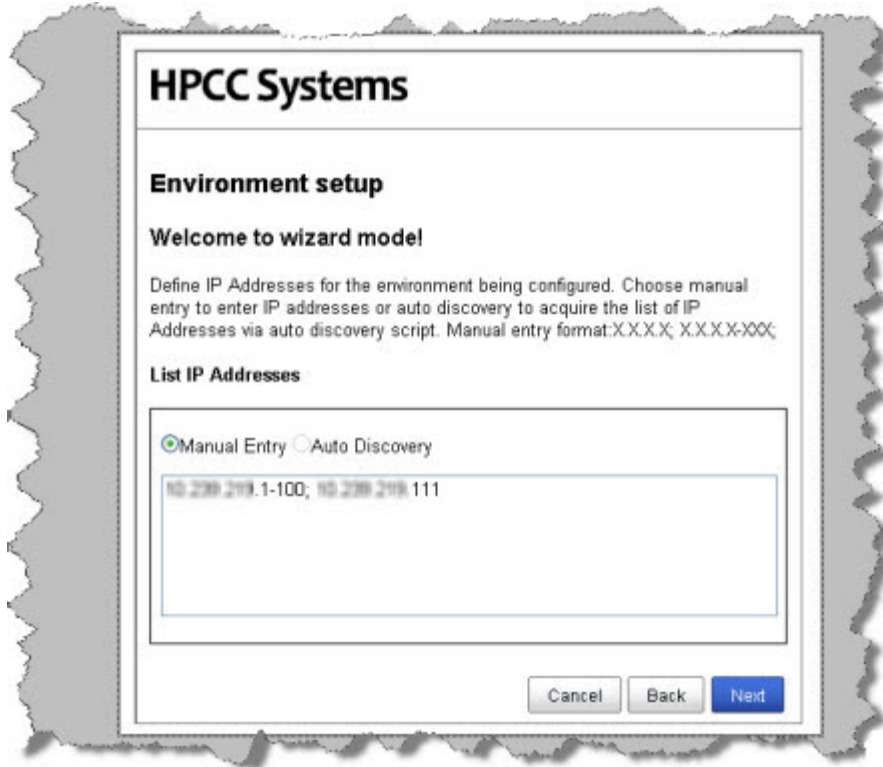
This will then be the name of the configuration xml. For example we will name our environment *NewEnvironment*. This will produce an XML file named *NewEnvironment.xml*.

- Press the Next button.

Next you will need to define the IP addresses that your HPCC will be using.

- Enter the IP addresses.

IP Addresses can be specified individually using semi-colon delimiters. You can also specify a range of IPs using a hyphen (for example, nnn.nnn.nnn.x-y). In the image below, we specified the IP addresses 10.239.219.1 through 10.239.219.100 using the range syntax, and also a single IP 10.239.219.111.



- Press the Next button.

Alternatively, you could find the IP addresses using Auto Discovery by selecting the Auto Discovery button. (Auto Discovery is only available in Enterprise Edition)

Now you will define how many nodes to use for the Roxie and Thor clusters.

- Enter the appropriate values as indicated.

HPCC Systems	
Environment setup	
Enter number of nodes for Roxie and Thor clusters. No Roxie/Thor cluster will be generated for zero (0) number of nodes.	
Number of support nodes	<input type="text" value="1"/>
Number of nodes for Roxie cluster	<input type="text" value="0"/>
Number of slave nodes for Thor cluster (A master node will be automatically added to the cluster)	<input type="text" value="1"/>
Number of Thor slaves per node (default 1)	<input type="text" value="1"/>
Enable Roxie on demand	<input checked="" type="checkbox"/>

Cancel Back Next

- | | |
|---|---|
| Number of support nodes: | Specify the number of nodes to use for support components. The default is 1. |
| Number of nodes for Roxie cluster: | Specify the number of nodes to use for your Roxie cluster. Enter zero (0) if you do not want a Roxie cluster. |
| Number of slave nodes for Thor cluster | Specify the number of slave nodes to use in your Thor cluster. A Thor master node will be added automatically. |
| Number of Thor slaves per node (default 1) | Specify the number of Thor slave processes to instantiate on each slave node. Enter zero (0) if you do not want a Thor cluster. |
| Enable Roxie on demand | Specify whether or not to allow queries to be run immediately on Roxie. This must be enabled to run the debugger. (Default is true) |

- Press the **Next** button

HPCC Configuration Manager Using Configuration Manager

The wizard displays the configuration parameters.

- Press the **Finish** button to accept these values or press the **Advanced View** button to edit in advanced mode.



You will now be notified that you have completed the wizard.



At this point, you have created a file named NewEnvironment.xml in the `/etc/HPCCSystems/source` directory

	<p>Keep in mind, that your HPCC configuration may be different depending on your needs. For example, you may not need a Roxie or you may need several smaller Roxie clusters. In addition, in a production [Thor] system, you would ensure that Thor and Roxie nodes are dedicated and have no other processes running on them. This document is intended to show you how to use the configuration tools. Capacity planning and system design is covered in a training module.</p>
--	--

- Stop the HPCC



Be sure HPCC is stopped before attempting to move the environment.xml file.

- Back up the original environment.xml file

```
# for example  
sudo -u hpcc cp /etc/HPCCSystems/environment.xml /etc/HPCCSystems/environment.bak
```

Note: the "live environment.xml file is located in your **/etc/HPCCSystems/** directory. ConfigManager works on files in **/etc/HPCCSystems/source** directory. You must copy from this location to make an environment.xml file active.

- Copy the new .xml file from the source directory to the /etc/HPCCSystems and rename the file to *environment.xml*

```
# for example  
sudo -u hpcc cp /etc/HPCCSystems/source/NewEnvironment.xml /etc/HPCCSystems/environment.xml
```

- Copy the **/etc/HPCCSystems/environment.xml** to the **/etc/HPCCSystems/** on *every* node.

You may want to use a script to push out XML file to all nodes. See the Example Scripts section in the Appendix of the *Installing_and_RunningtheHPCCPlatform* document. You can use the scripts as a model to create your own script to copy the environment.xml file out to all your nodes.

- Restart the HPCC platform.

Configuration Manager Advanced View

For the advanced user, the Advanced View offers access to adding additional instances of components or making configuration settings for individual components.

Using ConfigMgr in Advanced Mode

This section shows some of the configuration options in Advanced Mode.

- SSH to the first box in your environment and login as a user with sudo privileges.
- If it is running, stop the HPCC system, using this command:

```
sudo /sbin/service hpcc-init stop
```



You can use this command to confirm HPCC processes are stopped:

```
sudo /sbin/service hpcc-init status
```

- Start the Configuration Manager service on one node (usually the first node is considered the head node and is used for this task, but this is up to you).

```
source /opt/HPCCSystems/sbin/hpcc_setenv  
sudo configmgr
```

```
node219008 ~]$ sudo /opt/HPCCSystems/sbin/configmgr  
Using default filename /etc/HPCCSystems/source/environment.xml and default port  
"8015"  
Validating environment file /etc/HPCCSystems/source/environment.xml using config  
gen ... Success  
Verifying configmgr startup ... Success  
Exit by pressing ctrl-c...  
█
```

- Using a Web browser, go to the Configuration Manager's interface:

```
http://<ip of installed system>:8015
```

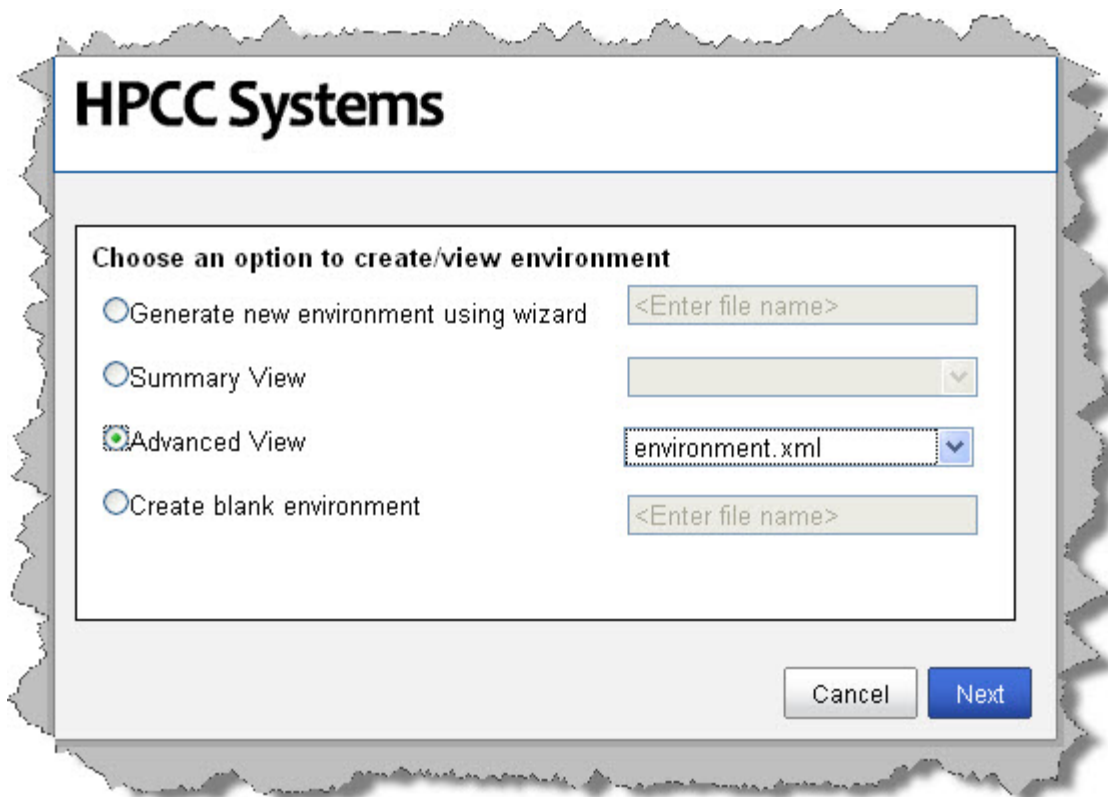
- The Configuration Manager startup wizard displays.

There are a few different ways to configure your system. You can use the Generate environment wizard or experienced users can use the Advanced set up.

- Select **Advanced View**, then press the **Next** button.
- Select an XML file from the drop list.

This list is populated from versions of an environment XML file in your server's `/etc/HPCCSystems/source/` directory.

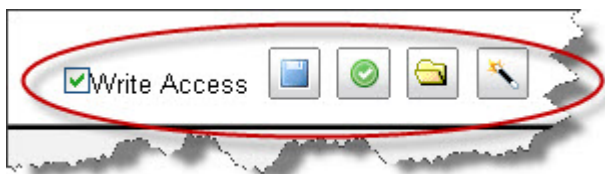
- Press the **Next** button.





- The Configuration Manager interface displays.


	<p>Default access is read-only. Many options are only available when write-access is enabled.</p> <p>Gain write access by checking the Write Access checkbox.</p> <p>Unchecking this box returns the environment to read-only mode. All menu items are disabled in read-only mode.</p> <p>Closing the web page automatically removes any write-access locks.</p>
--	---


- Check the **Write Access** box.



The Save button  validates and saves the environment.

The validate button  just validates the current environment including any changes that have not yet been saved.

The open button  allows you to open a new environment file to work on.

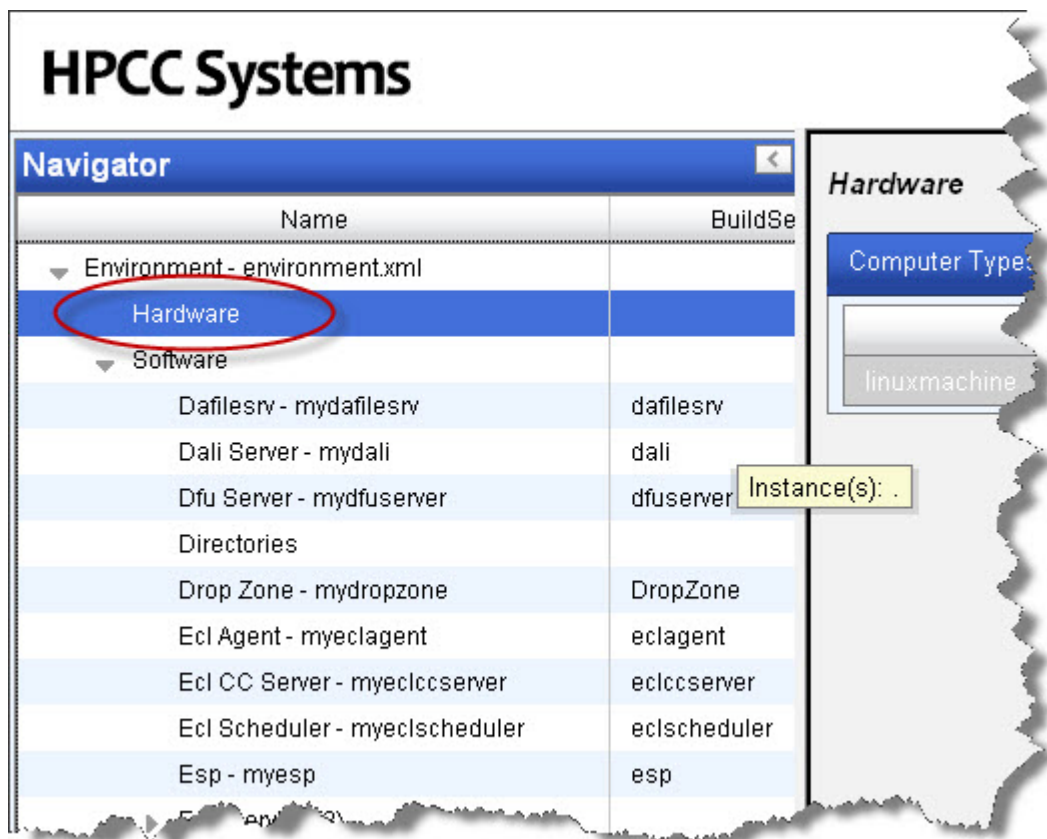
The wizard button  will bring up the Configuration Manager chooser form which will allow you to create or view an environment file where you can also launch the configuration wizard.

These buttons are only enabled in Write Access mode.

Hardware Section

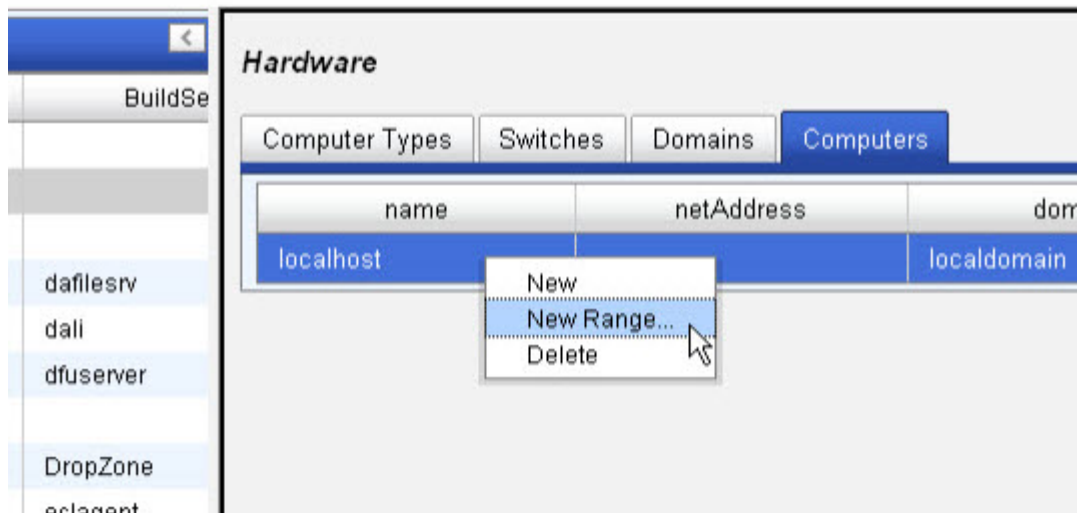
This section allows you to define your list of servers. When defining instances of components, you will choose from servers in this list.

- Select **Hardware** in the Navigator panel on the left side.



- Select the **Computers** tab.

- RT-CLICK on one of computers listed, then select New Range.

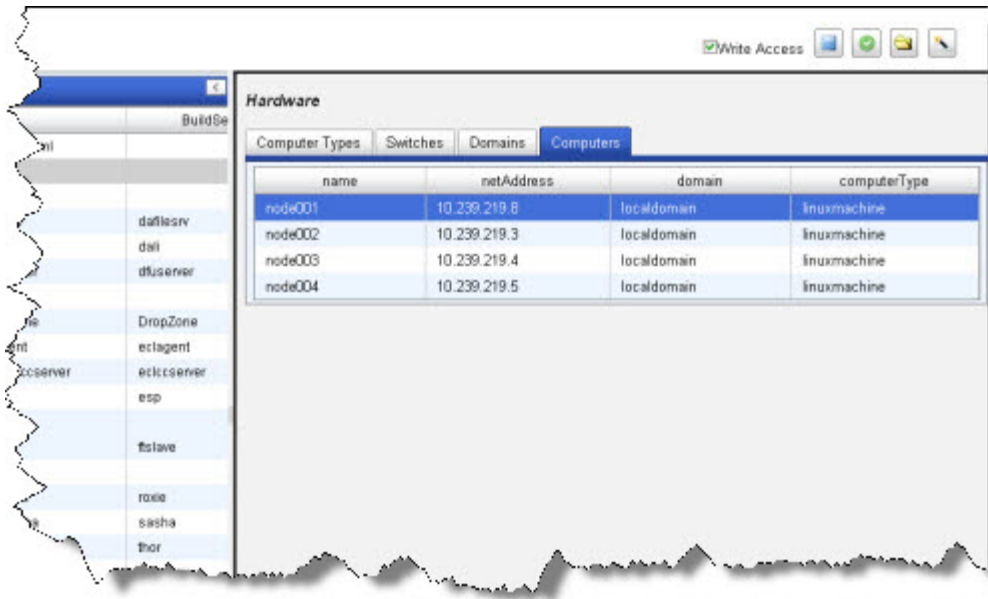


- Specify the following:
 - Name Prefix - any name that will help you to identify the node or range
 - Start IP Address
 - Stop IP Address



The IP Addresses can be specified in a range if all your host IP addresses are consecutively numbered. If the IP addresses are not sequential you should repeat the process for each individual IP address and just add the IP address in both the start and stop IP address field. You will then need to repeat the process for each node.

- Press the **OK** button.

The list of nodes now displays with the nodes that you just added.



Next, edit each System Server component instance and set it to a newly defined node.

- Click the  disk icon to save
- Expand the **Software** section, if necessary, in the Navigator panel on the left side, by clicking on the  button.

Software Section

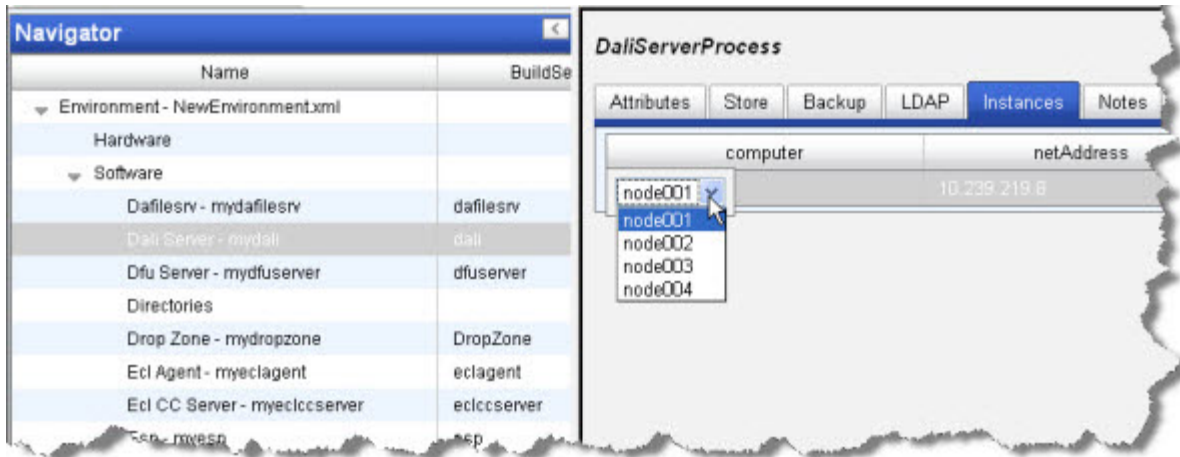
Use the software components section to configure software components of the HPCC platform. Most software components are actual running processes; however, some are just definitions used by the system. These definitions are used by the configuration generator.

Dali

Instances

- Select **Dali Server** in the Navigator panel on the left side.
- Select the Instances tab.

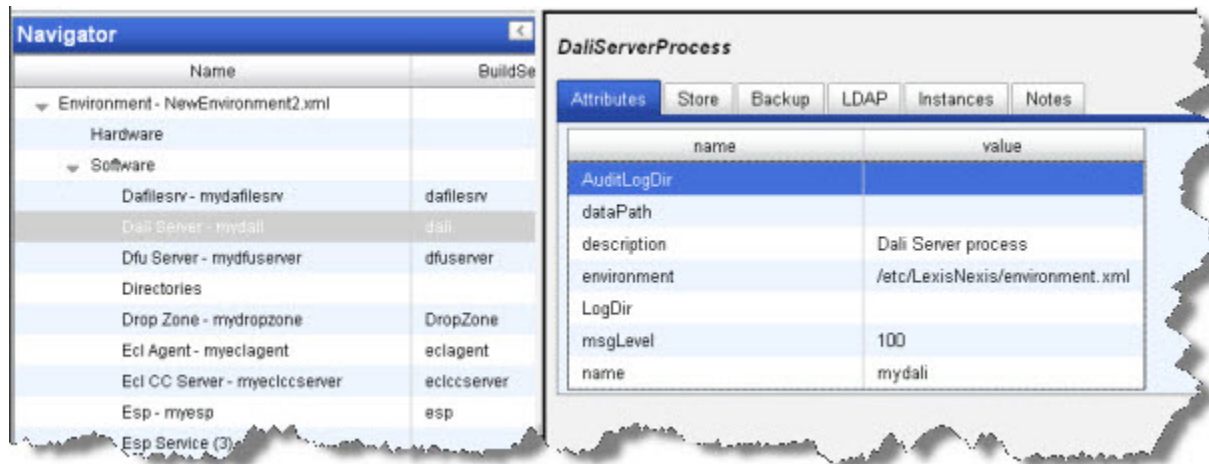
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

DaliServer attributes

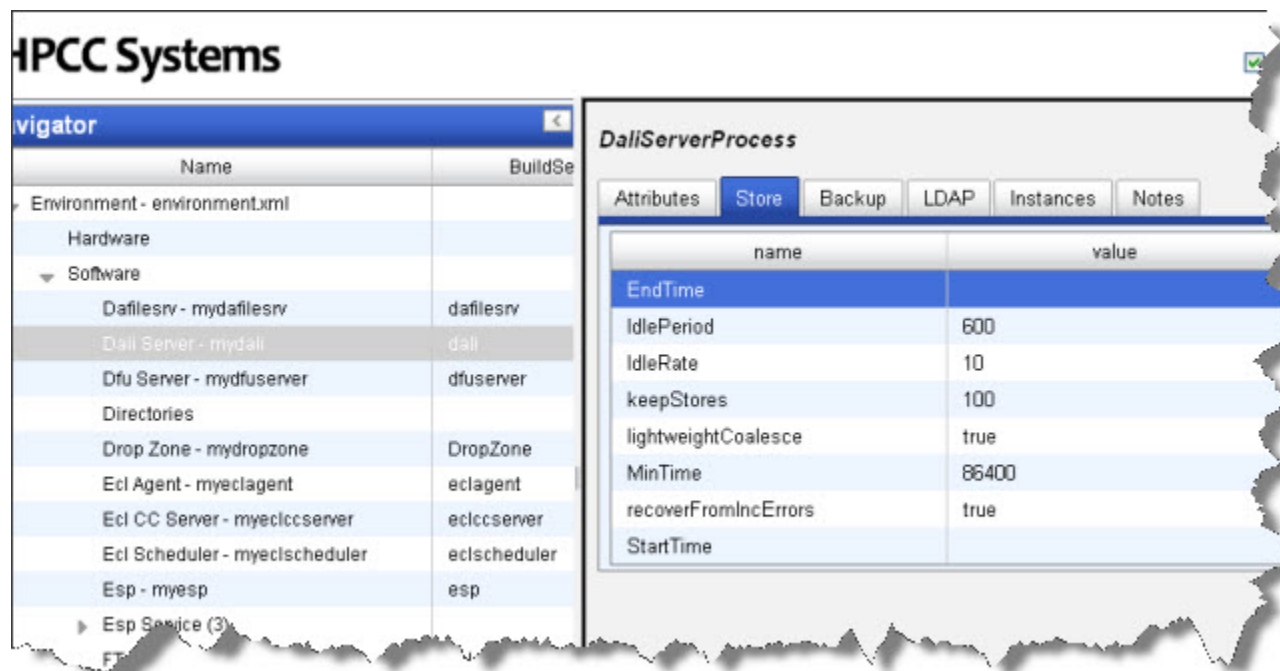
This section describes the DaliServer attributes.



Attribute	Definition
<i>AuditLogDir</i>	Audit Log Process description
<i>dataPath</i>	the path to the data
<i>description</i>	data path description
<i>environment</i>	the current environment file in use
<i>LogDir</i>	location of the log files
<i>msgLevel</i>	description of the msgLevel
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)

DaliServer store

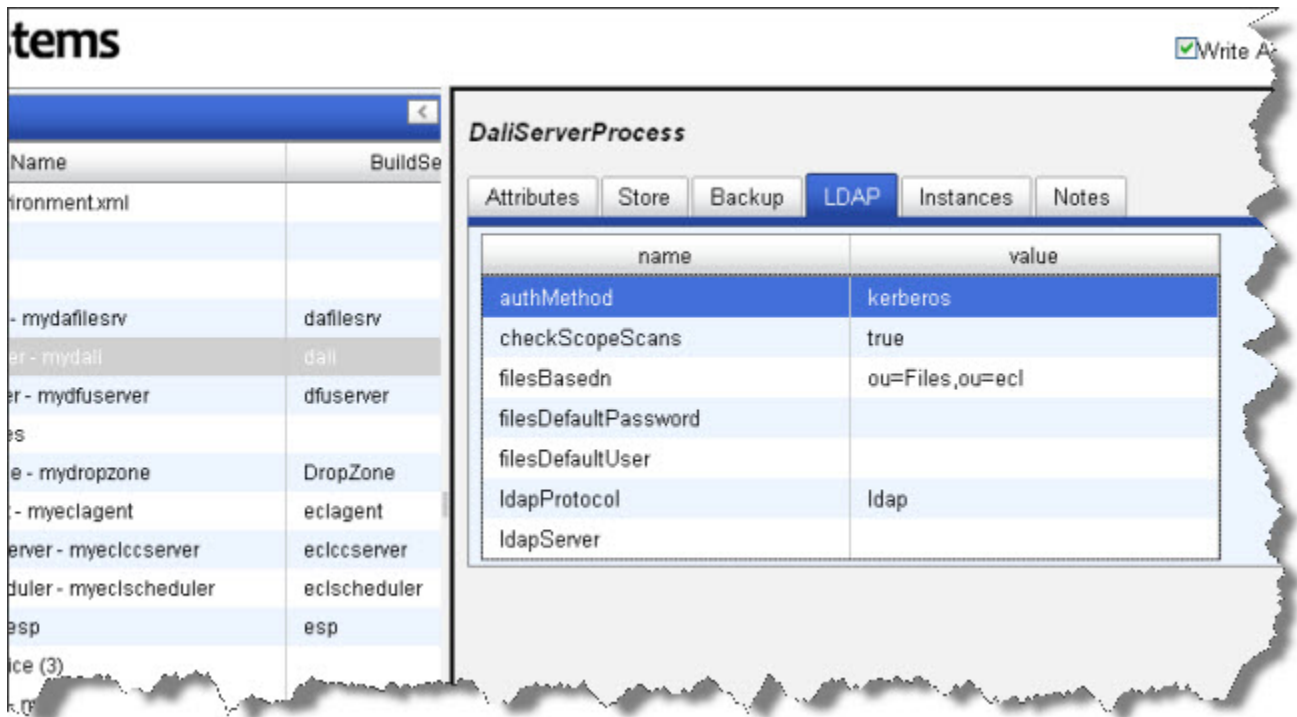
This section describes the attributes configuring how Dali handles the system data store.



Attribute name	Definition
<i>EndTime</i>	End Time
<i>IdlePeriod</i>	Period to remain Idle
<i>IdleRate</i>	IdleRate
<i>keepStores</i>	
<i>lightweightCoalesce</i>	lightweight
<i>MinTime</i>	min. time...
<i>recoverDeltaErrors</i>	True or False
<i>StartTime</i>	start time

DaliServer LDAP options

This section describes the DaliServer LDAP tab. (LDAP is only available in Enterprise Edition)



Attribute name	Definition
<i>authMethod</i>	Authentication Method. Kerberos
<i>checkScopeScans</i>	True or False
<i>filesBasedn</i>	The Base File Type
<i>filesDefaultPassword</i>	Default Password
<i>filesDefaultUser</i>	Default User
<i>ldapProtocol</i>	Default Protocol use
<i>ldapServer</i>	LDAP Server

DaliServer Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Dafilesrv Process

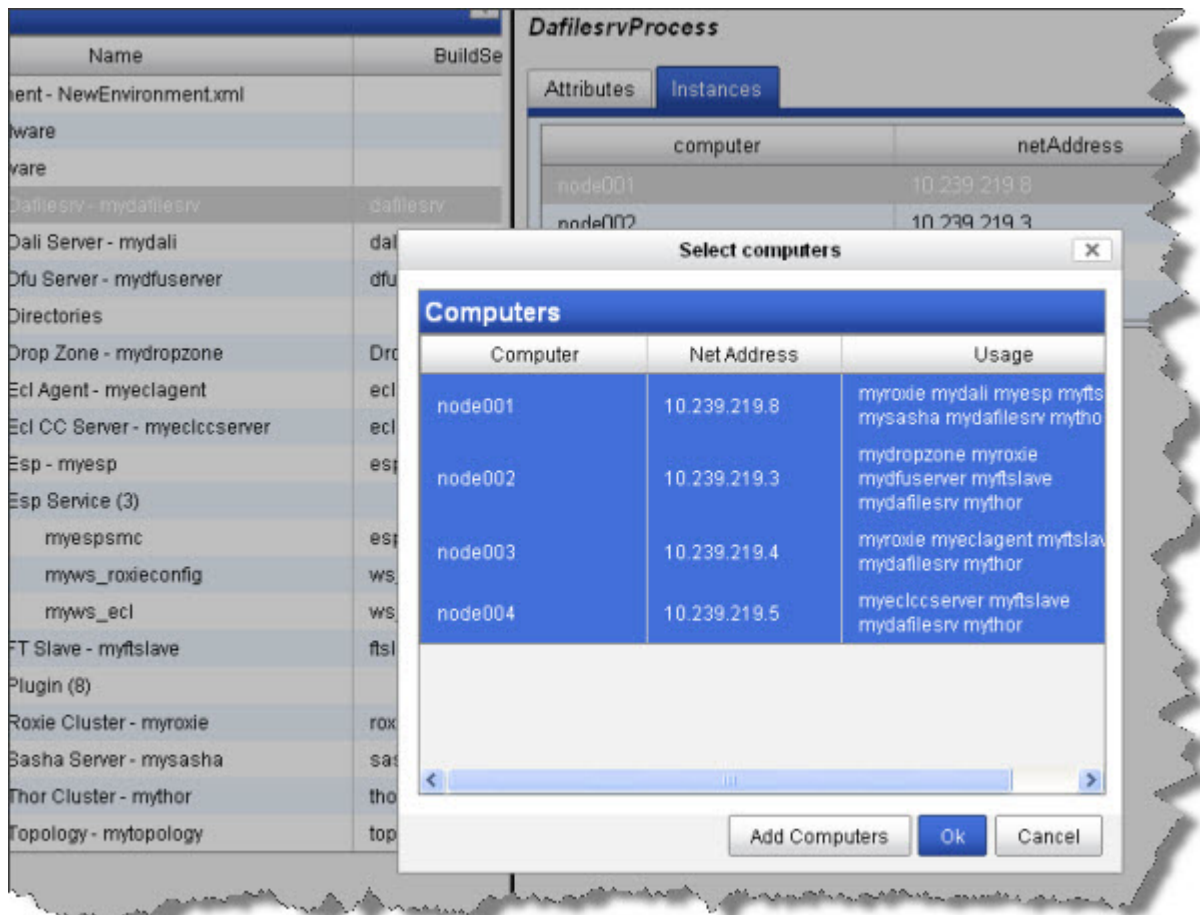
Dafilesrv Instances

Dafilesrv is a helper process that every node needs.

- Select Dafilesrv in the Navigator panel on the left side.
- Select the Instances tab.

HPCC Configuration Manager Configuration Manager Advanced View

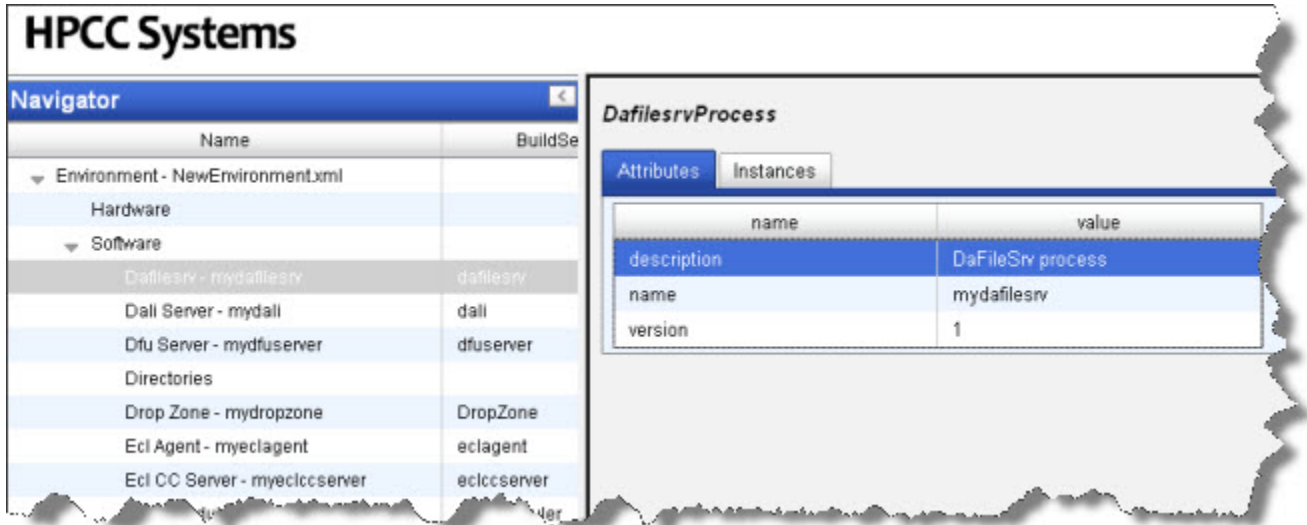
- RT-CLICK on a computer in the computer column, and select Add Instance .
- Select all computers in the list, then press the OK button.



- Click the  disk icon to save

Dafilesrv attributes

This section describes the Dafilesrv attributes.

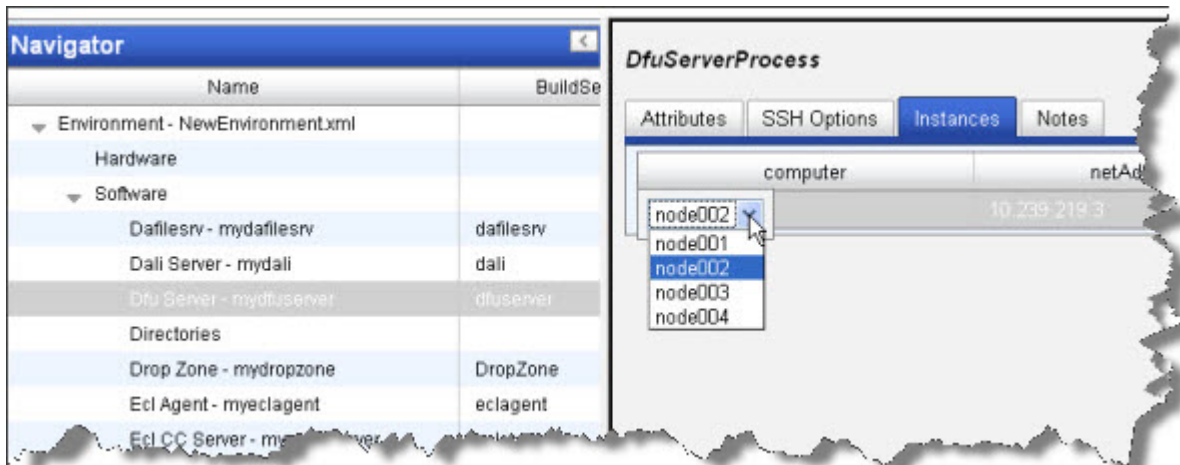


Attribute	Definition
<i>description</i>	DaFileSrv Process description
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)
<i>version</i>	current version number

DFU Server

DfuServer Instances

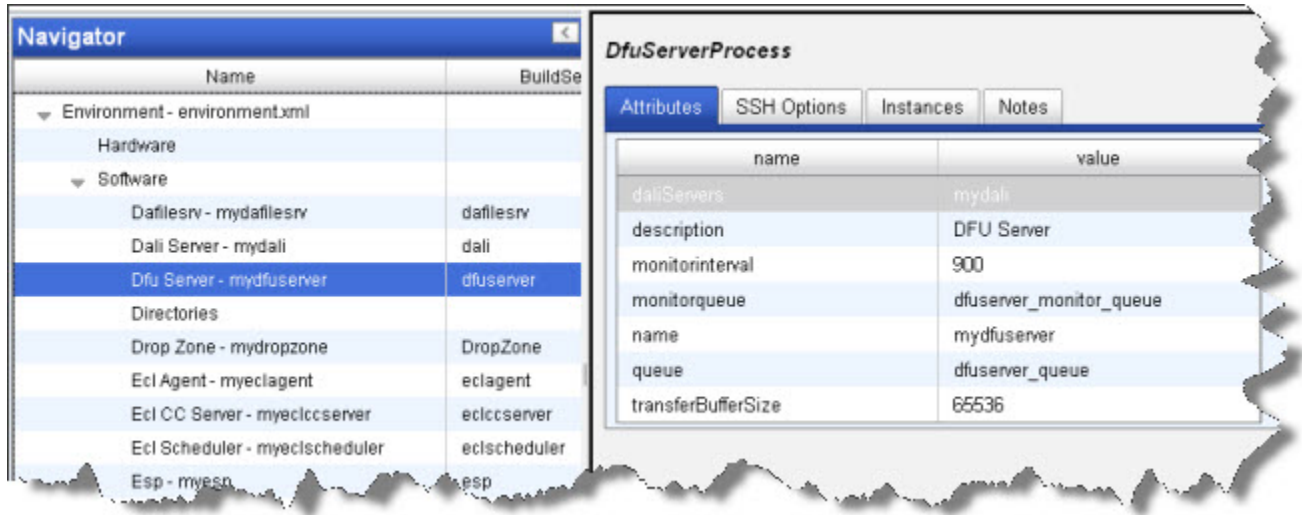
- Select **DFU Server** in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

DfuServer Attributes Tab

This section describes the DfuServer attributes.

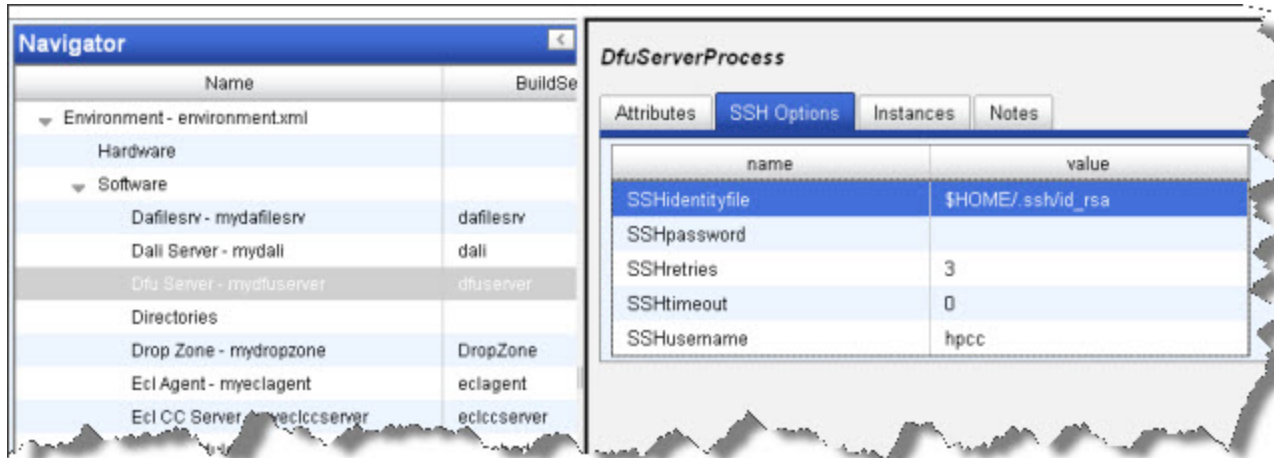


Attribute name	Definition
<i>daliServers</i>	The Dali servers to use
<i>description</i>	Describes the component
<i>dfuLogDir</i>	The log directory
<i>monitorinterval</i>	the interval that the process checks ...
<i>monitorque</i>	the queue to monitor
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)
<i>queue</i>	the name of the dfu server queue
<i>transferBufferSize</i>	The value at which...

DfuServer SSH Options

This section describes the DfuServer SSH Options..

HPCC Configuration Manager Configuration Manager Advanced View



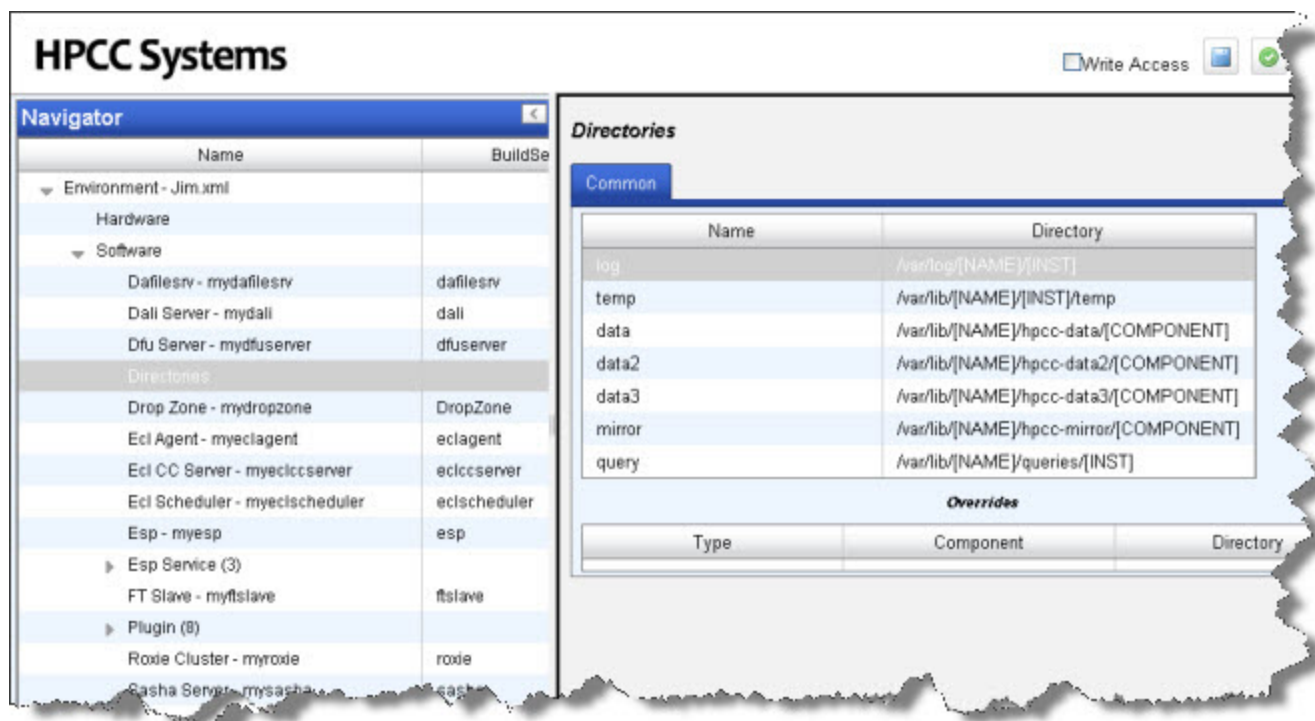
Attribute name	Definition
<i>SSHidentityfile</i>	The SSH file used for authentication
<i>SSHpassword</i>	the SSH Password
<i>SSHretries</i>	no. of retries to authenticate
<i>SSHtimeout</i>	the timeout interval
<i>SSHusername</i>	SSH username default is <i>hpcc</i>

DfuServer Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Directories

The DDirectories component is a global definition used by other components to determine the directories they will use for various functions.

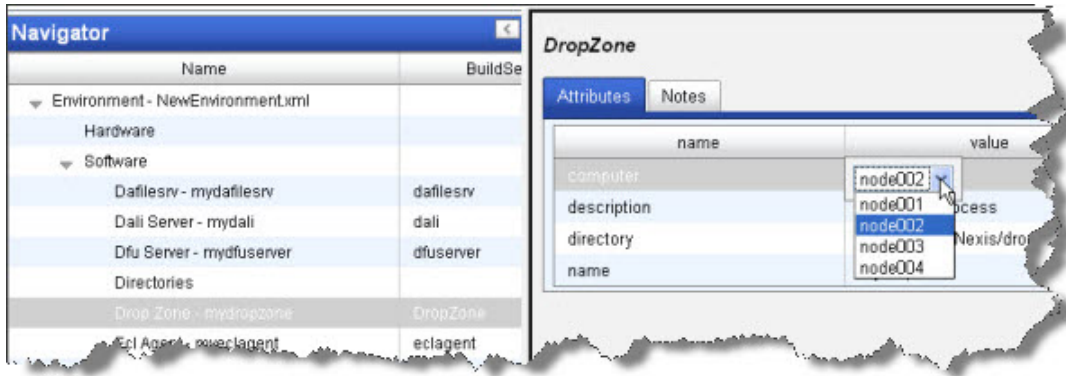


Name	Directory	Description
log	/var/log/[NAME]/[INST]	Location for Log files
temp	/var/lib/[NAME]/[INST]/temp	Location for temp files
data		Base Location for data files
data2		
data3		
mirror		Base Location for mirror data files
query		Base Location for Queries

Drop Zone

DropZone Attributes

- Select Drop Zone in the Navigator panel on the left side.
- Select the Attributes tab.
- In the Value column of the Computer row, choose a node from the drop list as shown below:



- Click the  disk icon to save

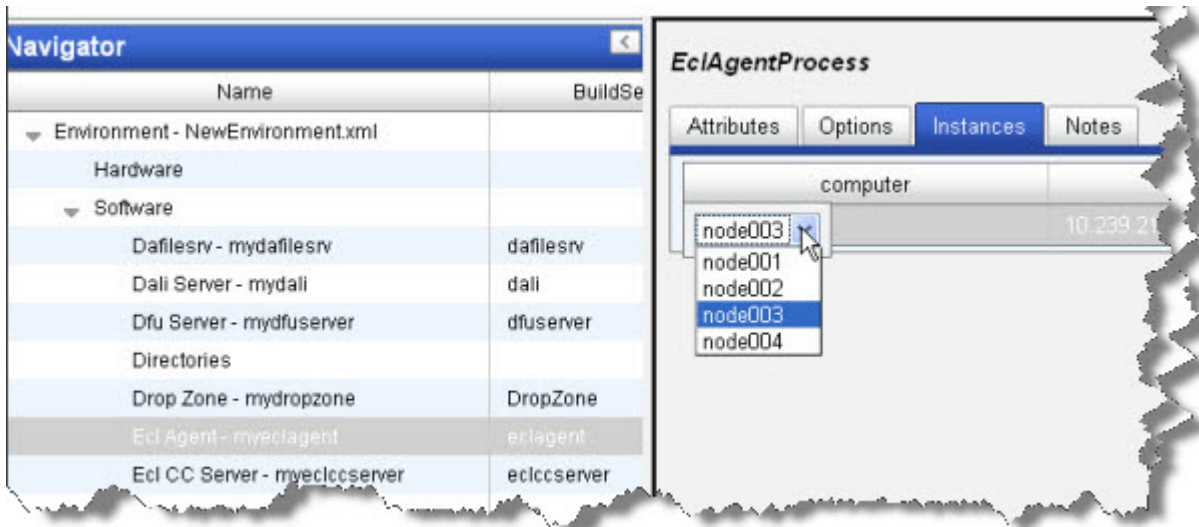
DropZone Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL Agent

instances

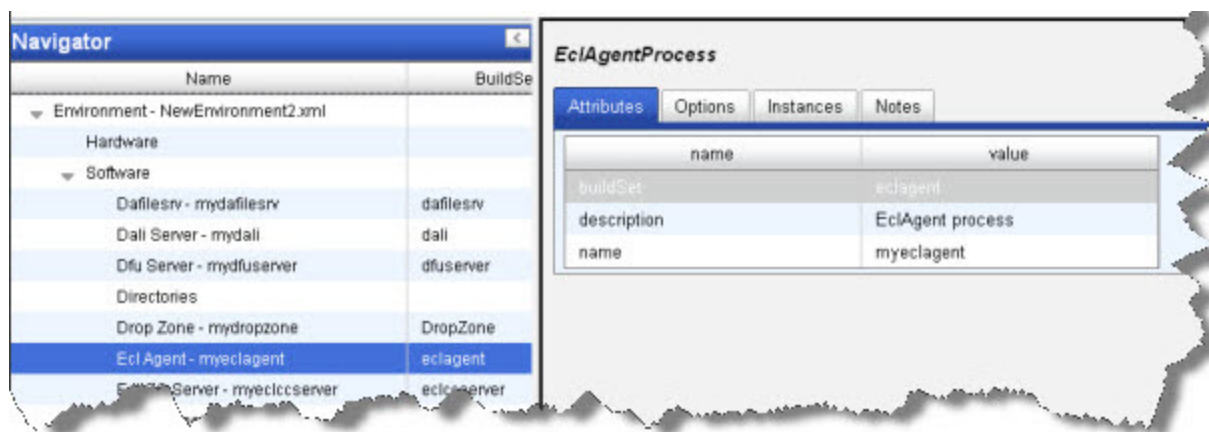
- Select ECL Agent in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

ECLAgent Attributes Tab

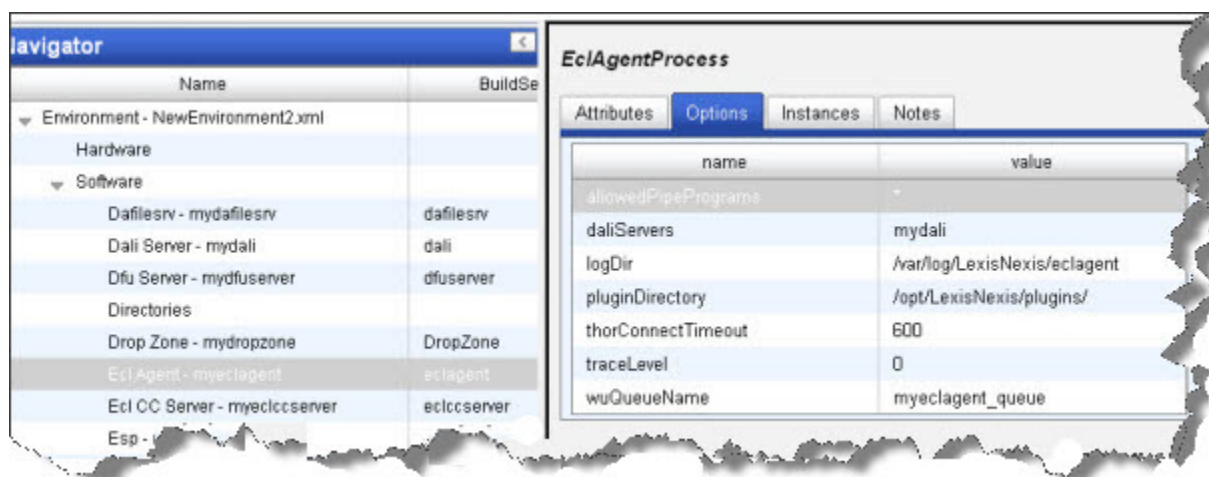
This section describes the ECLAgent Attributes tab.



Attribute name	Definition
<i>description</i>	Describes the component
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)

EclAgent Options Tab

This section describes the EclAgent Options tab.



Attribute name	Definition
<i>allowedPipePrograms</i>	describes allowed Pipe Programs
<i>daliServers</i>	the Dali Servers
<i>logDir</i>	The log directory
<i>pluginDirectory</i>	the plugin directory
<i>thorConnectTimeout</i>	the Thor timeout value
<i>traceLevel</i>	the trace level
<i>wuQueueName</i>	the name of the workunit queue

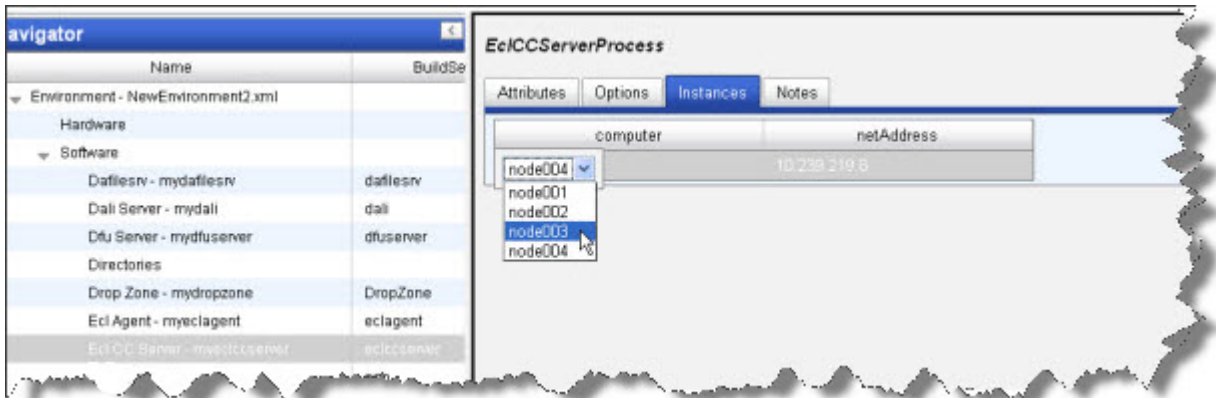
EclAgentProcessNotes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL CC Server Process

Ecl CC Server Instances

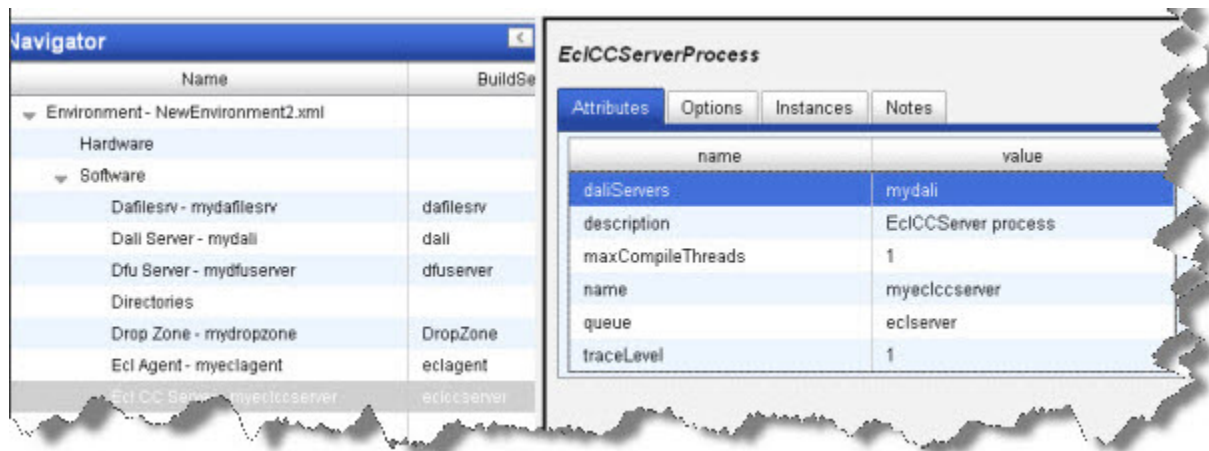
- Select Ecl CC Server - myeclccserver in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



-  Click the disk icon to save

Ecl CC Server Attributes Tab

This section describes the Ecl CC Server Attributes tab.



Attribute name	Definition
<i>daliServers</i>	The Dali servers to use

<i>description</i>	Describes the component
<i>maxCompileThreads</i>	The maximum number of compile threads
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)
<i>queue</i>	Name of the Ecl cc server queue
<i>traceLevel</i>	The value ***

EclCC Server Process Options

To add a custom option, rt-click and select add.

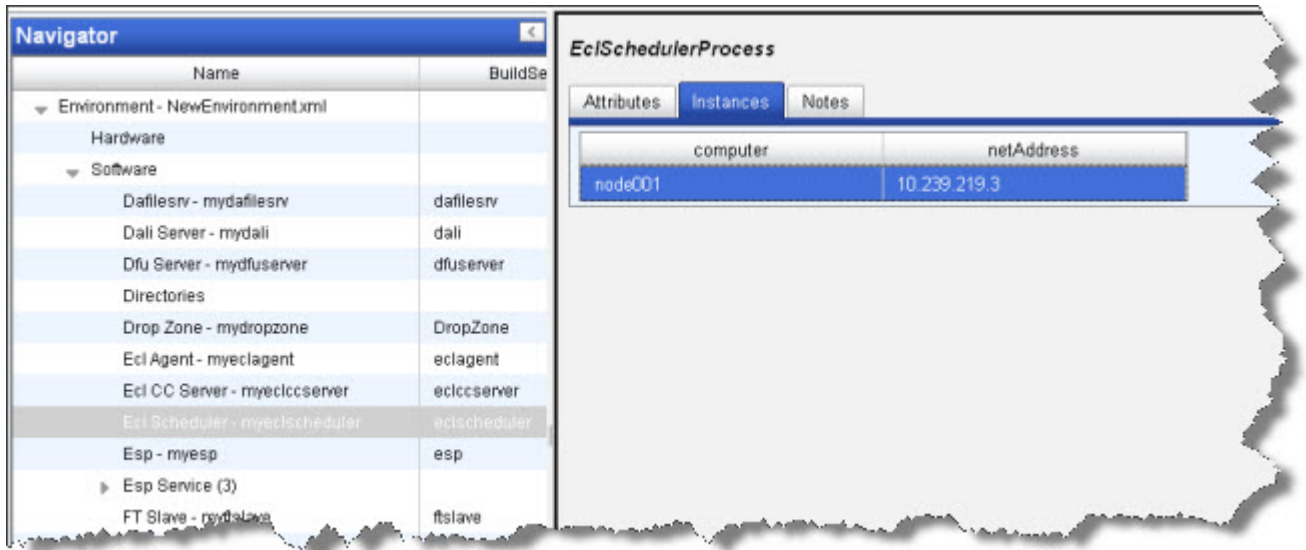
EclCC Server Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL Scheduler

instances

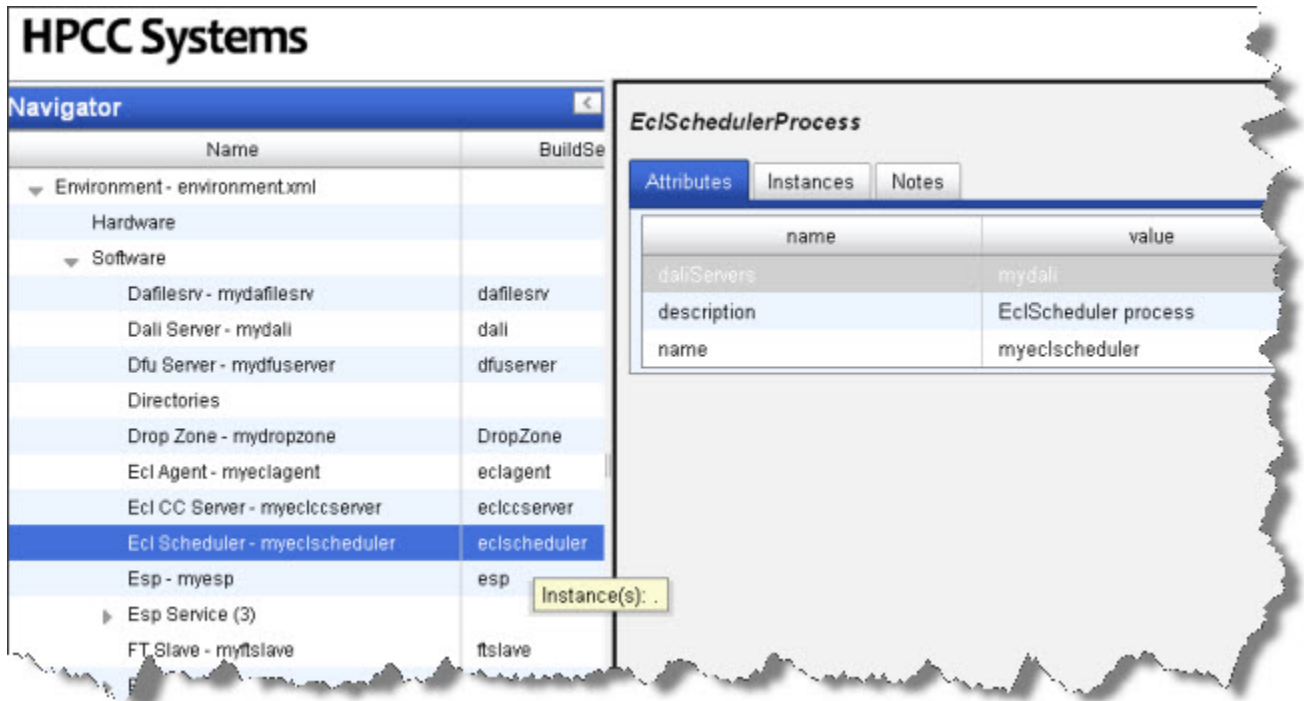
- Select **ECL Scheduler** in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

EclScheduler Attributes Tab

This section describes the EclScheduler Attributes tab.



Attribute name	Definition
<i>description</i>	Describes the component
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)

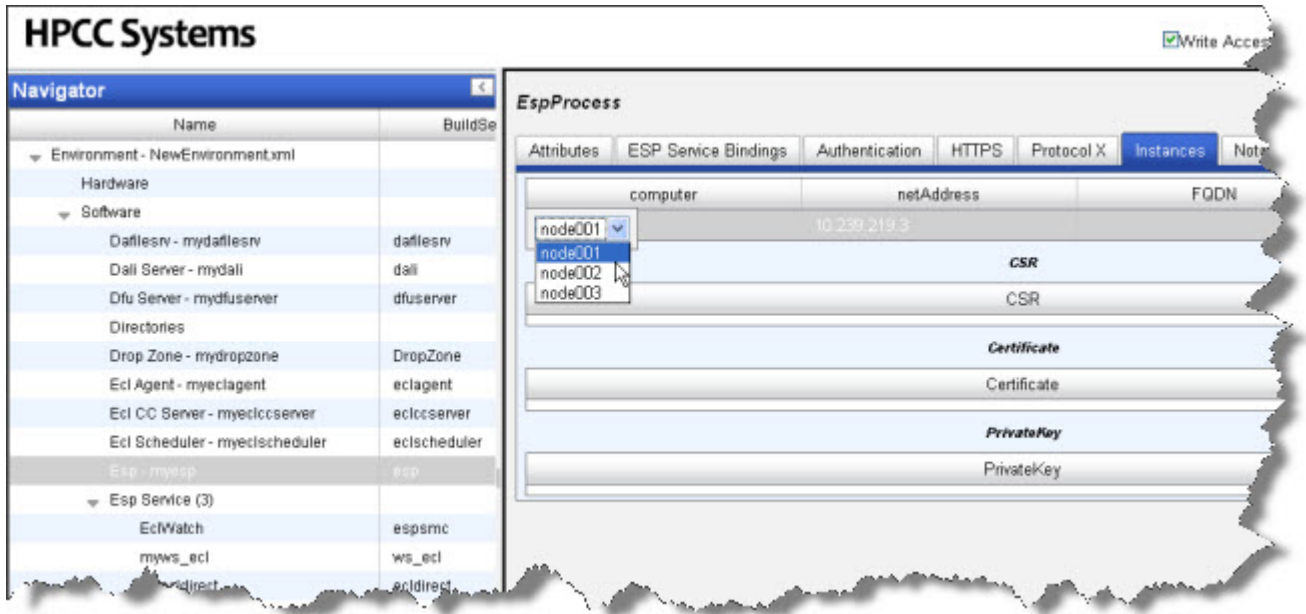
EclScheduler Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ESP Server

Esp Process Instances

- Select ESP - MyEsp in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

Esp - myesp Attributes Tab

This section describes the Esp - myesp Attributes tab.

EspProcess	
Attributes	
name	value
componentfilesDir	/opt/HPCCSystems/componentfiles
daliServers	mydali
description	ESP server
enableSEHMapping	true
formOptionsAccess	false
httpConfigAccess	true
logLevel	1
logRequests	false
logResponses	false
maxBacklogQueueSize	200
maxConcurrentThreads	0
maxRequestEntityLength	8000000
name	myesp
perfReportDelay	60

Attribute name	Definition
<i>componentfilesDir</i>	the component files directory
<i>daliServers</i>	the Dali servers
<i>description</i>	Describes the component
<i>enableSEHMapping</i>	True or False to enable***
<i>formOptionsAccess</i>	True or False to enable...***
<i>httpConfigAccess</i>	True or False to enable...***
<i>logLevel</i>	The Level of ...***
<i>logRequests</i>	True or False to enable...***
<i>logResponses</i>	True or False to enable...***
<i>maxBacklogQueueSize</i>	The size of the backlog queue
<i>maxConcurrentThreads</i>	The maximum number of concurrent threads
<i>maxRequestEntityLegnth</i>	The maximum length for entity requests
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)
<i>perfReportDelay</i>	The value at which...***

Esp - myesp Service BindingsTab

This section describes the Esp - myesp Service Bindings tab.

HPCC Configuration Manager
Configuration Manager Advanced View

Environment - environment.xml

Name	BuildSe
Environment - environment.xml	
Hardware	
Software	
Daflesrv - mydaflesrv	daflesrv
Dali Server - mydali	dali
Dfu Server - mydfuserver	dfuserver
Directories	
Drop Zone - mydropzone	DropZone
EclAgent - myeclagent	eclagent
EclCC Server - myeclccserver	eclccserver
Ecl Scheduler - myeclscheduler	eclscheduler
Esp - myesp	esp
Esp Service (3)	
FT Slave - myftslave	ftslave
Plugin (8)	
Roxie Cluster - myroxie	roxie
Sasha Server - mysasha	sasha
Thor Cluster - mythor	thor
Topology - topology	topology

Attributes | **ESP Service Bindings** | Authentication | HTTPS | Protocol X | Instances | Notes

name	service	protocol	port	wsdlServiceAddress	defaultServiceVersion	resourcesBasedOn
smc	EclWatch	http	8010			ou=SMC,ou=EspServices,ou=Ecl
ws_ecl	ws_ecl	http	8002			ou=WsEcl,ou=EspServices,ou=Ecl,ou=EclDirectAccess,ou=EspService

URL Authentication

description	path	resource	access
Root access to SMC service	/	SmcAccess	Read

Feature Authentication

authenticate	description	resource
Yes	Access to SMC service	SmcAccess
Yes	Access to thor queues	ThorQueueAccess
Yes	Access to super computer environment	ConfigAccess
Yes	Access to DFU	DfuAccess
Yes	Access to DFU XRef	DfuXrefAccess
Yes	Access to machine information	MachineInfoAccess
Yes	Access to SNMP metrics information	MetricsAccess
Yes	Access to remote execution	ExecuteAccess
Yes	Access to DFU workunits	DfuWorkunitsAccess
Yes	Access to DFU exceptions	DfuExceptions
Yes	Access to spraying files	FileSprayAccess
Yes	Access to despraying of files	FileDesprayAccess
Yes	Access to dking of key files	FileDkcAccess
Yes	Access to files in dropzone	FileIOAccess
Yes	Access to WS ECL service	WsEclAccess
Yes	Access to Roxie queries and files	RoxieQueryAccess
Yes	Access to cluster topology	ClusterTopologyAccess
Yes	Access to own workunits	OwnWorkunitsAccess
Yes	Access to others workunits	OtherWorkunitsAccess

Attribute name

Definition

ECLWatch

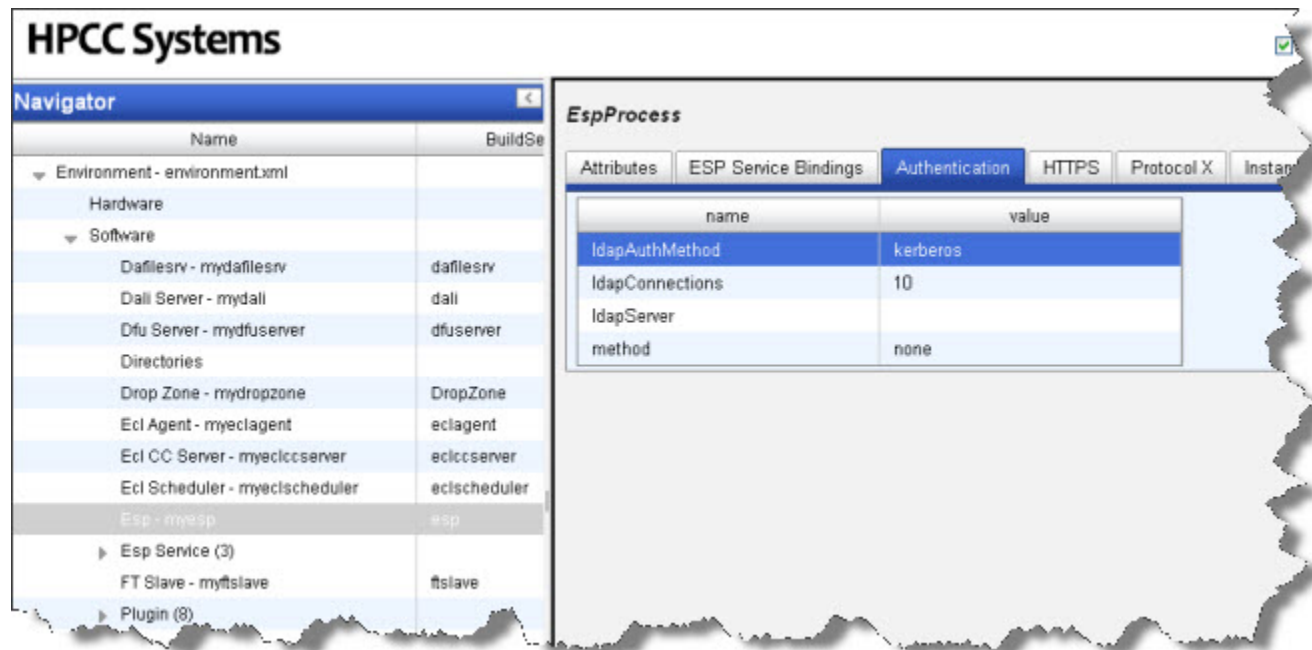
provides ECL Watch interface

Ws_ecl

Provides Web access to published queries

Esp - myesp AuthenticationTab

This section describes the Esp - myesp Service Authentication tab. LDAP is a feature only available in Enterprise Edition.



Attribute name	Definition
<i>AccurintSecurity</i>	the AccurintSecurity pass...
<i>ldapAuthMethod</i>	the LDAP Authentication Method
<i>ldapConnections</i>	the number of LDAP Connections
<i>ldapServer</i>	the LDAP server
<i>method</i>	the method...

Esp - myesp HTTPS Tab

This section describes the Esp - myesp HTTPS tab.

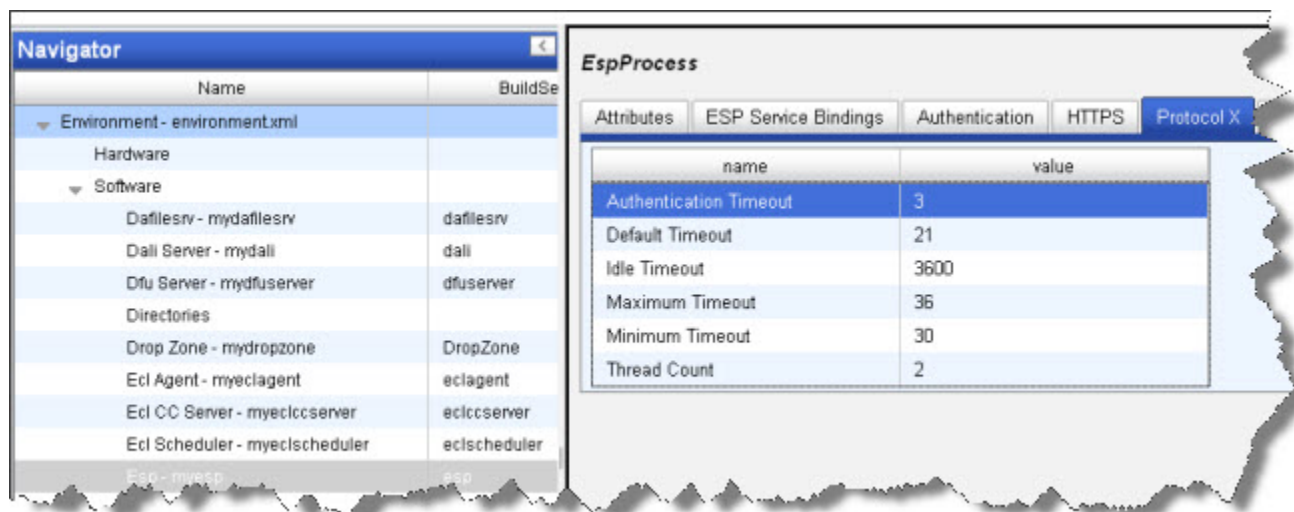
The screenshot shows the HPCC Systems Configuration Manager interface. On the left is a 'Navigator' pane with a tree view. The 'Esp - myesp' configuration is selected. On the right is the 'EspProcess' configuration window, with the 'HTTPS' tab active. It displays a table of attributes and their values.

name	value
acceptSelfSigned	true
CA_Certificates_Path	ca.pem
certificateFileName	certificate.cer
Name of the city	
Name of the country	US
Number of days the certificate is valid	365
enableVerification	false
organization	Customer of HPCCSystems
organizationalUnit	
passphrase	
privateKeyFileName	privatekey.cer
regenerateCredentials	false
requireAddressMatch	false
Name of the state	
trustedPeers	anyone

Attribute name	Definition
<i>acceptSelfSigned</i>	True or False to enable self signed certificate...
<i>CA_Certificates_Path</i>	the location of the CA Certificates
<i>certificateFileName</i>	name of the CA Certificate
<i>Name of the city</i>	name of the city.
<i>Name of the country</i>	name of the country.
<i>Number of days the certificate is valid.</i>	The Number of days the certificate is valid.
<i>enableVerification</i>	True or False to enable verification of...
<i>organization</i>	name of the organization...
<i>organizationalUnit</i>	OU to use
<i>passphrase</i>	passphrase to use
<i>privateKeyFileName</i>	The privatekey name file (such as, privatekey.cer)
<i>regenerateCredentials</i>	True or False to enable generation of credentials.
<i>requireAddressMatch</i>	True or False to enable address match
<i>Name of the State</i>	name of the state
<i>TrustedPeers</i>	The names of trusted peers.

Esp - myesp Protocol XTab

This section describes the Esp - myesp Protocol X tab.



Attribute name	Definition
<i>Authentication Timeout</i>	The Authentication timeout value...
<i>Default Time out</i>	The default timeout value...
<i>Idle Timeout</i>	The timeout value...
<i>Maximum Timeout</i>	The maximum timeout value...
<i>Minimum Timeout</i>	The minimum timeout value...
<i>Thread Count</i>	the number of threads...

EspProcess Notes

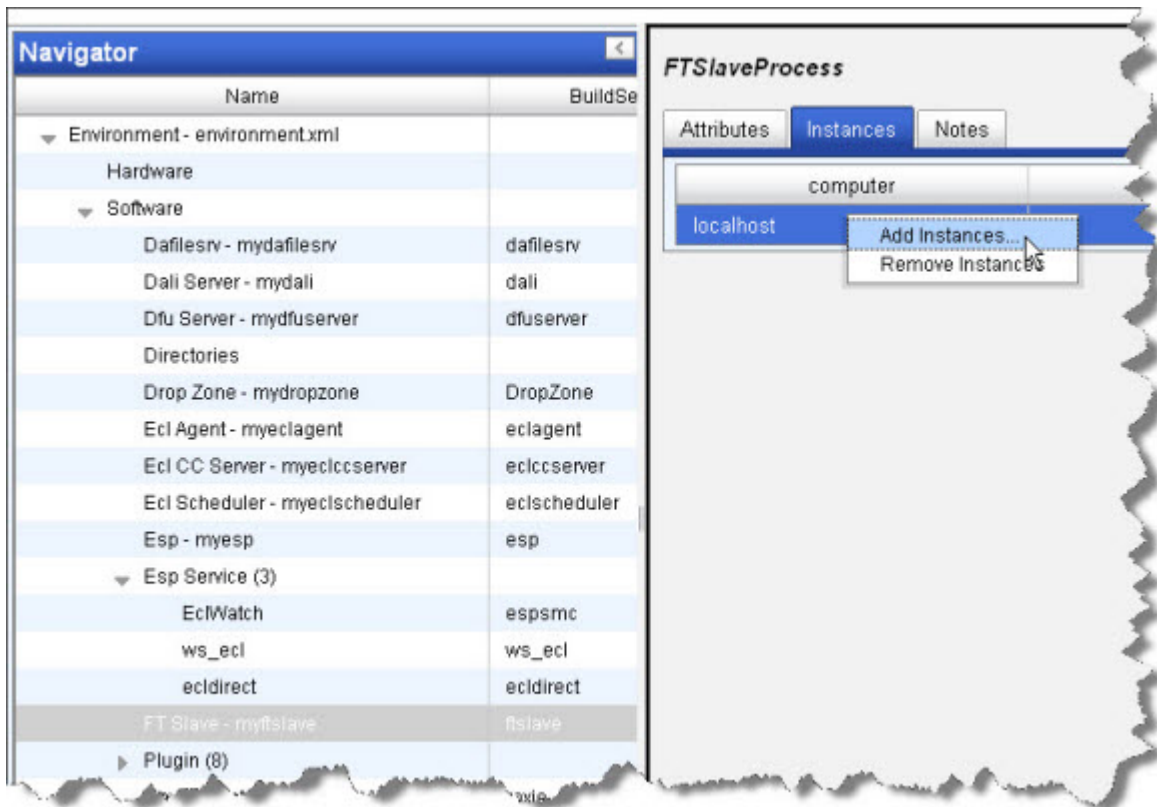
This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

FTSlave Process

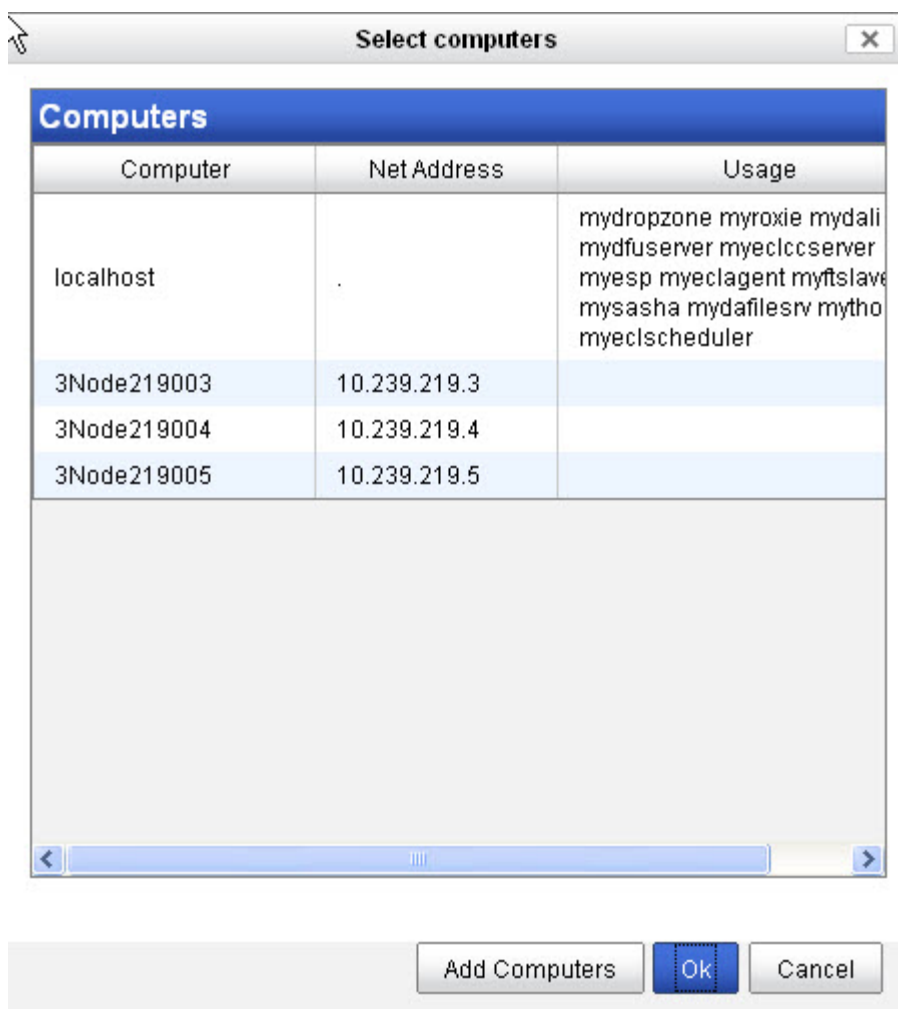
FTSlave is a helper process that every node needs.

Instances

- Select FTSlave in the Navigator panel on the left side.
- Select the Instances tab.
- RT-CLICK on a computer in the computer column, and select Add Instance .



- Select all computers in the list, then press the **OK** button.



- Click the  disk icon to save

FtSlave attributes

This section describes the FTSlave attributes tab.

Attribute	Definition
<i>description</i>	FTSlave Process description
<i>name</i>	Name of the process instance (AlphaNumeric and underscore only)
<i>version</i>	current version number

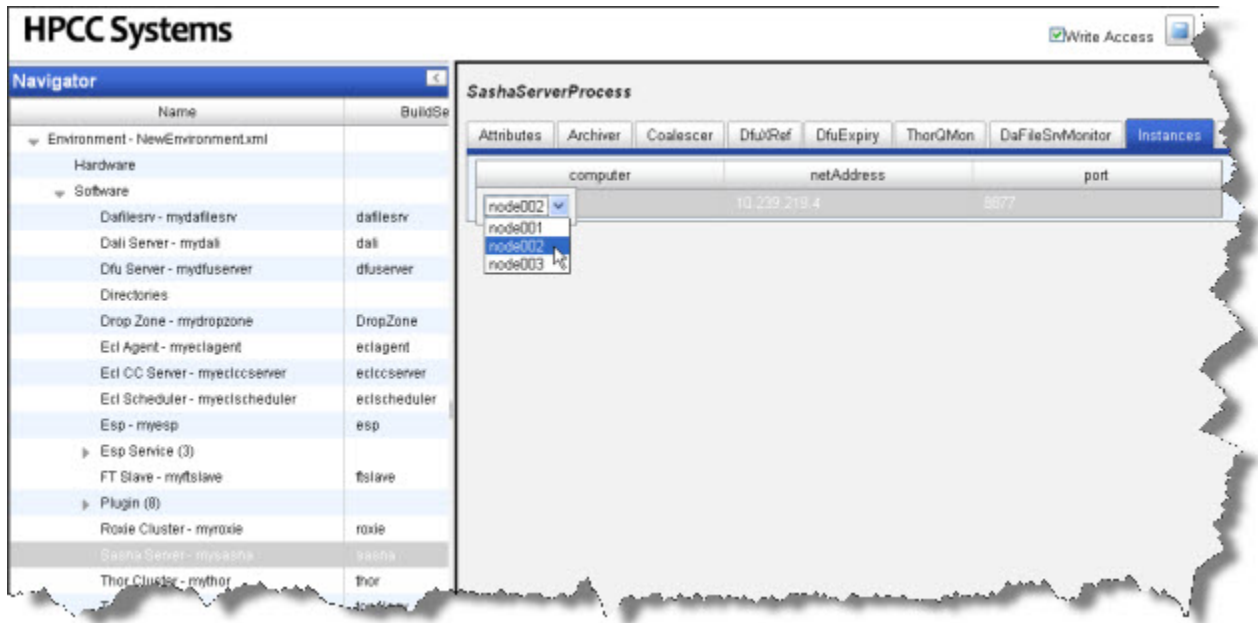
FtSlave Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Sasha Server

Instances

- Select Sasha Server in the menu on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



SashaServer Process Archiver

This section describes the SashaServer Process Archiver tab.

The screenshot shows the HPCC Systems Configuration Manager interface. On the left is a 'Navigator' pane with a tree view of the system configuration. The 'Sasha Server - mysasha' entry is selected. On the right is the 'SashaServerProcess' configuration pane, with the 'Archiver' tab active. It displays a table of attributes and their values.

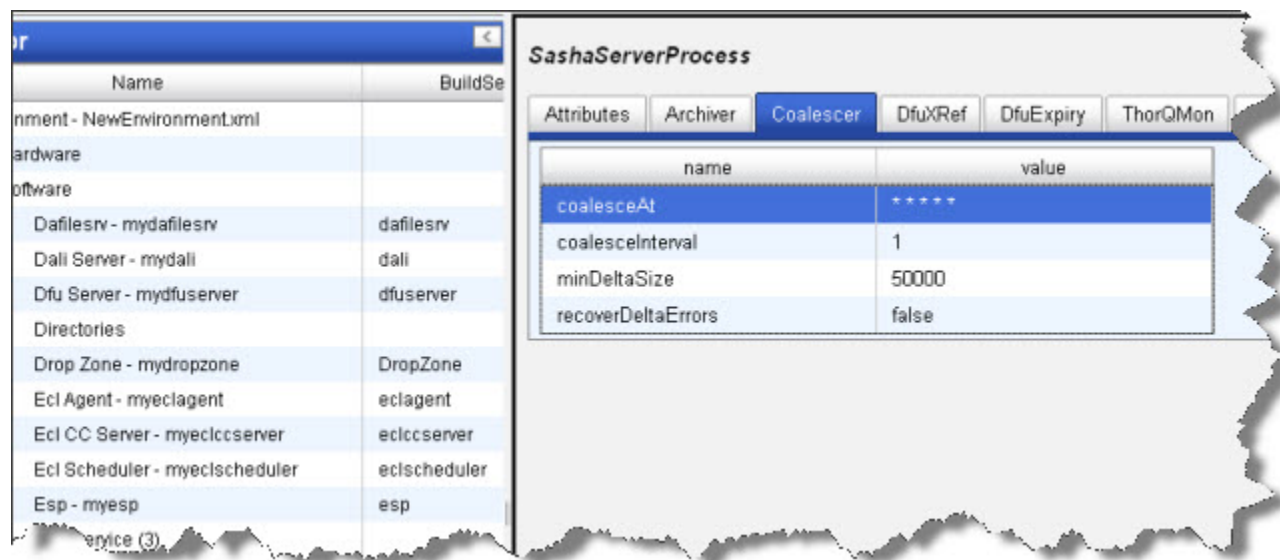
name	value
cachedWUat	*****
cachedWUinterval	24
cachedWUlimit	100
DFUrecoveryAt	*****
DFUrecoveryCutoff	4
DFUrecoveryInterval	12
DFUrecoveryLimit	20
DFUWUat	*****
DFUWUcutoff	14
DFUWUduration	0
DFUWUinterval	24
DFUWUlimit	1000
DFUWUthrottle	0
keepResultFiles	false
WUat	*****
WUbackup	0
WUcutoff	8
WUduration	0
WUinterval	6
WUlimit	1000
WUretryinterval	7
WUthrottle	0

Attribute	Definition
<i>cachedWUat</i>	SashaServer Archiver Process description
<i>cachedWUinterval</i>	SashaServer Archiver Process description
<i>cachedWUlimit</i>	SashaServer Archiver Process description
<i>DFUrecoveryAt</i>	SashaServer Archiver Process description
<i>DFUrecoveryCutoff</i>	SashaServer Archiver Process description
<i>DFUrecoveryInterval</i>	SashaServer Archiver Process description
<i>DFUrecoveryLimit</i>	SashaServer Archiver Process description
<i>DFUWUat</i>	SashaServer Archiver Process description
<i>DFUWUcutoff</i>	SashaServer Archiver Process description

<i>DFUWUduration</i>	SashaServer Archiver Process description
<i>DFUWUinterval</i>	SashaServer Archiver Process description
<i>DFUWUlimit</i>	SashaServer Archiver Process description
<i>DFUWUthrottle</i>	SashaServer Archiver Process description
<i>keepResultFiles</i>	Keep result files, True or False
<i>WUat</i>	SashaServer Archiver Process description
<i>WUbackup</i>	SashaServer Archiver Process description
<i>WUcutof</i>	SashaServer Archiver Process description
<i>WUduration</i>	SashaServer Archiver Process description
<i>WUinterval</i>	SashaServer Archiver Process description
<i>WUlimit</i>	SashaServer Archiver Process description
<i>WUretryinterval</i>	SashaServer Archiver Process description
<i>WUthrottle</i>	SashaServer Archiver Process description

SashaServer Process Coalescer

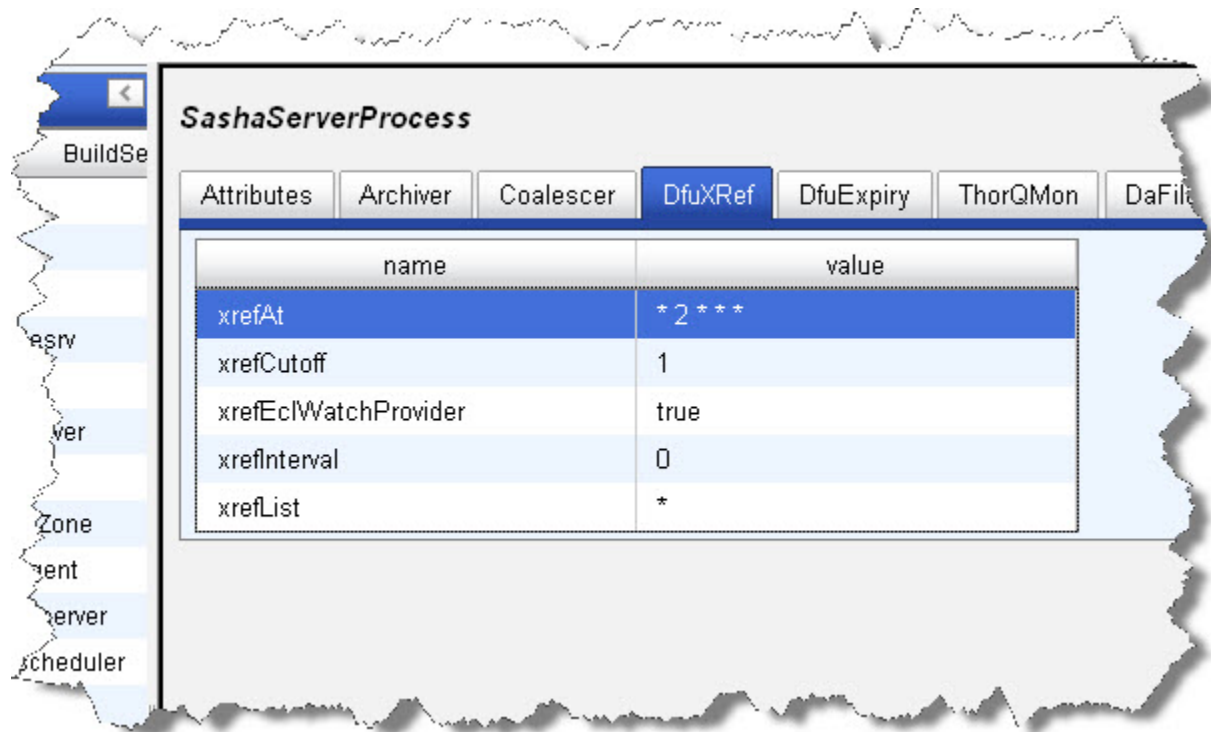
This section describes the SashaServer Process Coalescer tab.



Attribute	Definition
<i>coalesceAt</i>	SashaServer Coalesce Process description
<i>coalesceInterval</i>	SashaServer Coalesce Process description
<i>minDeltaSize</i>	SashaServer Coalesce Process description
<i>recoverDeltaErrors</i>	SashaServer Coalesce Process description

SashaServer Process DfuXRef

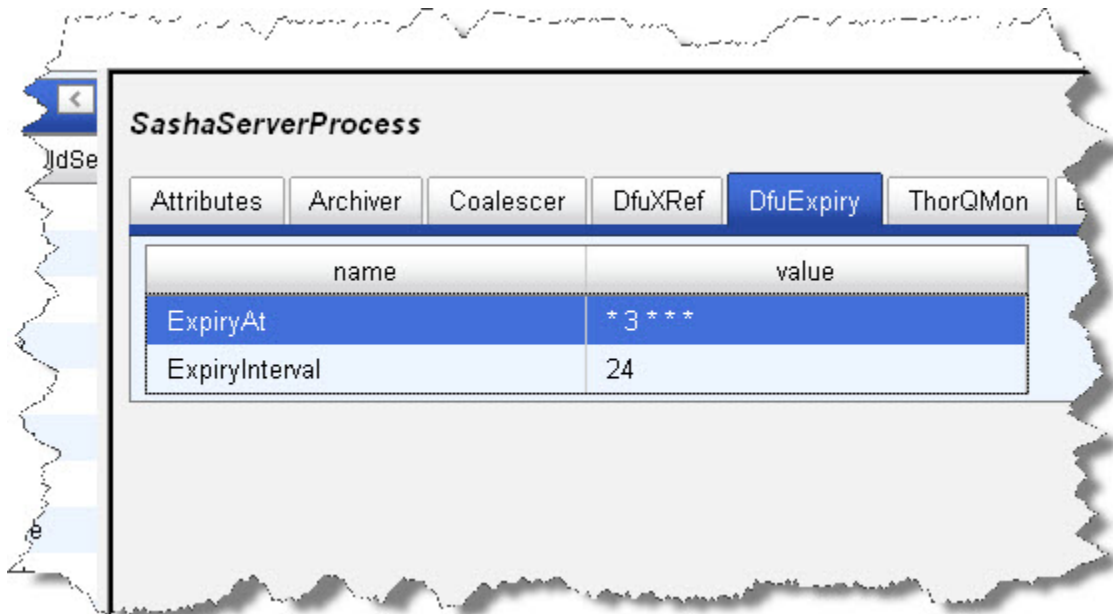
This section describes the SashaServer Process DfuXref tab.



Attribute	Definition
<i>xrefAt</i>	SashaServer DfuXRef Attribute description
<i>xrefCutoff</i>	SashaServer DfuXRef Attribute description
<i>xrefEclWatchProvider</i>	Xref Ecl Watch Provider, True or False
<i>xrefInterval</i>	value of SashaServer DfuXRef Attribute
<i>xrefList</i>	SashaServer DfuXRef Attribute description

SashaServer Process DfuExpiry

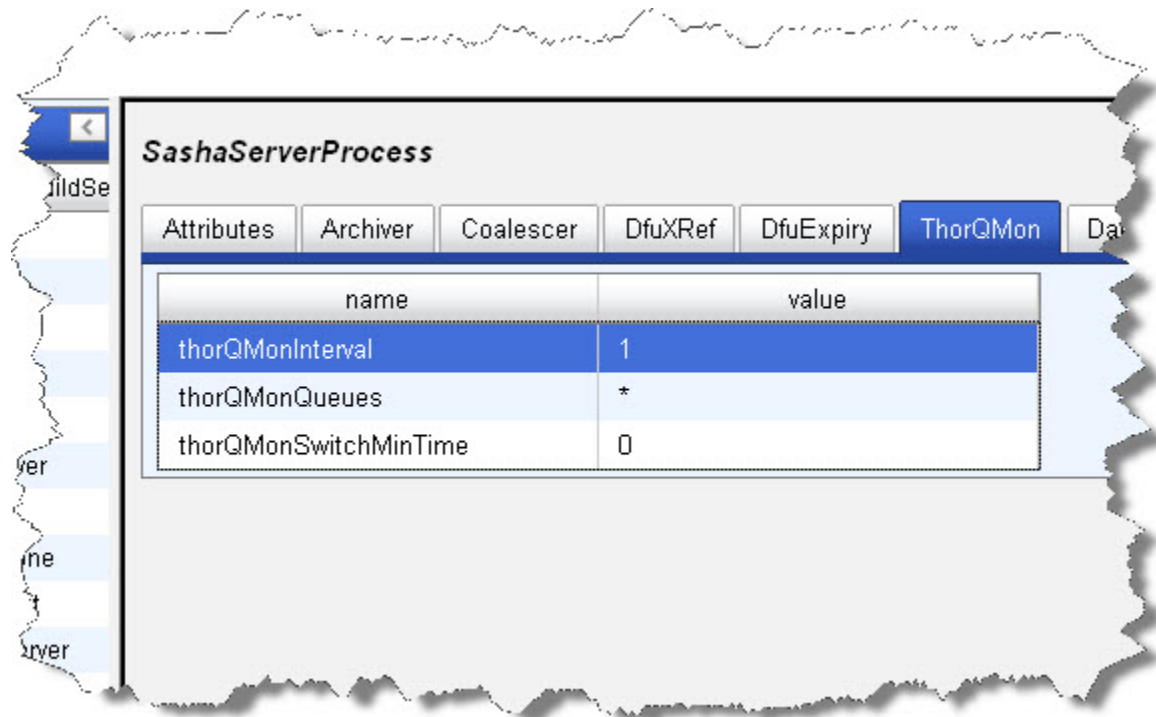
This section describes the SashaServer Process DfuExpiry tab.



Attribute	Definition
<i>ExpiryAt</i>	SashaServer DfuExpiry tab description
<i>ExpiryInterval</i>	Interval in hours at which the Dfu expires

SashaServer Process ThorQMon

This section describes the SashaServer Process ThorQMon tab.



Attribute	Definition
<i>ThorQMonInterval</i>	ThorQMonInterval description
<i>ThorQMonQueues</i>	ThorQMonQueues description
<i>ThorQMonSwitchMinTime</i>	ThorQMonSwitchMinTime description

SashaServer Process DaFileSrvMonitor

This section describes the SashaServer Process DaFileSrvMonitor tab.



Attribute	Definition
<i>dafsmonAt</i>	dafsmon description
<i>dafsmonInterval</i>	dafsmon description
<i>dafsmonList</i>	dafsmon description

SashaServer Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Thor

This section details how to define a Data Refinery (Thor) cluster. Before you begin, you should decide the width of the cluster (i.e., how many slave nodes will you have).

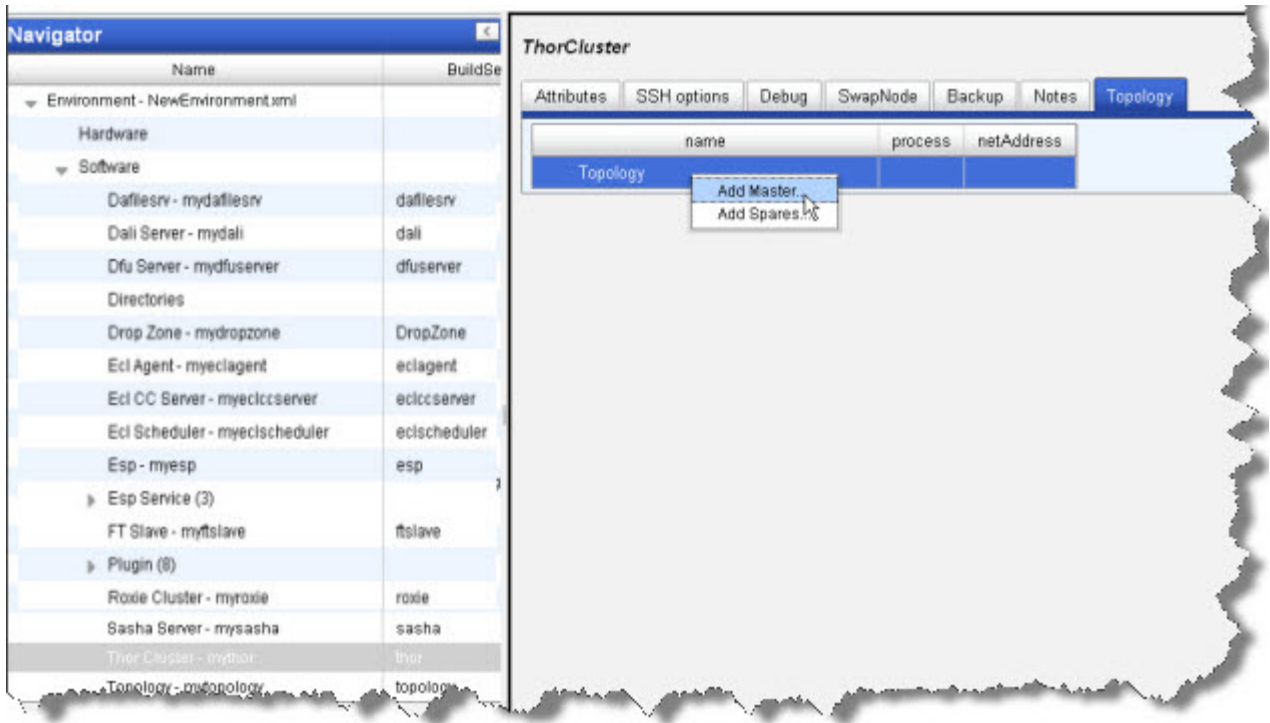
- Select Thor Cluster - mythor in the Navigator panel on the left side.
- Select the **Topology** tab.
- Expand the Topology, if needed, then RT-CLICK the Master and select Delete.

This deletes the sample one-node Thor.

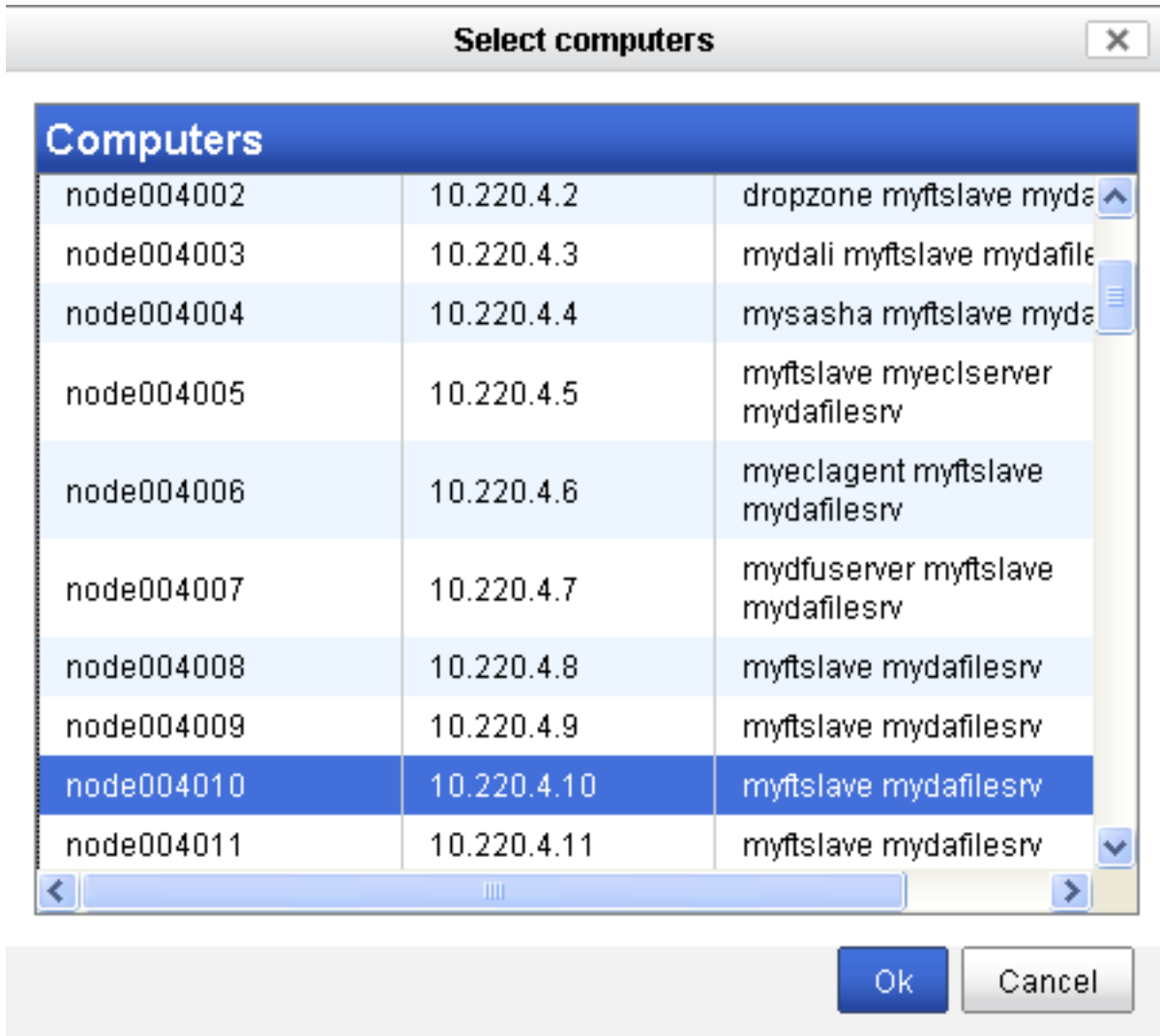
You will replace this with a multi-node cluster.

HPCC Configuration Manager Configuration Manager Advanced View

- RT-CLICK on the Topology and select Add Master.

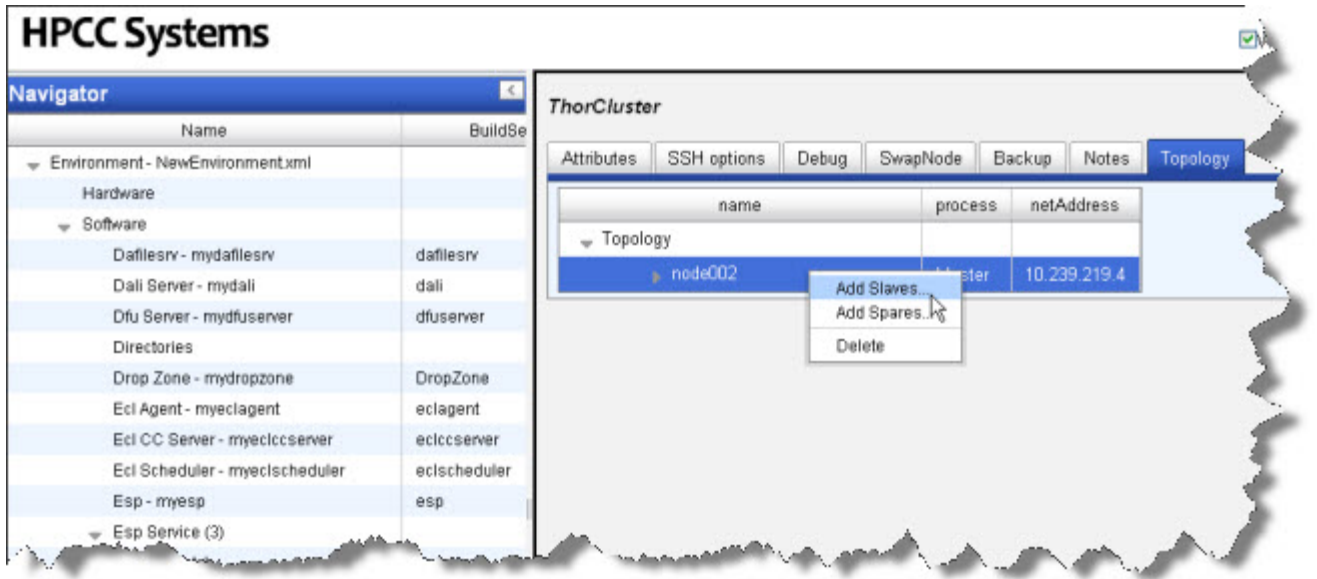


- Select a computer from the list, then press the OK button.



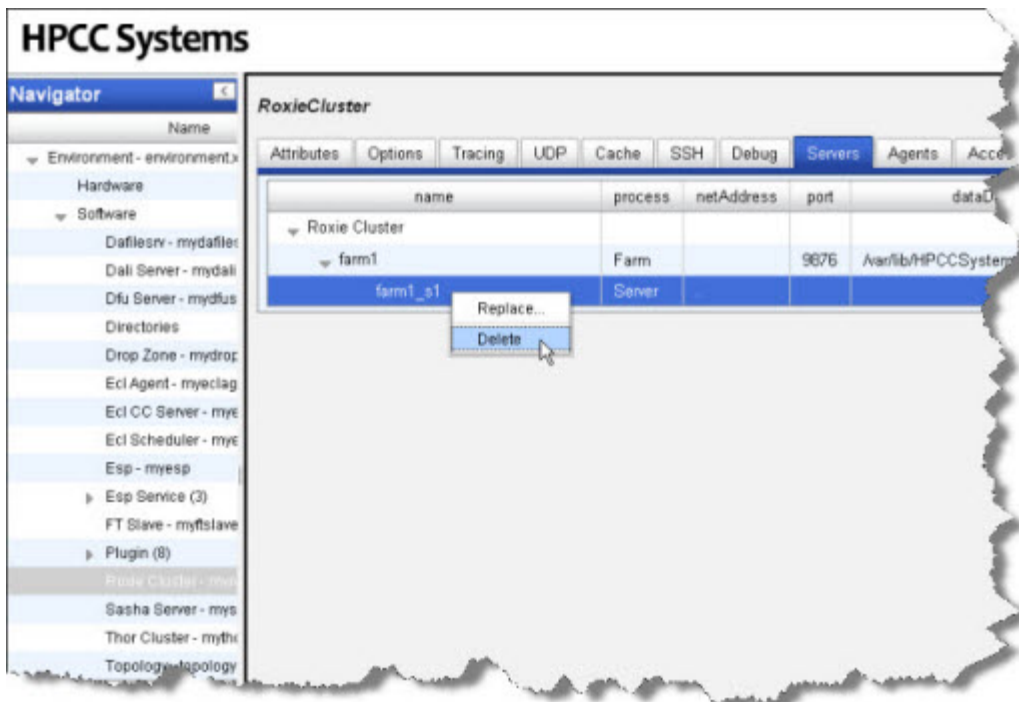
HPCC Configuration Manager Configuration Manager Advanced View

- RT-CLICK on the Master and select Add Slaves.

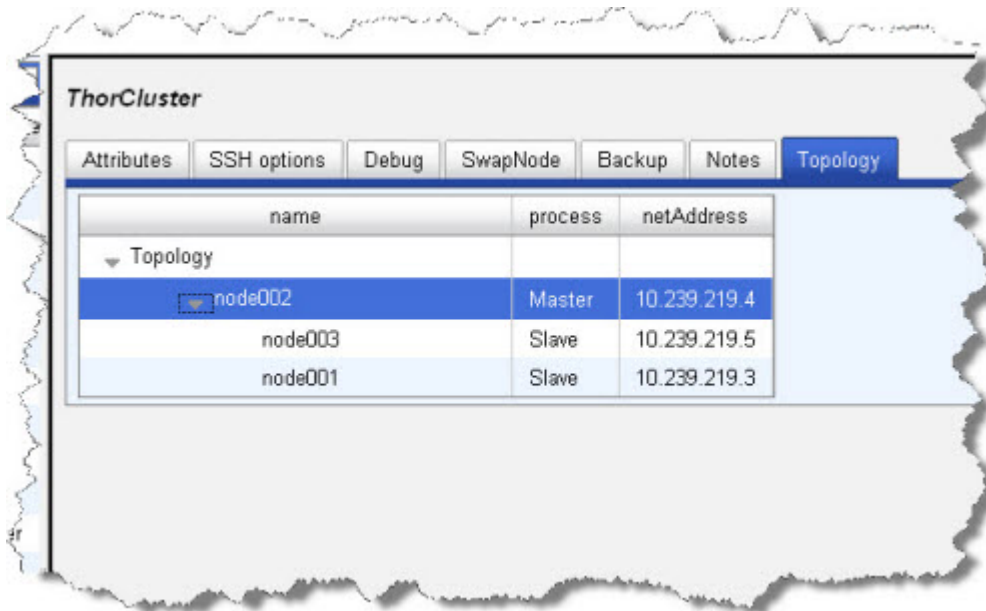


HPCC Configuration Manager Configuration Manager Advanced View

- Select the computers to use as slaves from the list, then press the OK button. Use CTRL+CLICK to multi-select or SHIFT+CLICK to select a range.



The Nodes now display below the Thor Master node.



- Select Thor Cluster - mythor in the Navigator panel on the left side.

HPCC Configuration Manager Configuration Manager Advanced View

- Select the Attributes tab.

The screenshot shows the HPCC Configuration Manager interface. On the left is a 'Navigator' pane with a tree view of the configuration structure. The 'ThorCluster' configuration is selected. The main area shows the 'Attributes' tab for 'ThorCluster', displaying a table of configuration parameters and their values. A dropdown menu is open for the 'localThor' parameter, showing options 'false', 'true', and '2000'. The 'false' option is currently selected.

name	value
allowedPipePrograms	*
autoCopyBackup	false
checkPointRecovery	false
daliServers	mydali
defaultOutputNodeGroup	
description	Thor process
externalProgDir	
globalMemorySize	2048
idleRestartPeriod	480
largeMemSize	1400
LCR	true
localThor	false
localThorPortBase	false
localThorPortInc	true
masterport	
monitorDaliFileServer	true
multiSlaves	false
multiThorExclusionLockName	
multiThorMemoryThreshold	
multiThorPriorityLock	false

- Change the value of the localThor to **false**

-  Click the disk icon to save

ThorCluster Attributes

This section describes the Thor Cluster Attributes tab.

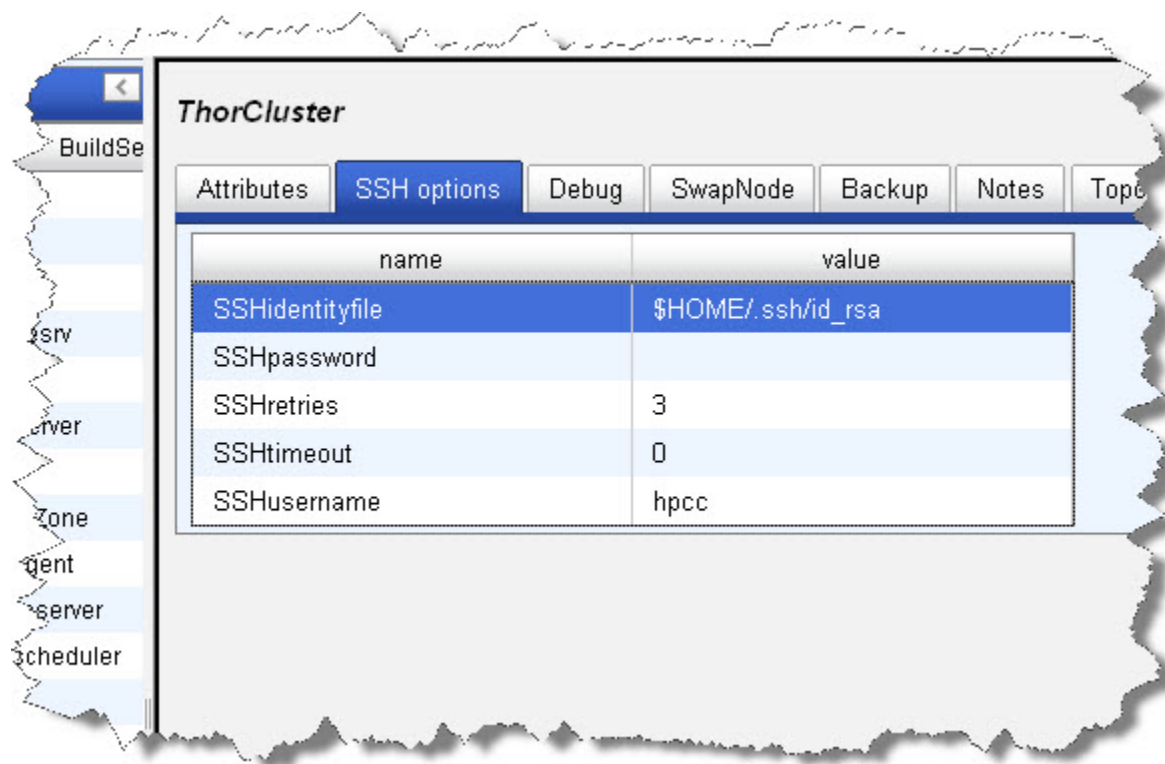
name	value
allowedPipePrograms	*
autoCopyBackup	false
checkPointRecovery	false
daliServers	mydali
defaultOutputNodeGroup	
description	Thor process
externalProgDir	
globalMemorySize	2048
idleRestartPeriod	480
largeMemSize	1400
LCR	true
localThor	false
localThorPortBase	13500
localThorPortInc	2000
masterport	
monitorDaliFileServer	true
multiSlaves	false
multiThorExclusionLockName	
multiThorMemoryThreshold	
multiThorPriorityLock	false
name	mythor
nodeGroup	

Attribute	Definition
<i>allowedPipePrograms</i>	ThorCluster Process description
<i>autoCopyBackup</i>	True or False
<i>checkPointRecovery</i>	True or False
<i>daliServers</i>	The Dali Server
<i>defaultOutputNodeGroup</i>	
<i>description</i>	ThorCluster Process description
<i>externalProgDir</i>	Location of externals
<i>globalMemorySize</i>	ThorCluster Process description
<i>idleRestartPeriod</i>	ThorCluster Process description
<i>largeMemSize</i>	ThorCluster Process description
<i>LCR</i>	True or False
<i>localThor</i>	True or False

<i>localThorPortBase</i>	
<i>localThorPortInc</i>	
<i>masterport</i>	
<i>monitorDaliFileServer</i>	Specifies whether to monitor for DaFileSrv process (True or False)
<i>multiSlaves</i>	True or False
<i>multiThorExclusionLockName</i>	
<i>multiThorMemoryThreshold</i>	
<i>multiThorPriorityLock</i>	True or False
<i>name</i>	Name of cluster
<i>nodeGroup</i>	
<i>pluginsPath</i>	Location of plugins
<i>queueName</i>	
<i>replicateAsync</i>	True or False
<i>replicateOutputs</i>	True or False
<i>slaveDownTimeout</i>	
<i>slaveport</i>	
<i>smallSortThreshold</i>	
<i>verifyDaliConnectionInterval</i>	
<i>watchdogEnabled</i>	True or False
<i>watchdogProgressEnabled</i>	True or False
<i>watchdogProgressInterval</i>	ThorCluster Process description

ThorCluster SSH Options

This section describes the ThorCluster SSH Options tab.



Attribute	Definition
<i>SSHidentityfile</i>	Location of the SSH keys component files.
<i>SSHpassword</i>	
<i>SSHretries</i>	The number of times...
<i>SSHtimeout</i>	Timeout
<i>SSHusername</i>	The user name of the account the SSH keys are associated with

ThorCluster Debug

The debug tab is for internal use only

ThorCluster Swap Node

This section describes the ThorCluster Swap Node tab.

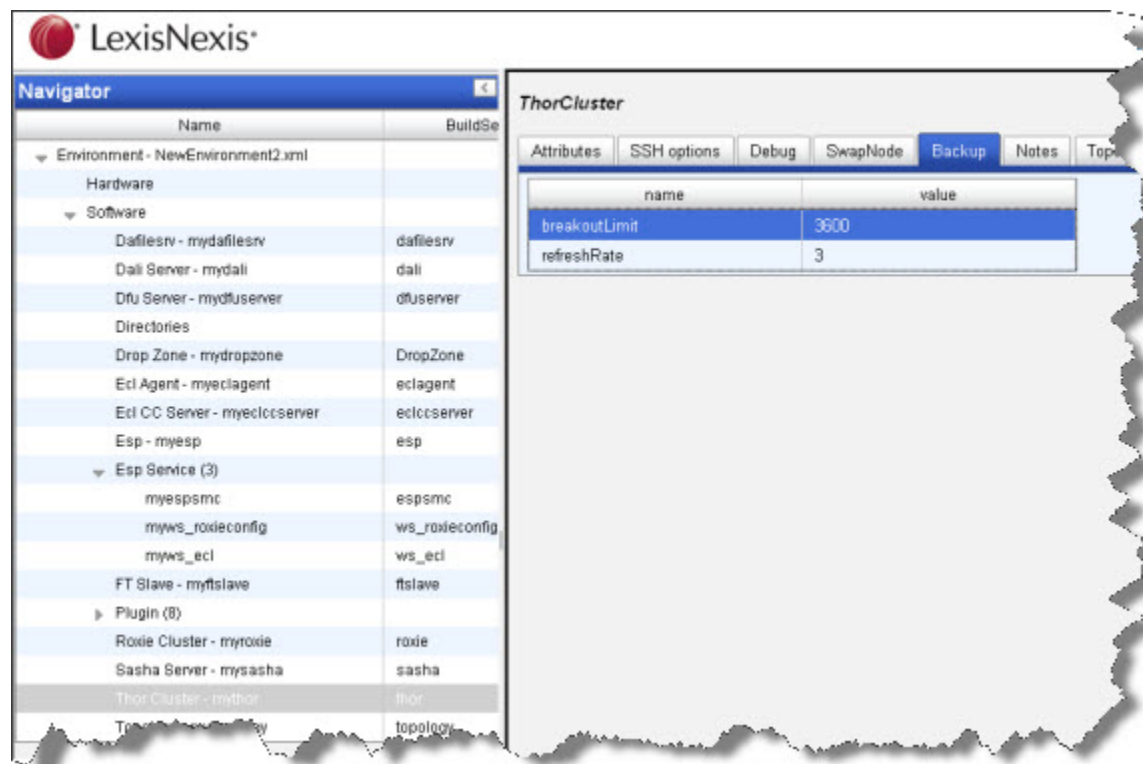
The screenshot shows the LexisNexis HPCC Configuration Manager interface. On the left is a 'Navigator' pane with a tree view of the environment configuration. The 'ThorCluster' configuration is selected. On the right is the 'ThorCluster' configuration pane, with the 'SwapNode' tab active. This tab displays a table of configuration attributes and their values.

name	value
AutoSwapNode	false
CheckAfterEveryJob	false
SwapNodeCheckC	true
SwapNodeCheckD	true
SwapNodeCheckScript	
SwapNodeCheckScriptTimeout	0
SwapNodeInterval	24
SwapNodeMaxConcurrent	1
SwapNodeRestartJob	false

Attribute	Definition
<i>AutoSwapNode</i>	True or False. Set to True to enable AutoSwapNode
<i>CheckAfterEveryJob</i>	True or False. Set to True to Check after Every Job
<i>SwapNodeCheckC</i>	True or False. Set to True to ...
<i>SwapNodeCheckD</i>	True or False. Set to True to...
<i>SwapNodeCheckScript</i>	
<i>SwapNodeCheckScriptTimeout</i>	The number ...
<i>SwapNodeInterval</i>	The number ...
<i>SwapNodeMaxConcurrent</i>	value of Maximum number of concurrent...
<i>SwapNodeRestartJob</i>	True or False. Set to True...

ThorCluster Backup

This section describes the ThorCluster Backup tab.



Attribute	Definition
<i>breakoutLimit</i>	value of...
<i>refreshRate</i>	value of...

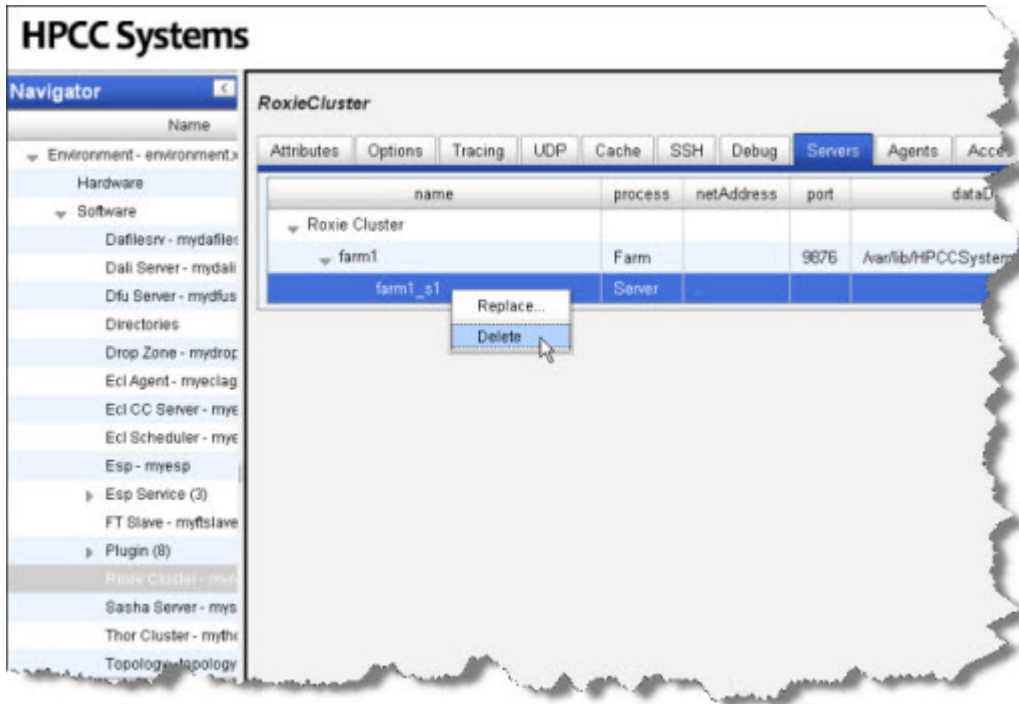
ThorCluster Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Roxie

This section details how to define a Rapid Data Delivery Engine (Roxie) cluster. Before you begin, you should decide the width of the cluster (i.e., how many agent nodes will you have).***Change the value of the localslave to **false*****

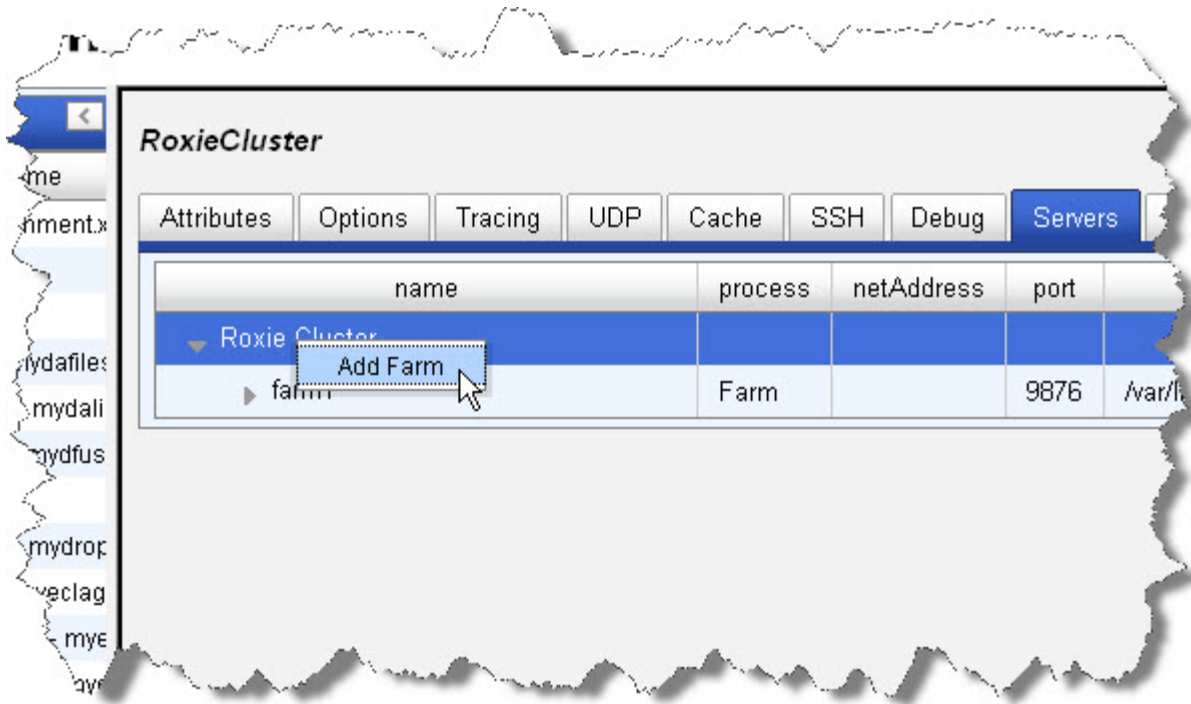
- Select Roxie Cluster in the Navigator panel on the left side.
- Select the Servers tab.
- Expand the RoxieCluster >> farm1, if needed, then RT-CLICK the Server and select Delete.



This deletes the sample one-node Roxie Server.

You will replace this with several servers to act as Roxie Servers.

- RT-CLICK on the Roxie Cluster and select Add Farm.



- Select the computers to use as Servers from the list, then press the OK button. Use Ctrl+click to multi-select or shift+click to select a range.

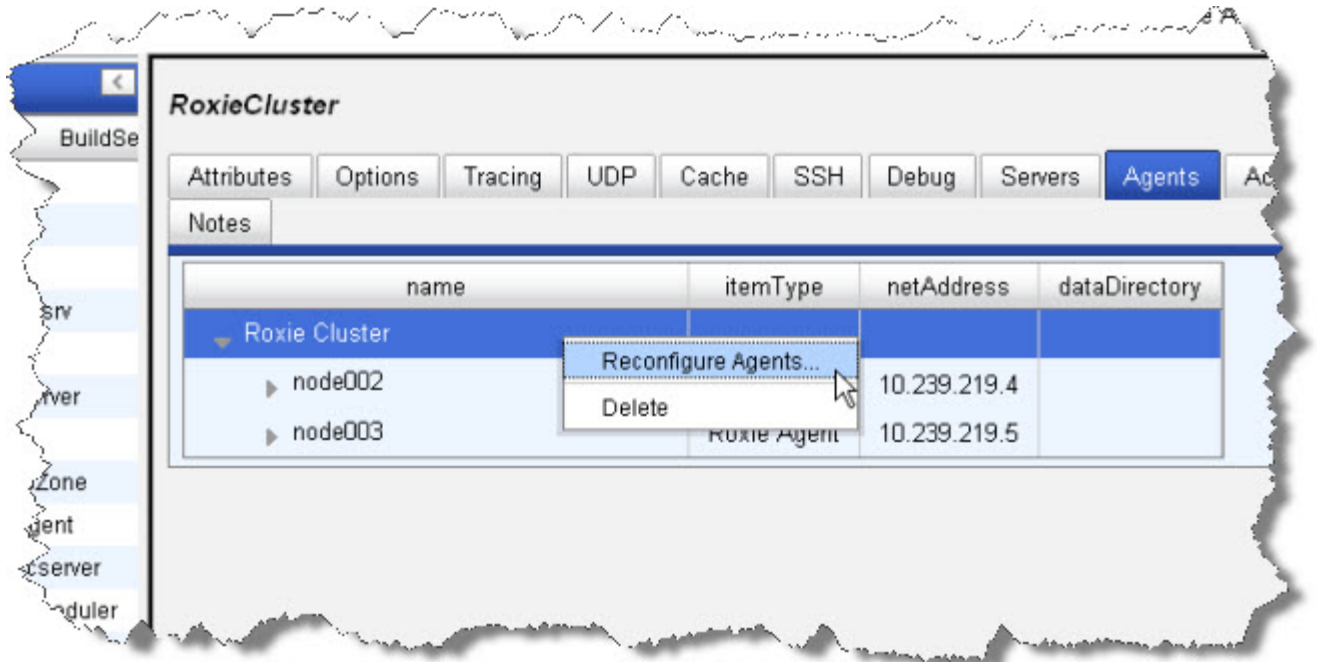


- Select the Agents tab.

HPCC Configuration Manager
Configuration Manager Advanced View

- Select the RoxieCluster, then RT-CLICK select Reconfigure Agents.

This allows you to replace the single agent with the multiple nodes you added as Servers.



- Select the computers to use as Agents from the list, then press the **OK** button. Use Ctrl+click to multi-select or shift+click to select a range.




Note: In this example, we are using the same five nodes that were made to be Servers. This is a typical configuration.

- Select the redundancy scheme to use. Typically, this is Circular Redundancy, as shown below.

<input type="radio"/> Full Redundancy	
(Multiple agents host each channel)	
Channel Redundancy:	2
<input checked="" type="radio"/> Circular Redundancy	
(Each computer hosts multiple channels in rotation)	
Channel Redundancy:	2
Offset:	1
<input type="radio"/> No Redundancy	
(One channel per agent)	
<input type="radio"/> Overloaded	
(Multiple channels per agent)	
Channels per host:	1

Ok Cancel

- Click the  disk icon to save
- Close Configuration Manager by pressing ctrl+C in the command window where it is running.

Topology

This section describes the topology tab.

The screenshot shows the HPCC Configuration Manager interface. On the left is a 'Navigator' pane with a tree view of the configuration environment. The right pane is titled 'Topology' and contains a table with two columns: 'name' and 'value'.

Name	BuildSe
Environment - NewEnvironment.xml	
Hardware	
Software	
Daflesrv - mydaflesrv	daflesrv
Dali Server - mydali	dali
Dfu Server - mydfuserver	dfuserver
Directories	
Drop Zone - mydropzone	DropZone
Ecl Agent - myeclagent	eclagent
Ecl CC Server - myeclccserver	eclccserver
Ecl Scheduler - myeclscheduler	eclscheduler
Esp - myesp	esp
▶ Esp Service (3)	
FT Slave - myftslave	ftslave
▶ Plugin (8)	
Roxie Cluster - myroxie	roxie
Sasha Server - mysasha	sasha
Thor Cluster - mythor	thor
Topology - topology	topology

name	value
Topology	
▶ Cluster - hthor	
▶ Cluster - thor	
▶ Cluster - roxie	

Attribute name	Definition
<i>Topology</i>	describes the system topology
<i>Cluster - thor</i>	describes the Thor clusters
<i>Cluster - hthor</i>	describes the hthor clusters
<i>Cluster - roxie</i>	describes the Roxie clusters

Distribute Configuration Changes to all Nodes

Once your environment is set up as desired, you must copy the configuration file out to the other nodes.

- If it is running, stop the system



Be sure system is stopped before attempting to move the Environment.xml file.

- Back up the original environment.xml file

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/environment.xml /etc/HPCCSystems/environment.bak
```

Note: the "live environment.xml file is located in your **/etc/HPCCSystems/** directory. ConfigManager works on files in **/etc/HPCCSystems/source** directory. You must copy from this location to make an environment.xml file active.

- Copy the NewEnvironment.xml file from the source directory to the /etc/HPCCSystems and rename the file to environment.xml

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/source/NewEnvironment.xml /etc/HPCCSystems/environment.xml
```

- Copy the /etc/HPCCSystems/environment.xml to the /etc/HPCCSystems/ on every node.
- Restart the HPCC system

You might prefer to script this process, especially if you have many nodes. See the Example Scripts section in the Appendix of the Installing_and_RunningtheHPCCPlatform document. You can use the scripts as a model to create your own script to copy the environment.xml file out to all your nodes.