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INSIGHT
2014

Tech Titans: Costpoint Cluster Configuration, Not as Complicated as You Might Think

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WJ Technologies L.L.C.

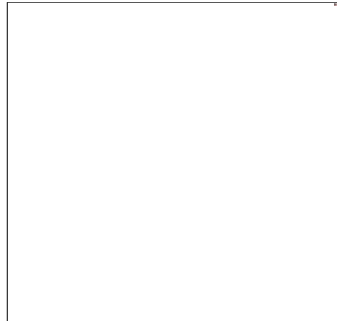
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Agenda

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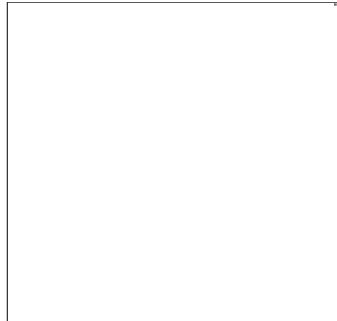


Agenda

- Overview of Clustering in Costpoint 7
- Planning
- Creating the Cluster
- Management and Maintenance
- Other Considerations
- Questions

Clustering Overview

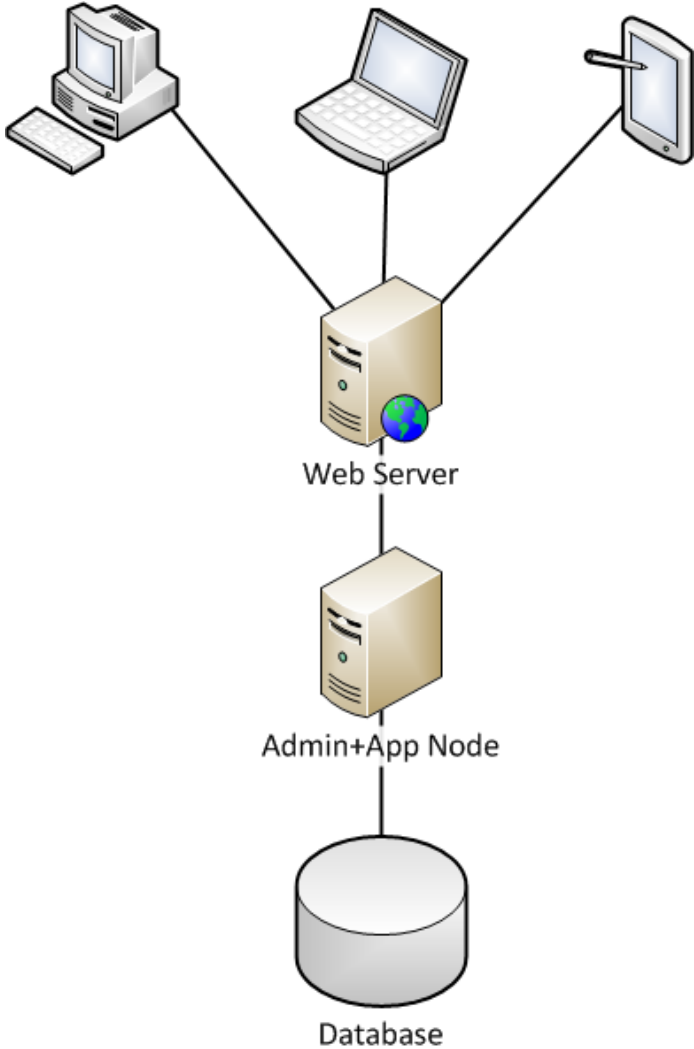
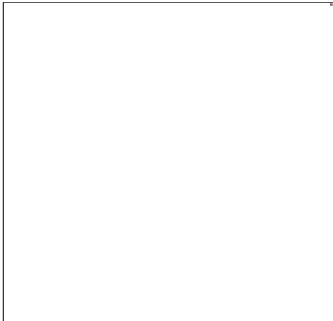
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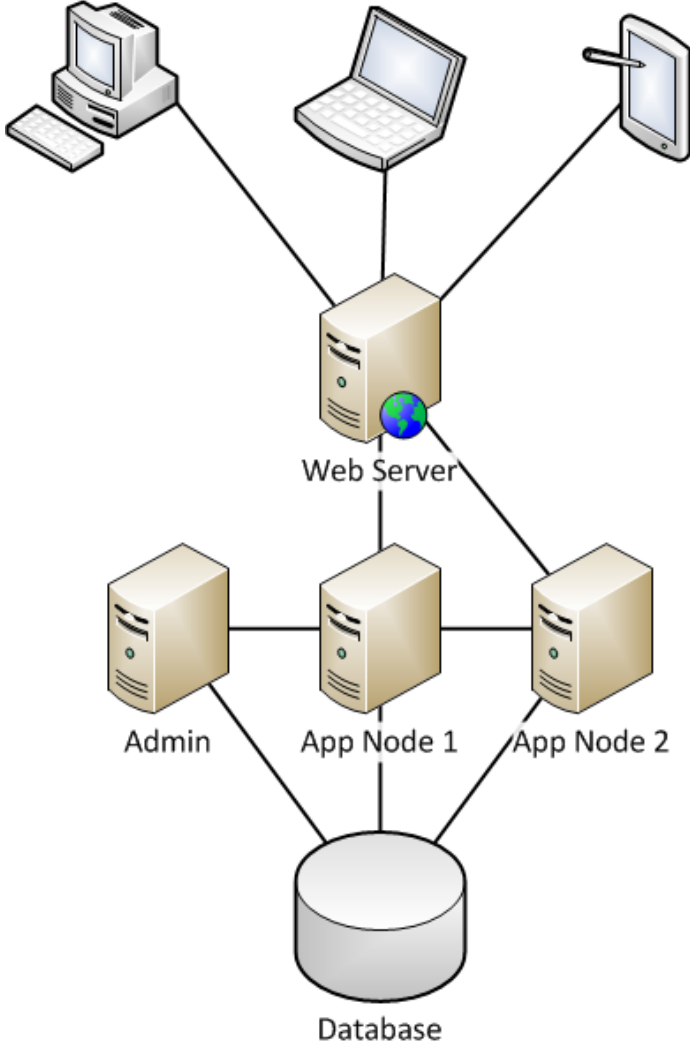
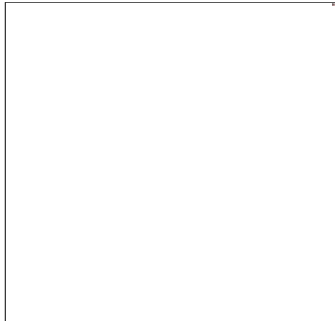
Overview

- What is clustering?
- What benefits does it offer
- Should I cluster my systems?

Overview – Typical Non-clustered Configuration



Overview – Simple Clustered Configuration





Overview – What will clustering do for me?

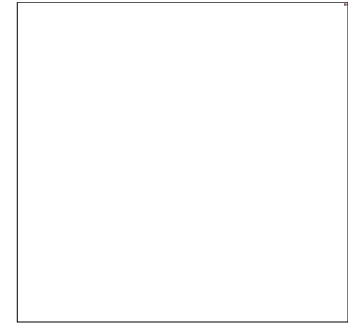
- Pros
 - Performance
 - Spreading processes out across nodes reduces the number of concurrent processes running on each node
 - Scalability
 - Easy to scale out, adding nodes to handle more users
 - Redundancy
 - If a node goes down, the system should still be available
- Cons
 - Complexity
 - Greater complexity makes management and maintenance more difficult

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Planning

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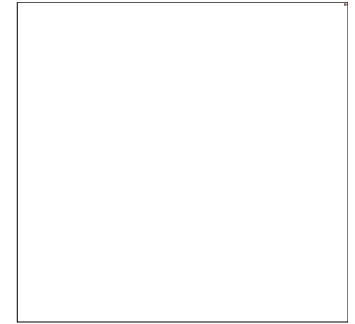


Planning

- Questions to ask
 - What am I trying to accomplish with clustering?
 - How many nodes do I need?
 - Do I need dedicated job servers?
 - What about the Web Tier?
 - Review [DeltekCostpoint701DeploymentOptionsTechnicalOverview.pdf](#), included in the Documents folder with your Costpoint software download

Planning

- System Specifications
 - Cluster nodes should be sized like a standalone Costpoint application server
 - Minimum specifications
 - 2 CPU cores
 - 4GB memory
 - At least 50GB free disk space
 - Can be virtualized, provided your virtualization environment has sufficient resources and performance



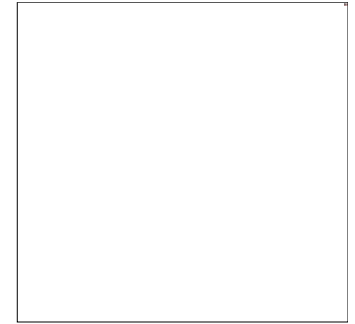


Planning

- Different types of nodes
 - Admin
 - The admin server is the core of the cluster, handling management and monitoring of the cluster
 - Secondary
 - The workhorses of the cluster, handling all user activity
 - Dedicated Job Server
 - Specialized node for executing Job Server requests only

Configuring the Cluster

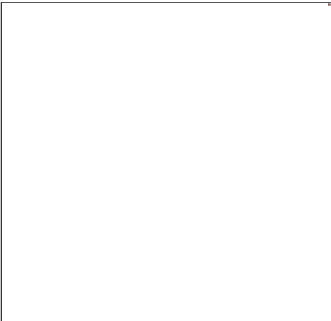
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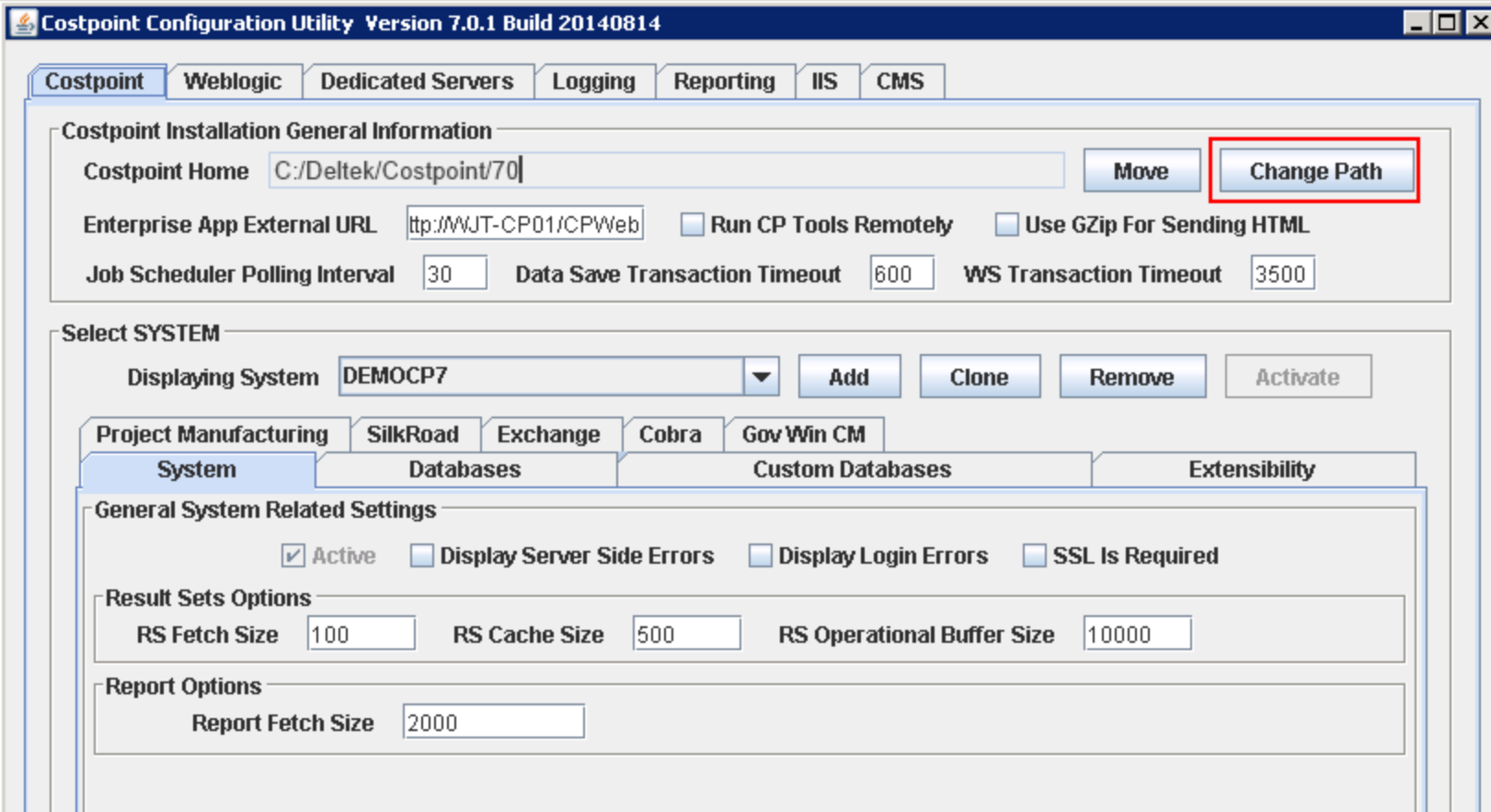
Configuring the Cluster

- Configure the system to run from a shared directory
- Change the configuration from standalone to cluster
- Perform secondary app tier installation on each node
- Install Framework Update on each node
- Add Nodes to Costpoint configuration
- Install and configure services on nodes
- Test

Set Installation directory to shared location

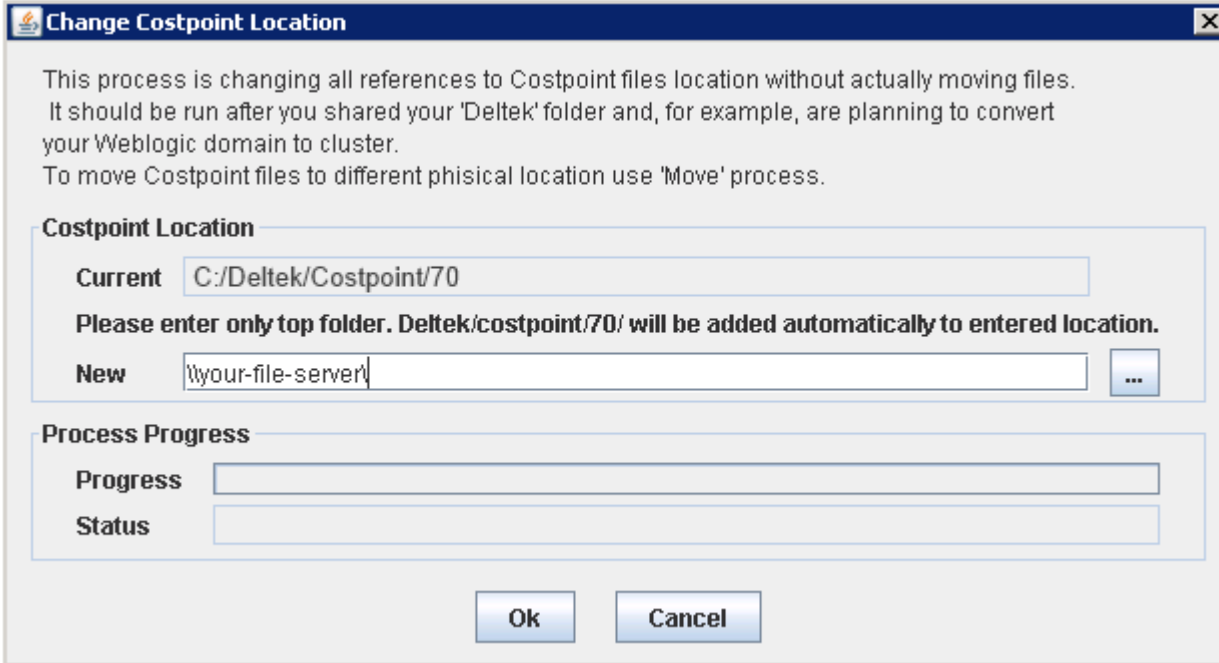


- Start Costpoint Configuration Utility
- Press Change Path button



Set new installation location

- Enter the base path for you new location
 - The new location should be highly available and provide sufficient I/O performance
- Exclude \Deltek\Costpoint\70, it will be added for you
 - That means that the path the to new location must include that path
- Press Ok, Save the settings and restart Weblogic



Change Costpoint Location

This process is changing all references to Costpoint files location without actually moving files. It should be run after you shared your 'Deltek' folder and, for example, are planning to convert your Weblogic domain to cluster. To move Costpoint files to different physical location use 'Move' process.

Costpoint Location

Current

Please enter only top folder. Deltek/costpoint/70/ will be added automatically to entered location.

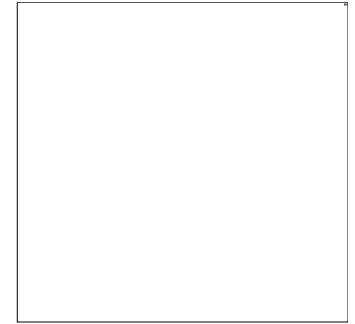
New ...

Process Progress

Progress

Status

Ok Cancel

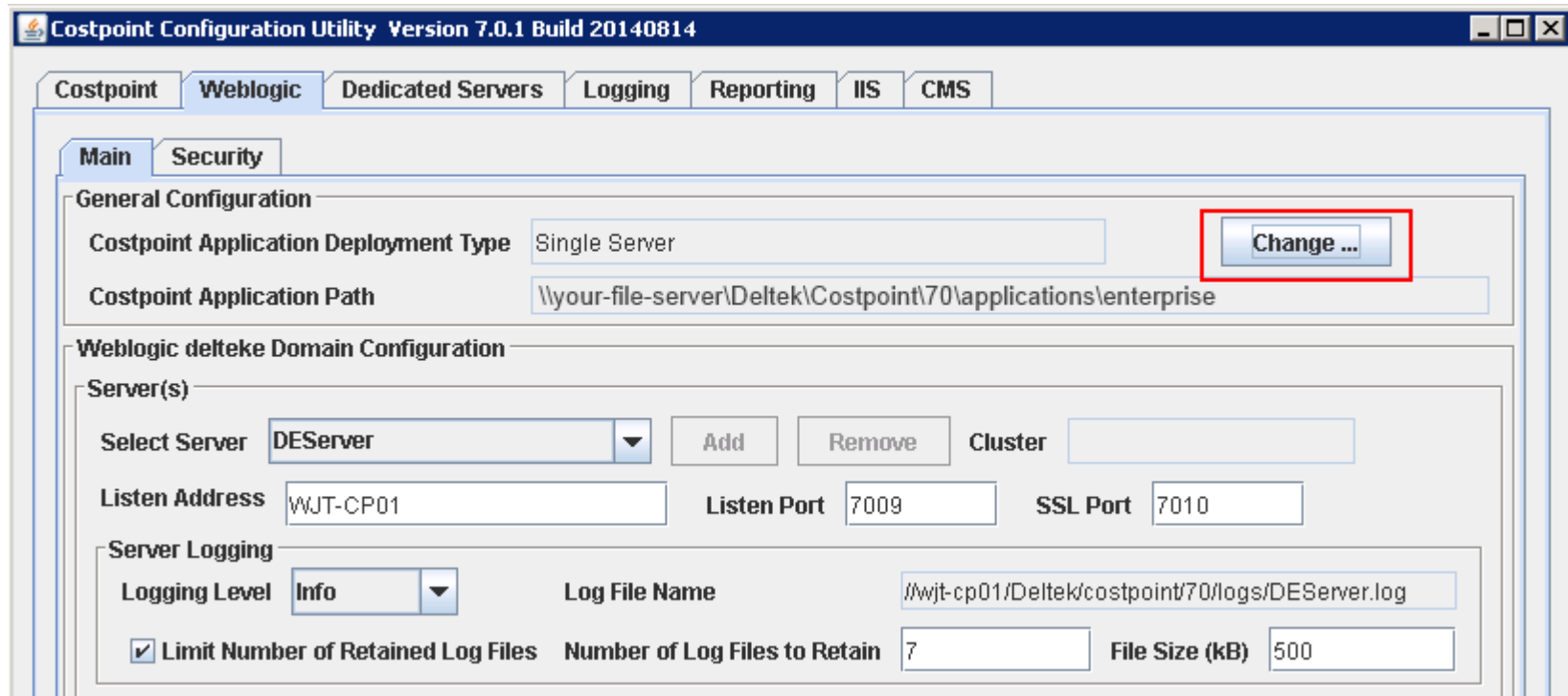


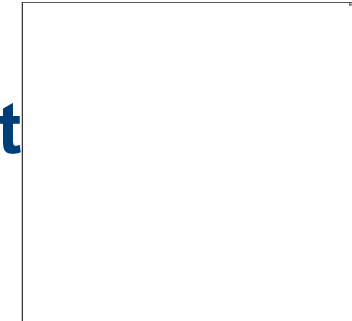
Install software on nodes

- Perform App tier installation on each node
- Select Secondary Tier installation
 - This will only install Weblogic
- Install the same version of the Framework update that you have installed on the Admin node

Change Costpoint Application Deployment Type from single server to cluster

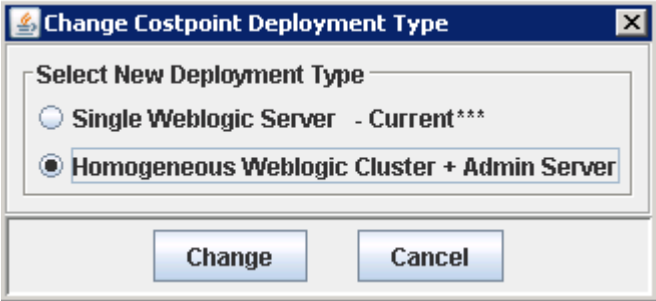
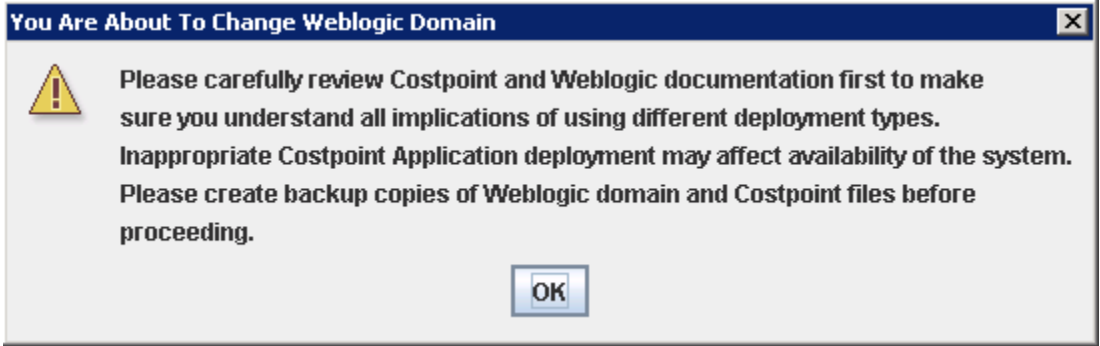
- Run Costpoint Configuration Utility, select Weblogic tab and press the Change button





Change Costpoint Application Deployment Type from single server to cluster

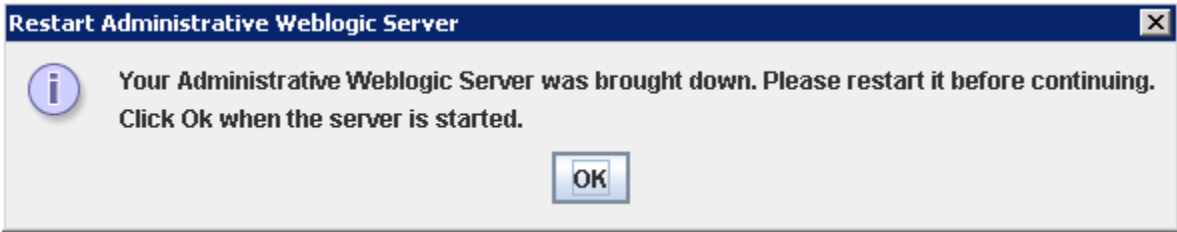
- Press the Change button
- You'll be presented with the warning below, which you should heed
- Select Homogeneous Weblogic Cluster + Admin Server and press the Change Button



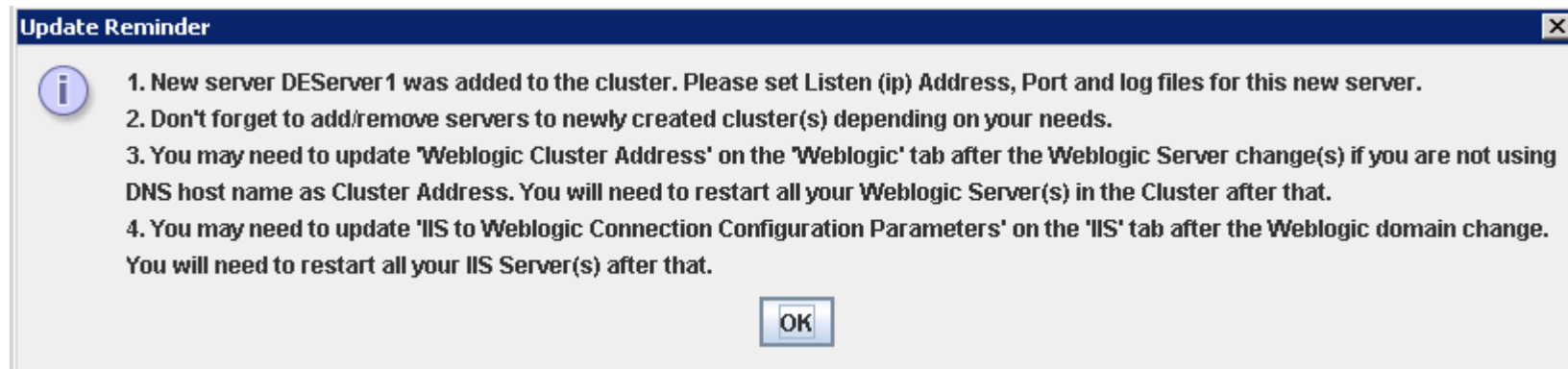
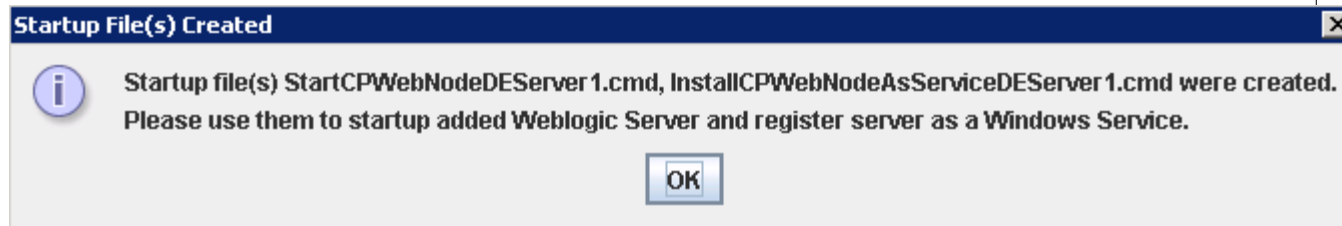


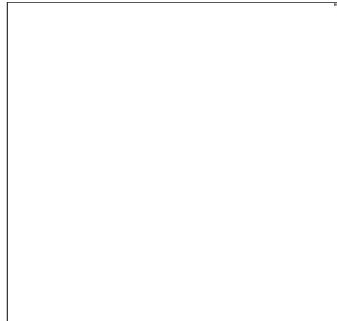
Add nodes

- You'll need to restart Weblogic before hitting OK and the process will continue



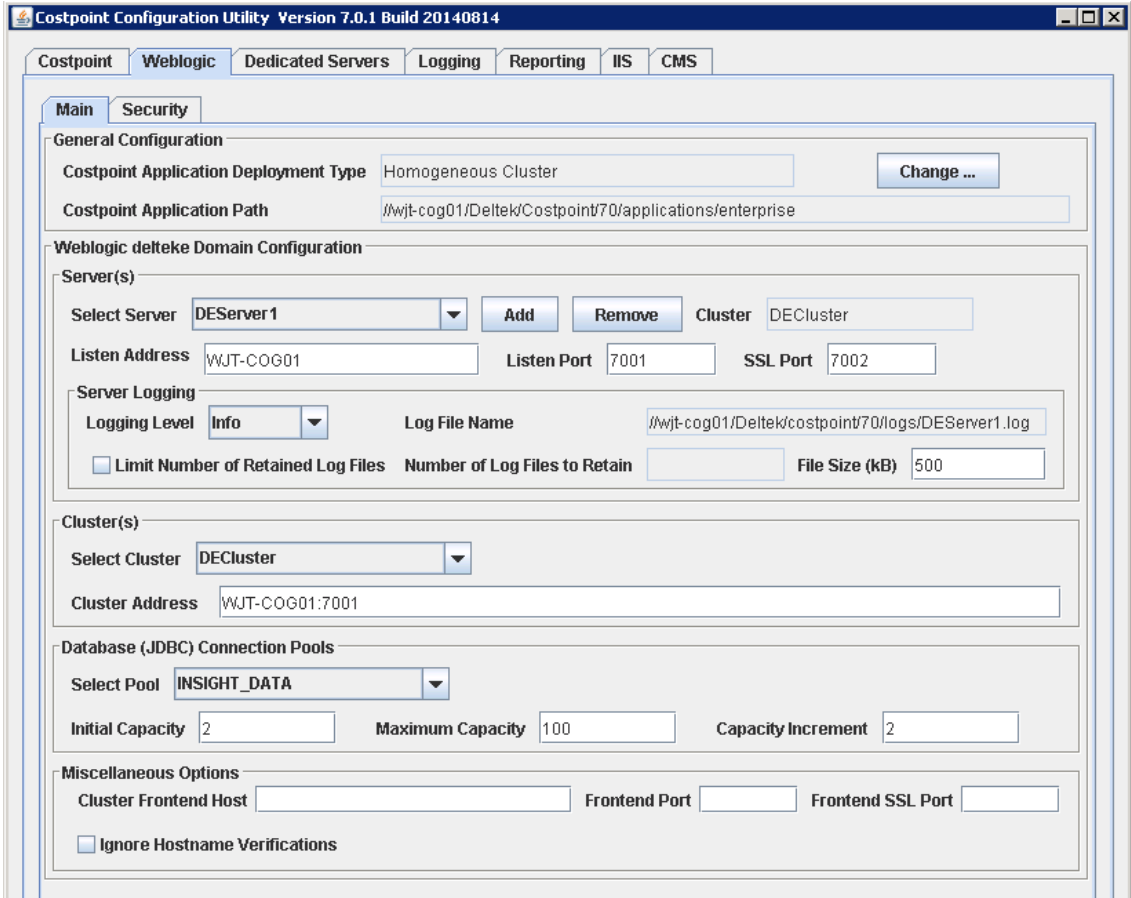
Add nodes (cont.)





Add nodes (cont.)

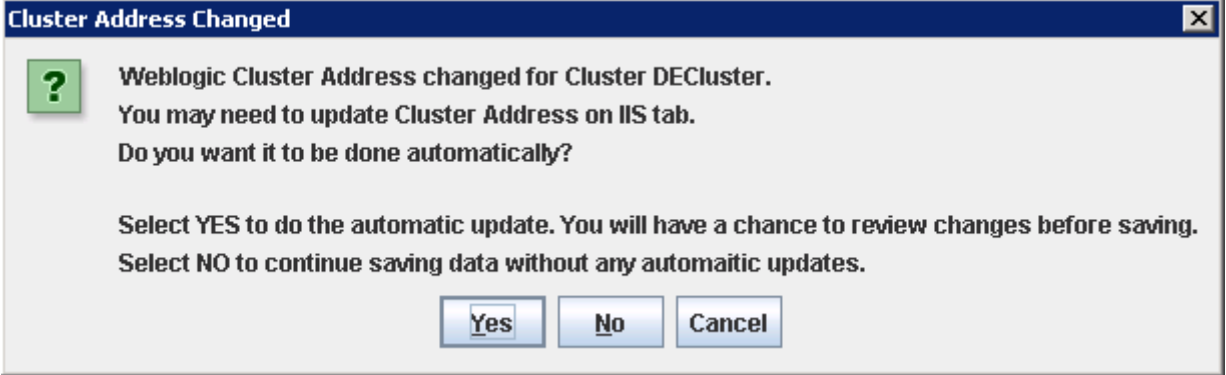
- DEServer1 is the logical name for the first node
- Enter the hostname or FQDN of your first node and save



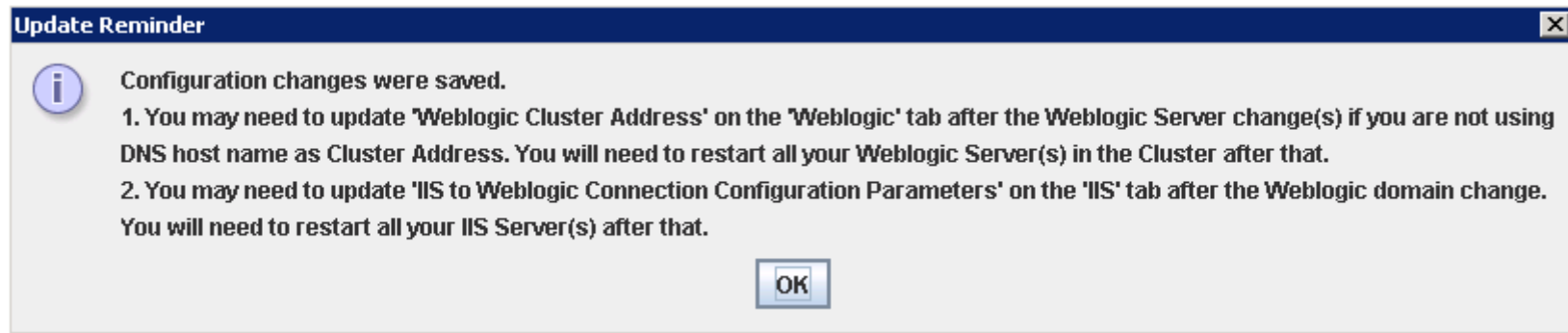
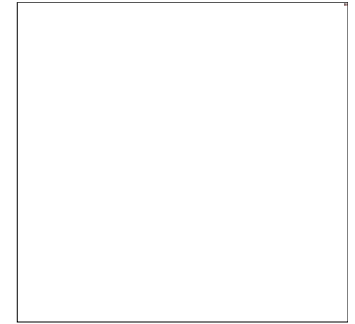


Add nodes (cont.)

- This dialog is referring to the iisproxy.ini file, selecting yes here will update that file with the correct values for the IIS Tier to connect to the cluster



Add nodes (cont.)



Restart and Test

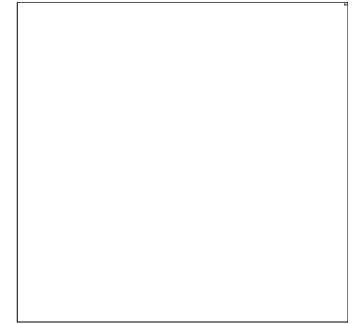
- After configuring everything, you'll want to start everything up and test your new cluster
- Services can be installed by using the batch files that are in the \bin directory under your Deltek application home directory

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Management and Maintenance

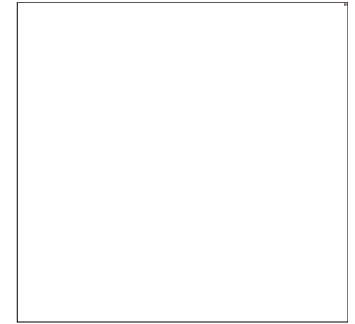
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Management and Maintenance

- Proper startup and shutdown order
- Where do the log files go?
- Troubleshooting
- Deploying hotfixes
- Adding nodes in the future



Startup and Shutdown

- Startup
 - Database
 - Admin Server
 - Nodes
- Shutdown
 - Nodes
 - Admin Server
 - Database
- Make sure that the database is fully available before starting admin node
- Make sure that the admin node is fully started before starting the other nodes

Management and Maintenance (cont.)

- Log files
 - Log files for all nodes can be found in your shared Costpoint directory
 - \Deltek\Costpoint\70\logs
 - Log files will have the node name in the filename
 - Such as DEServer.log, DEServer1.log, DEServer2.log, etc.
 - Filenames containing only DEServer in the filename are for the Admin node
- Troubleshooting
 - Troubleshooting is very similar to non-clustered, but tracking down the particular node can be troublesome, the logs are your best starting point
 - One very common issue I see is improper startup, the IT Department will apply Windows patches and forget about the startup order, leaving the system in an unusable state

Management and Maintenance (cont.)

- Deploying hotfixes
 - Shutdown the system properly
 - Backup your database(s), Deltek folder and Weblogic directories
 - Install Framework update to all nodes if applicable
 - Deploy your hotfixes from your Admin node, the same way as you would in a non-clustered system
 - Start up in the correct order and test
 - Ideally, you would be doing this in a test environment first



Management and Maintenance (cont.)

- Adding additional nodes
 - Adding nodes is very straightforward
 - Install the Secondary App Tier software on your new node
 - Install the Framework update you are running on the others
 - Launch the Costpoint Configuration Tool on your Admin node

Management and Maintenance (cont.)

- Click add node and provide the appropriate information as you did with the first node
- Nodes are assigned a logical name with the number incremented
- Startup and Service installation batch files will be created as they were for your first node
- Once everything is saved and configured, you can restart and start using the new node

Management and Maintenance (cont.)

Costpoint Configuration Utility Version 7.0.1 Build 20140814

Costpoint Weblogic Dedicated Servers Logging Reporting IIS CMS

Main Security

General Configuration

Costpoint Application Deployment Type: Homogeneous Cluster Change ...

Costpoint Application Path: //wjt-cog01/Deltek/Costpoint70/applications/enterprise

Weblogic delteke Domain Configuration

Server(s)

Select Server: DEServer1 Add Remove Cluster: DECluster

Listen Address: WJT-COG01 Listen Port: 7001 SSL Port: 7002

Server Logging

Logging Level: Info Log File Name: //wjt-cog01/Deltek/costpoint70/logs/DEServer1.log

Limit Number of Retained Log Files Number of Log Files to Retain: File Size (kB): 500

Cluster(s)

Select Cluster: DECluster

Cluster Address: WJT-COG01:7001

Database (JDBC) Connection Pools

Select Pool: INSIGHT_DATA

Initial Capacity: 2 Maximum Capacity: 100 Capacity Increment: 2

Miscellaneous Options

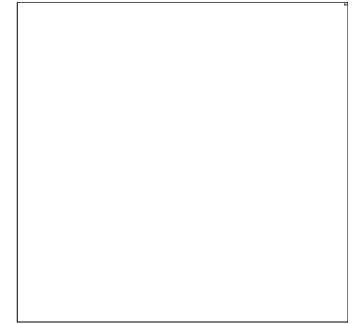
Cluster Frontend Host: Frontend Port: Frontend SSL Port:

Ignore Hostname Verifications

Other Considerations

More detail and screenshots

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Other considerations

- You have a Costpoint 7 cluster, now what?
- Database availability
- Redundancy for other parts of the system
 - Database
 - Web Tier

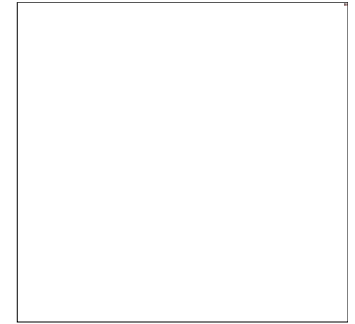
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Questions?

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