

ORACLE®

New Coherence (WebLogic) Features

Using Managed Coherence Servers

Dave Felcey
Coherence Product Manager

March 19, 2015

Agenda

- 1 Overview
- 2 Coherence Cluster Lifecycle Automation and Management
- 3 Coherence ALM and Isolation
- 4 Coherence Runtime Management
- 5 Coherence Security

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Overview

Coherence Managed Servers

- What are Coherence Managed Servers?
- Is there an extra charge?
- How do I install them?
- How do they effect monitoring?
- Is there a performance overhead?
- Do I have to use them?

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Coherence Cluster Lifecycle Automation and Management

- Node Manager used to start, stop and re-start Coherence nodes remotely
- Administration Console provides Web UI for Coherence Management
- Fusion Middleware Control will extend this capability to monitoring
- WebLogic Scripting Tool (WLST) enables management scripts to be written in Jython
- Administration Console can also be used to record commands
- All management operations can be scripted, like cluster creation and cloning
- Wizard Driven Configuration Tools
- Group wide operations can be performed using WebLogic clusters
- Dynamic WebLogic clusters simplify cluster expansion and automated provisioning
- Log management built-in – rolling and archiving log files

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Coherence ALM and Isolation

Coherence Application Lifecycle Management (ALM) and Isolation

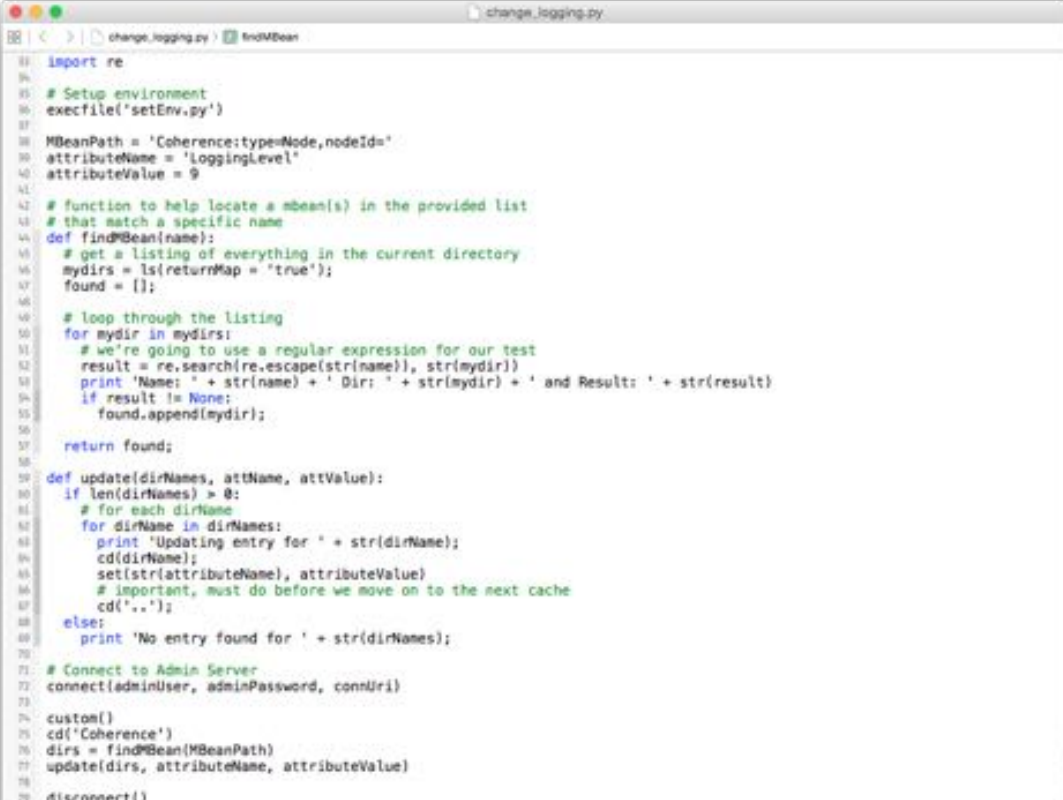
- Coherence applications deployed as a GAR file. JAR file format containing all Coherence application artefacts
 - All application classes and any library dependencies
 - POF and cache configuration file
- Complete Applications deployment, un-deployment and re-deployed using a rolling restart independently, using WLST, Maven, ANT and Admin Console
- Coherence Application completely isolated
 - Separate class loader, so no class collisions
 - Scoped services to ensure cache and so data isolation

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Coherence Runtime Management

- Access to all Coherence and WebLogic MBean's through the Admin Console
- MBean's are navigable using WLST
- Scripts are easy to write to make Coherence cluster wide changes
- Distributed Thread Dumps
- Rolling restarts



```
81 import re
82
83 # Setup environment
84 execfile('setEnv.py')
85
86 MBeanPath = 'Coherence:type=Node,nodeId='
87 attributeName = 'LoggingLevel'
88 attributeValue = 9
89
90 # function to help locate a mbean(s) in the provided list
91 # that match a specific name
92 def findMBean(name):
93     # get a listing of everything in the current directory
94     mydirs = ls(returnMap = 'true');
95     found = [];
96
97     # loop through the listing
98     for mydir in mydirs:
99         # we're going to use a regular expression for our test
100         result = re.search(re.escape(str(name)), str(mydir))
101         print 'Name: ' + str(name) + ' Dir: ' + str(mydir) + ' and Result: ' + str(result)
102         if result != None:
103             found.append(mydir);
104
105     return found;
106
107 def update(dirNames, attName, attValue):
108     if len(dirNames) > 0:
109         # for each dirName
110         for dirName in dirNames:
111             print 'Updating entry for ' + str(dirName);
112             cd(dirName);
113             set(str(attributeName), attributeValue)
114             # important, must do before we move on to the next cache
115             cd('../');
116     else:
117         print 'No entry found for ' + str(dirNames);
118
119 # Connect to Admin Server
120 connect(adminUser, adminPassword, connUrl)
121
122 custom()
123 cd('Coherence')
124 dirs = findMBean(MBeanPath)
125 update(dirs, attributeName, attributeValue)
126
127 disconnect()
```

WLST Script to change the cluster wide log level at runtime

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Coherence Security

- Cache and Service Security
 - Identity passed through Web Application using authentication
 - Permissions are “create”, “join” and “destroy”
 - For a service create=create, join=join and destroy=destroy
 - For a cache create=create, join=access and destroy=destroy
 - Default Identity Asserter is
`com.tangosol.net.security.DefaultIdentityAsserter`
- Cluster Security
 - Specify Java keystore location and password
 - Secures cluster membership using encrypted token

Summary

- WebLogic Management Framework FREE with Coherence Enterprise Edition
- Managed Coherence Servers
- Coherence applications packaged as a GAR file
- WebLogic includes Coherence and is FREE for developers on OTN
- Architecture of Coherence Cloud Service
- Basis for Multi-Tenancy features in next release of Coherence and WebLogic Server
- Standalone Coherence will continue to be available

Hardware and Software Engineered to Work Together