Getting Started with Coherence*Web in WebLogic Server 12.1.2

Introduction

Coherence*Web is a great feature which allows you to store your HTTP sessions in a Coherence Cluster. Doing this allows your to de-couple the HTTP sessions from your JVM's that are running your web apps, (which can free up JVM memory) and take advantage of the RASP (Reliability, Availability, Scalability and Performance) capabilities of Coherence for storage.

With this separation you can also more easily scale and manage and your HTTP session tier as well as utilise the wide array of session management options that Coherence*Web provides.

What I'd like to show you here is how to configure Coherence*Web in WebLogic Server 12.1.2 and deploy a basic web application that utilises this.

Setup

For this example, I'm assuming you already have installed WebLogic Server 12.1.2 and created a domain with node manager running.

We are going to create two WebLogic Server Clusters and a Coherence cluster into which we shall place both WLS clusters. This will ensure that the manages servers in both WLS clusters are associated with a common set of Coherence caching services

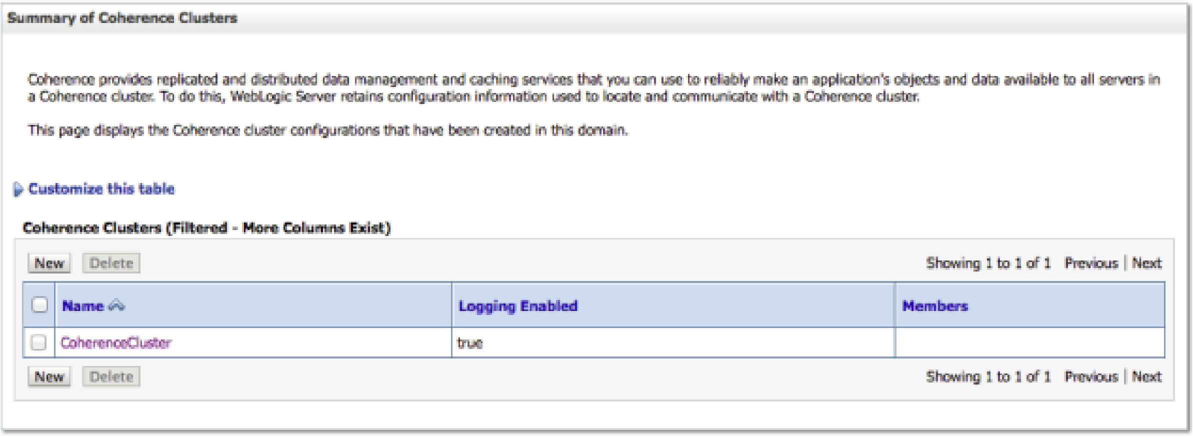
- StorageTier – 2 Coherence managed servers storage1 and storage2. This tierÂ will hold the HTTP session data.
- ClientTier – 2 regular application managed servers client1 and client2 – We will deploy our application to this tier.

Typically you would have multiple servers in each tier and have a load balancer in front, but for this example, we will just 2 which is the minimus to demonstrate session fail-over.

Once you have your AdminServer and node manager up and running, login to the console to carry out the following steps.

1. Create a Coherence Cluster

- Navigate to *Domain Structure* then *Environment* and click on *Coherence Clusters*.
- Give it a name and leave the defaults. Do not target it the AdminServer as we will target it in a moment.



Summary of Coherence Clusters

Coherence provides replicated and distributed data management and caching services that you can use to reliably make an application's objects and data available to all servers in a Coherence cluster. To do this, WebLogic Server retains configuration information used to locate and communicate with a Coherence cluster.

This page displays the Coherence cluster configurations that have been created in this domain.

Customize this table

Coherence Clusters (Filtered - More Columns Exist)

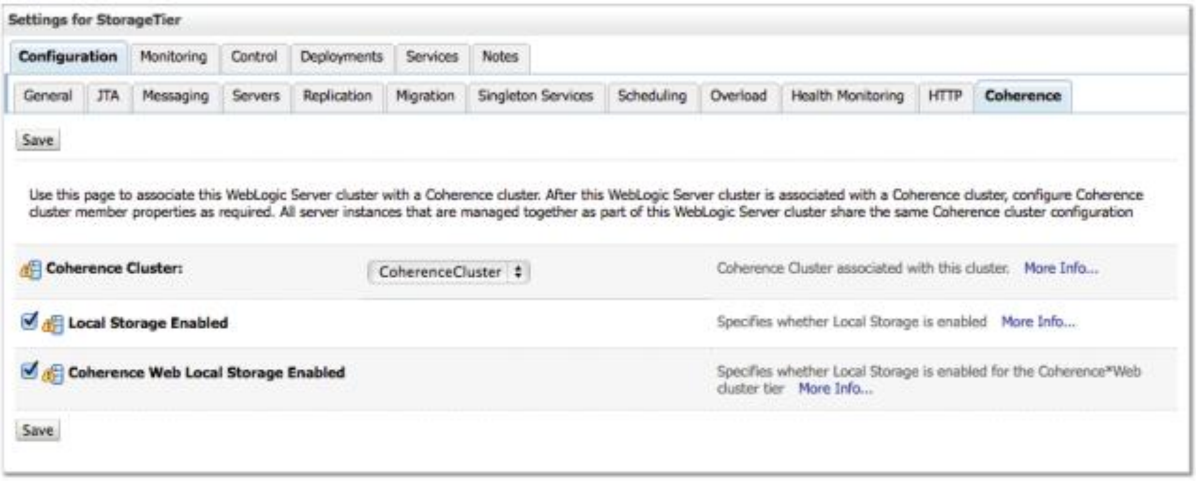
New | Delete | Showing 1 to 1 of 1 Previous | Next

□	Name	Logging Enabled	Members
□	CoherenceCluster	true	

New | Delete | Showing 1 to 1 of 1 Previous | Next

2. Create the WebLogic Clusters, place both your WLS clusters in the Coherence cluster and configure Coherence storage for each WLS cluster

- Navigate to the *Clusters* link and create 2 clusters. StorageTier and ClientTier.
- Leave the defaults as is.
- Select the StorageTier cluster and click on the *Coherence* tab.
- Select your newly created Coherence cluster and click *Save*.
- Select *Coherence Web Local Storage Enabled* to ensure any managed servers in this cluster store Coherence*Web session data.
- Click *Save* to continue.



Settings for StorageTier

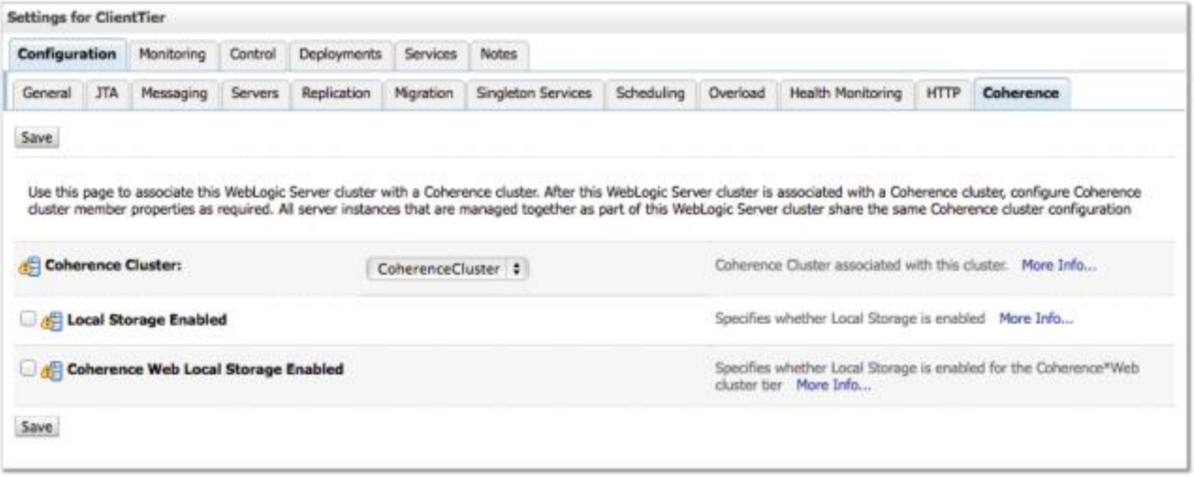
Use this page to associate this WebLogic Server cluster with a Coherence cluster. After this WebLogic Server cluster is associated with a Coherence cluster, configure Coherence cluster member properties as required. All server instances that are managed together as part of this WebLogic Server cluster share the same Coherence cluster configuration

Coherence Cluster: CoherenceCluster — Coherence Cluster associated with this cluster. More Info...

☑ Local Storage Enabled — Specifies whether Local Storage is enabled More Info...

☑ Coherence Web Local Storage Enabled — Specifies whether Local Storage is enabled for the Coherence*Web cluster tier More Info...

- Select the ClientTier cluster and click on the *Coherence* tab.
- Select your newly created Coherence cluster and click *Save*.
- De-select *Local Storage Enabled* and click *Save*. We don’t want to actually store HTTP sessions in the client tier, but we want to be able to access them.



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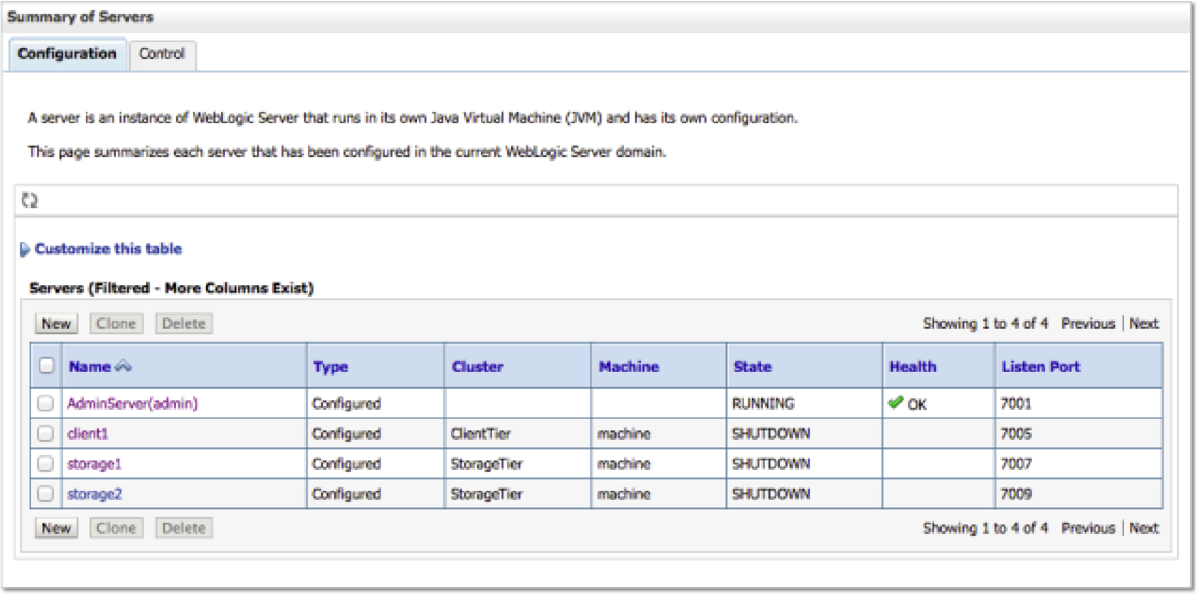
3. Create Managed Servers to populate each WLS cluster.

Note the managed servers added to each cluster will inherit their Coherence config form the cluster wide values which you set above. This means the Coherence managed servers added to the Storage Tier WLS cluster will be providing session storage while the Regular managed servers in the Client Tier WLS cluster will be coherence clients.

- Navigate to the *Servers* link
- Create a new managed server called *client1* and assign it to the ClientTier as well as the machine you created. Set the listener port to 7005.
- Create a new managed server called *storage1* and assign it to the StorageTier as well as the machine you created. Set the listener port to 7007.
- Clone *storage1 and name it storage2* and change the listener port to 7009.
- Start up you managed servers.



A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.

This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

□	Name	Type	Cluster	Machine	State	Health	Listen Port
□	AdminServer(admin)	Configured			RUNNING	✓ OK	7001
□	client1	Configured	ClientTier	machine	SHUTDOWN		7005
□	storage1	Configured	StorageTier	machine	SHUTDOWN		7007
□	storage2	Configured	StorageTier	machine	SHUTDOWN		7009