WebSphere Portal 8.5 Static Cluster - Manual

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1 Information

Clusters enable you to scale your IBM® WebSphere® Portal configuration. A cluster also gives the ability for the enterprise applications to be highly available because requests are automatically routed to the running servers in the event of a failure using a WebServer or Load balancer. There are numerous cluster configuration, such as horizontal, vertical, multiple, and dynamic. With this document, you will understand the steps to setup a static cluster manually for a WebSphere Portal 8.5 configuration.

This document will follow the Configuration wizard steps but done manully. The Configuration wizard is the documented way in the WebSphere Portal Infocenter.

This document assumes the WebSphere Portal 8.5 has already been installed and configured to a supported external database such as DB2, Oracle, or Microsoft SQL server.

Helpful Links: To use the link in this document, you must copy and paste them to a browser.

- WebSphere Portal 8.5 Infocenter
 http://www-01.ibm.com/support/knowledgecenter/#!/SSHRKX_8.5.0/welcome/wp_welcome.html
- WebSphere Portal 8.5 Detailed System Requirements http://www-01.ibm.com/support/docview.wss?uid=swg27007791

This document is not written or supported by IBM Support

Name	Date	Version	Description
Loc Dang	01/09/15	V1	WebSphere Portal 8.5 Static Cluster

2 Pre-requisite

- The database transfer must be completed to a supported external database such as DB2, Oracle, or Microsoft SQL Server.
- If the Deployment Manager is on another system, the system clock must be less then 5 minutes apart.
- Verify all systems can communicate with each other.
- When communicating with other servers a firewall maybe blocking specific ports. Verify the ports are available for communication

3 WebSphere Portal Profile Template

If this section was not done after the database transfer, this must be done now. The profile will be used for the creation of the profile for the additional nodes. Rerun the commands if unsure.

- 1. On the WebSphere Portal file system, open a command prompt
- 2. Change to the ConfigEngine directory

cd <wp profile>/ConfigEngine

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine

3. Run the following command to create the WebSphere Portal profile template.

ConfigEngine.(bat/sh) enable-profiles-check-managed

4. Run the following command to package the WebSphere Portal profile template.

ConfigEngine.(bat/sh) package-profiles

4 Deployment Manager Profile

4.1 Create Deployment Manager Profile

- 1. On the Deployment Manager file system, open a command prompt
- 2. Change to the bin directory of the WebSphere Application Server

```
<WAS HOME>/bin
```

Example:

```
WIN E:\IBM\WebSphere\AppServer\bin
UNIX /opt/IBM/WebSphere/AppServer/bin
```

3. Run the following command on one line to create the Deployment Manager profile.

```
manageprofiles.(sh/bat) -create
-hostName DMGR_HOSTNAME
-adminUserName DMGR_ADMIN
-adminPassword DMGR_PASSWORD
-enableAdminSecurity true
-cellName DMGR_CELLNAME
-nodeName DMGR_NODENAME
-profileName DMGR_PROFILE_NAME
-templatePath PROFILE_TEMPLATE/management
-profilePath DMGR_PROFILE_PATH
```

Example for Windows: DMGR and Portal on the **same** system

```
manageprofiles.bat -create
-hostName wps85-64.ibm.com
-adminUserName wpadmin
-adminPassword passw0rd
-enableAdminSecurity true
-cellName wpsCell1
-nodeName dmgrNode01
-profileName dmgr01
-templatePath E:\IBM\WebSphere\AppServer\profileTemplates\management
-profilePath E:\IBM\WebSphere\AppServer\profiles\dmgr01
```

Example for Unix: DMGR and Portal on the same system

```
manageprofiles.bat -create
-hostName wps85-64.ibm.com
-adminUserName wpadmin
-adminPassword passw0rd
-enableAdminSecurity true
-cellName wpsCell1
-nodeName dmgrNode01
-profileName dmgr01
-templatePath /opt/IBM/WebSphere/AppServer/profileTemplates/management
-profilePath /opt/IBM/WebSphere/AppServer/profiles/dmgr01
```

Example for Windows: DMGR and Portal on different system

```
manageprofiles.bat -create
-hostName mydmgr.ibm.com
-adminUserName wpadmin
-adminPassword passw0rd
-enableAdminSecurity true
-cellName wpsCell1
-nodeName dmgrNode01
-profileName dmgr01
-templatePath E:\IBM\WebSphere\AppServer\profileTemplates\management
-profilePath E:\IBM\WebSphere\AppServer\profiles\dmgr01
```

Example for Unix: DMGR and Portal on **different** system

```
manageprofiles.bat -create
-hostName mydmgr.ibm.com
-adminUserName wpadmin
-adminPassword passw0rd
-enableAdminSecurity true
-cellName wpsCell1
-nodeName dmgrNode01
-profileName dmgr01
-templatePath /opt/IBM/WebSphere/AppServer/profileTemplates/management
-profilePath /opt/IBM/WebSphere/AppServer/profiles/dmgr01
```

NOTE:

- It is recommended to set the Deployment Manager username/password the same as the WebSphere Portal WebSphere Application Server Administrative username/password.
- The difference between same system and different system example is the hostname.
- 4. Verify the command returns a success message before continuing.

INSTCONFSUCCESS: Success: Profile < PROFILE_NAME> now exists. Please
consult < PROFILE PATH>/AboutThisProfile.txt for more information about
this profile.

4.2 Setup Deployment Manager Files (Remote DMGR Only)

If the Deployment Manager and the WebSphere Portal Server are on separate systems then this section needs to be completed.

- 1. Verify/Stop the Deployment Manager
- 2. Copy the **filesForDmgr.zip** from the WebSphere Portal Server to a temporary location on the Deployment Manager

From WebSphere Portal:

```
<WP HOME>/filesForDmgr/filesForDmgr.zip
```

To Deployment Manager:

<TEMP>/filesForDmgr.zip

Example: From WebSphere Portal:

WIN E:\IBM\WebSphere\PortalServer\filesForDmgr\filesForDmgr.zip
UNIX /opt/IBM/WebSphere/PortalServer/filesForDmgr/filesForDmgr.zip

Example: To Deployment Manager:

WIN F:/temp/filesForDmgr.zip
UNIX /opt/tmp/filesForDmgr.zip

3. On the Deployment Manager, extract **filesForDmgr.zip** to a temporary location

<TEMP>/bin/... <TEMP>/lib/... <TEMP>/plugins/... <TEMP>/profiles/... <TEMP>/profileTemplates/...

4. Copy the content of the bin directory of the filesForDmgr to the WebSphere Application Server home directory

From: < TEMP>/bin

To: <WAS HOME>/bin

Example From:

WIN F:\temp\bin
UNIX /opt/tmp/bin

Example To:

WIN E:\IBM\WebSphere\AppServer\bin
UNIX /opt/IBM/WebSphere/AppServer/bin

5. Copy the content of the lib directory of the filesForDmgr to the WebSphere Application Server home directory

From: < TEMP>/lib

To: <WAS HOME>/lib

Example From:

WIN F:\temp\lib
UNIX /opt/tmp/lib

Example To:

WIN E:\IBM\WebSphere\AppServer\lib
UNIX /opt/IBM/WebSphere/AppServer/lib

6. Copy the content of the plugins directory of the filesForDmgr to the WebSphere Application Server home directory

From: < TEMP>/plugins

To: <WAS HOME>/plugins

Example From:

WIN F:\temp\plugins
UNIX /opt/tmp/plugins

Example To:

WIN E:\IBM\WebSphere\AppServer\plugins
UNIX /opt/IBM/WebSphere/AppServer/plugins

7. Copy the content of the profileTemplates of the filesForDmgr to the WebSphere Application Server home directory

From: <TEMP>/profileTemplates

To: <WAS HOME>/profileTemplates

Example From:

WIN F:\temp\profileTemplates
UNIX /opt/tmp/profileTemplates

Example To:

WIN E:\IBM\WebSphere\AppServer\profileTemplates
UNIX /opt/IBM/WebSphere/AppServer/profileTemplates

- 8. Navigate to the profiles directory
- 9. Copy the content of the **dmgr01** directory to the Deployment Manager profile directory.

<TEMP>/profiles/dmgr01

To:

<DMGR PROFILE>

Example From:

WIN F:\temp\profiles\dmgr01
UNIX /opt/tmp/profiles/dmgr01

Example To:

WIN E:\IBM\WebSphere\AppServer\profiles\dmgr01
UNIX /opt/IBM/WebSphere/AppServer/profiles/dmgr01

4.3 Augment Deployment Manager Profile

1. On the WebSphere Deployment Manager file system, open a command prompt

2. Change to the bin directory of the WebSphere Application Server

<WAS HOME>/bin

Example:

```
WIN E:\IBM\WebSphere\AppServer\bin
UNIX /opt/IBM/WebSphere/AppServer/bin
```

3. Run the following command on a single line to augment the Deployment Manager profile.

```
manageprofiles.(sh/bat) -augment
-templatePath < PROFILE_TEMPLATES>/management.portal.augment
-profileName < DMGR_PROFILE>
```

Example: Windows with DMGR and Portal on the **same** server

Example: UNIX with DMGR and Portal on the same server

Example: Windows with DMGR and Portal on the **different** server

Example: UNIX with DMGR and Portal on the **different** server

NOTE:

- The difference between same system and different system example is the directory structure of the templatePath value.
- 4. Verify the success message
 INSTCONFSUCCESS: Profile augmentation succeeded.
- 5. If the Deployment Manager is started, restart of the Deployment Manager is required for the changes to take effect.

4.4 Create WebSphere Portal Administrator (Different Administrator Only)

This section only needs to be completed if the Deployment Manager administrative user does not match the WebSphere Portal Server Administrative user.

1. Start the Deployment Manager

<DMGR PROFILE>/bin/startManager.(bat/sh)

Example:

WIN E:\IBM\WebSphere\AppServer\profiles\dmgr01\bin\startManager.bat UNIX /opt/IBM/WebSphere/AppServer/profiles/dmgr01/bin/startManager.sh

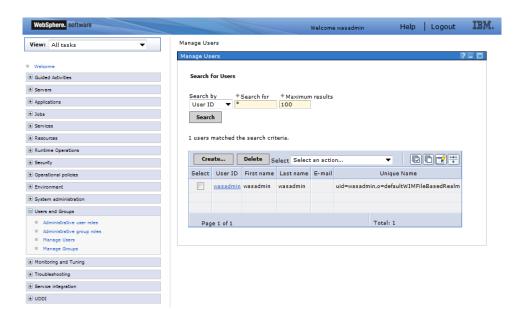


2. Open a browser and set the URL to the Deployment Manager console <a href="https://<a href="https://<a href="https://<a href="https://<a href="https://ibm/console">https://<a href="https://
ibm/console">https://<a href="https://
ibm/console">https://<a href="https://
ibm/console">https://
ibm/console<a href="https://

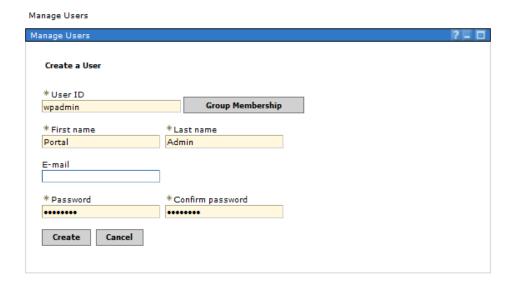
Example:

https://wps85-64.ibm.com:9043/ibm/console
https://mydmgr.ibm.com:9043/ibm.console

3. Login as the WebSphere Application Server administrator



- 4. Navigate to Users and Groups > Manage Users
- 5. Click Create...



6. Under User ID, enter the WebSphere Portal Administrator

WPADMIN:

Example: wpadmin

7. Under First name, enter the first name of the WebSphere Portal Administrator

FNAME:

Example: Portal

8. Under Last name, enter the last name of the WebSphere Portal Administrator

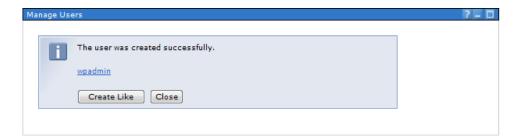
LNAME: _____

Example: Admin

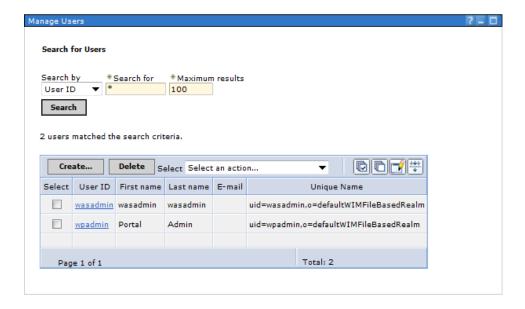
9. Under Password and Confirm password, enter the password for the WebSphere Portal Administrator

WPPWD:

10. Click Create



- 11. Verify the successfully message appears "The user was created successfully"
- 12. Click Close



5 WebSphere Portal Cluster

5.1 Backup Properties File

- 1. On the WebSphere Portal file system, open a command prompt
- 2. Change to the ConfigEngine directory

cd <wp profile>/ConfigEngine

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine

3. Run the following command to backup the properties file

ConfigEngine.(bat/sh) backup-property-files-for-dbxfer

Note: A dated directory will be created in the following ConfigEngine directory structure

<WP PROFILE>/ConfigEngine/properties/backup/<TIME STAMP>

Example:

M T M

E:\IBM\WebSphere\wp_profile\ConfigEngine\properties\

2014.08.22-14.09.17.731-0400

IINTX

/opt/IBM/WebSphere/wp profile/ConfigEngine/properties/

2014.08.22-14.09.17.731-0400

5.2 Add Node

Before adding WebSphere Portal to a cluster, it must be added to the Deployment Manager

5.2.1 Update wkplc.properties

1. On the WebSphere Portal file system, open the **wkplc.properties** with an editor PROFILE>/ConfigEngine/properties

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine\properties
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine/properties

2. Update the following variables

WasSoapPort = Deployment Manager SOAP Port.
WasRemoteHostName = Deployment Manager Hostname
WasUserid = Deployment Manager WebSphere Administrator user

WasPassword = Deployment Manager WebSphere Administrator password

Example: DMGR and Portal on the **same** server

WasSoapPort=8879
WasRemoteHostName=wps85-64.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd

Example: DMGR and Portal on **different** servers

WasSoapPort=8879
WasRemoteHostName=mydmgr.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd

3. Save wkplc.properties

5.2.2 ConfigEngine Script

13. Verify/Start the Deployment Manager

<DMGR PROFILE>/bin/startManager.(bat/sh)

Example:

WIN E:\IBM\WebSphere\AppServer\profiles\dmgr01\bin\startManager.bat UNIX /opt/IBM/WebSphere/AppServer/profiles/dmgr01/bin/startManager.sh

- 14. On the WebSphere Portal file system, open a command prompt
- 15. Change to the ConfigEngine directory

<WP PROFILE>/ConfigEngine

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine

16. Run the following command on a single line to add the WebSphere Portal Server to the Deployment Manager

```
ConfigEngine.(sh/bat) add-node
-DDmgrNodeName=<DMGR_NODENAME>
-DDmgrCellName=<DMGR_CELLNAME>
-DdmgrProfilePath=<DMGR_PROFILE>
-DisRemoteDmgr=<false/true>
```

Example: Windows with DMGR and Portal on the same server

```
ConfigEngine.bat add-node
-DDmgrNodeName=dmgrNode01
-DDmgrCellName=wpsCell1
-DdmgrProfilePath=E:\IBM\WebSphere\AppServer\profiles\dmgr01
-DisRemoteDmgr=false
```

Example: UNIX with DMGR and Portal on the same server

ConfigEngine.sh add-node
-DDmgrNodeName=dmgrNode01
-DDmgrCellName=wpsCell1
-DdmgrProfilePath=/opt/IBM/WebSphere/AppServer/profiles/dmgr01
-DisRemoteDmgr=false

Example: Windows with DMGR and Portal on **different** server

ConfigEngine.bat add-node
-DDmgrNodeName=dmgrNode01
-DDmgrCellName=wpsCell01
-DdmgrProfilePath=E:\IBM\WebSphere\AppServer\profiles\dmgr01
-DisRemoteDmgr=true

Example: UNIX with DMGR and Portal on the different server

ConfigEngine.sh add-node
-DDmgrNodeName=dmgrNode01
-DDmgrCellName=wpsCell01
-DdmgrProfilePath=/opt/IBM/WebSphere/AppServer/profiles/dmgr01
-DisRemoteDmgr=true

NOTE:

 The difference between same system and different system example is the variable -DisRemoteDmgr.

5.3 Post Federation

5.3.1 Update wkplc.properties

1. On the WebSphere Portal file system, open the **wkplc.properties** with an editor <WP PROFILE>/ConfigEngine/properties

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine\properties
UNIX /opt/IBM/WebSphere/wp_profile/ConfigEngine/properties

2. Verify/Update the following variables

WasSoapPort= Deployment Manager SOAP Port
WasRemoteHostName= Deployment Manager Hostname
WasUserid= Deployment Manager WebSphere Administrator user
WasPassword= Deployment Manager WebSphere Administrator password
PortalAdminId= WebSphere Portal Administrator user
PortalAdminPwd= WebSphere Portal Administrator password
Clustername= Name of the WebSphere Portal Cluster
PrimaryName= true

Example: DMGR and Portal on the **same** server

WasSoapPort=8879
WasRemoteHostName=wps85-64.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd

PortalAdminId=wpadmin
PortalAdminPwd=passw0rd
Clustername=PortalCluster
PrimaryName=true

Example: DMGR and Portal on different server

WasSoapPort=8879
WasRemoteHostName=mydmgr.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd
PortalAdminId=wpadmin
PortalAdminPwd=passw0rd
Clustername=PortalCluster
PrimaryName=true

NOTE:

- The difference between same system and different system example is the WasRemoteHostName value.
- 3. Save wkplc.properties

5.3.2 Update wkplc_dbdomain.properties

1. On the WebSphere Portal file system, open the **wkplc_dbdomain.properties** with an editor

<WP PROFILE>/ConfigEngine/properties

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine\properties
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine/properties

2. Verify/Update the following variables

release.DbUser= release schema configuration user release.DbPassword= release schema configuration password

Example:

release.DbUser=cfgdbusr
release.DbPassword=passw0rd

3. Save wkplc_dbdomain.properties

5.3.3 ConfigEngine Script

1. Verify/Start the Deployment Manager

<DMGR PROFILE>/bin/startManager.(bat/sh)

Example:

WIN E:\IBM\WebSphere\AppServer\profiles\dmgr01\bin\startManager.bat

2. Verify/Start the nodeagent on the WebSphere Portal file system

<WP PROFILE>/bin/startNode.(bat/sh)

Example:

WIN E:\IBM\WebSphere\wp_profile\bin\startNode.bat
UNIX /opt/IBM/WebSphere/wp profile/bin/startNode.sh

- 3. On the WebSphere Portal file system, open a command prompt
- 4. Change to the ConfigEngine directory

<WP PROFILE>/ConfigEngine

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine

5. Run the following command on a single line

ConfigEngine.(sh/bat) cluster-node-config-post-federation

5.4 Create Static Portal Cluster

5.4.1 Update wkplc.properties

1. On the WebSphere Portal file system, open the **wkplc.properties** with an editor
<WP PROFILE>/ConfigEngine/properties

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine\properties
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine/properties

2. Verify/Update the following variables

WasRemoteHostName= Deployment Manager Hostname
WasUserid= Deployment Manager WebSphere Administrator user
WasPassword= Deployment Manager WebSphere Administrator password
PortalAdminId= WebSphere Portal Administrator user
PortalAdminPwd= WebSphere Portal Administrator password
ClusterName= Name of the WebSphere Portal Cluster
PrimaryNode= true

Example: DMGR and Portal on the **same** system

WasRemoteHostName=wps85-64.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd
PortalAdminId=wpadmin
PortalAdminPwd=passw0rd
ClusterName=PortalCluster
PrimaryNode=true

Example: DMGR and Portal on **different** system

WasRemoteHostName=mydmgr.ibm.com
WasUserid=wpadmin
WasPassword=passw0rd
PortalAdminId=wpadmin
PortalAdminPwd=passw0rd
ClusterName=PortalCluster
PrimaryNode=true

3. Save **wkplc.properties**

5.4.2 ConfigEngine Script

1. Verify/Start the Deployment Manager

<DMGR PROFILE>/bin/startManager.(bat/sh)

Example:

WIN E:\IBM\WebSphere\AppServer\profiles\dmgr01\bin\startManager.bat
UNIX /opt/IBM/WebSphere/AppServer/profiles/dmgr01/bin/startManager.sh

2. Verify/Start the nodeagent

<WP PROFILE>/bin/startNode.(bat/sh)

Example:

WIN E:\IBM\WebSphere\wp_profile\bin\startNode.bat
UNIX /opt/IBM/WebSphere/wp profile/bin/startNode.sh

- 3. On the WebSphere Portal file system, open a command prompt
- 4. Change to the ConfigEngine directory

<WP PROFILE>/ConfigEngine

Example:

WIN E:\IBM\WebSphere\wp_profile\ConfigEngine
UNIX /opt/IBM/WebSphere/wp profile/ConfigEngine

5. Run the following command on a single line

ConfigEngine.(sh/bat) cluster-node-config-cluster-setup

6 Validate

6.1 Cluster Member

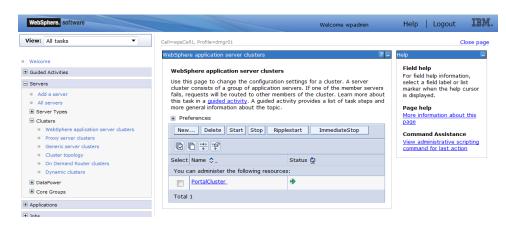


1. Open a browser and set the URL to the Deployment Manager console https://<HOSTNAME>:<PORT>/ibm/console

Example:

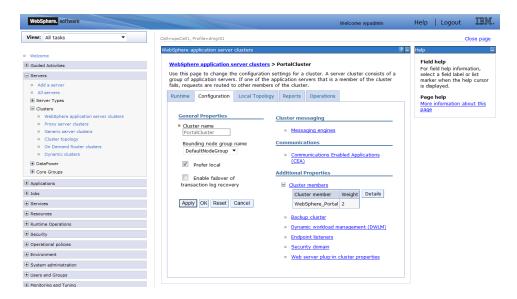
https://wps85-64.ibm.com:9043/ibm/console
https://mydmgr.ibm.com:9043/ibm.console

2. Login as the WebSphere Application Server administrator



3. Navigate to Servers > Clusters > WebSphere application server clusters

4. Click on the name of the WebSphere Portal Cluster (Portal Cluster)



- 5. Under Additional Properties, expand Cluster member
- 6. Verify "WebSphere Portal" is under the Cluster member column

6.2 Stop Cluster



1. Open a browser and set the URL to the Deployment Manager console

https://<HOSTNAME>:<PORT>/ibm/console

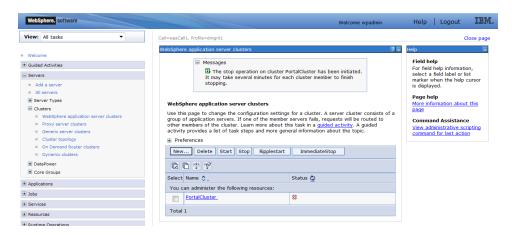
Example:

https://wps85-64.ibm.com:9043/ibm/console https://mydmgr.ibm.com:9043/ibm.console

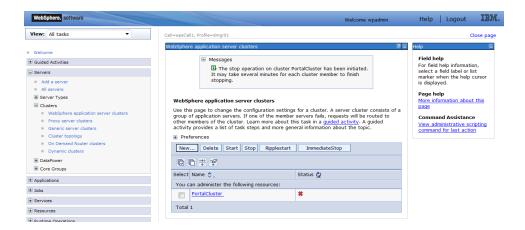
2. Login as the WebSphere Application Server administrator



- 3. Navigate to Servers > Clusters > WebSphere application server clusters
- 4. Check the checkbox by the WebSphere Portal Cluster (Portal Cluster)
- 5. Click Stop



6. The message will appear that the stop process has been initiated.

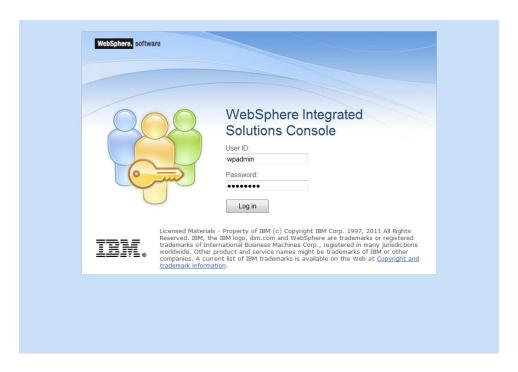


7. Wave the mouse over the icon under the **Status** column until it turns fully red. When it becomes fully red then the WebSphere Portal cluster has stopped.



- 8. Navigate to Servers > Server Types > WebSphere application servers
- 9. Verify the WebSphere_Portal status is red

6.3 Start Cluster



1. Open a browser and set the URL to the Deployment Manager console https://<HOSTNAME>:<PORT>/ibm/console

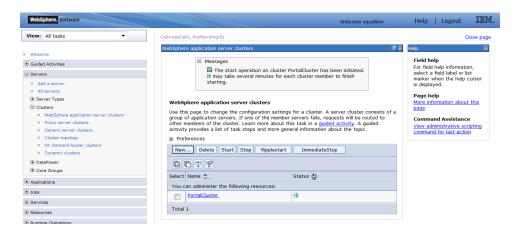
Example:

https://wps85-64.ibm.com:9043/ibm/console
https://mydmgr.ibm.com:9043/ibm/console

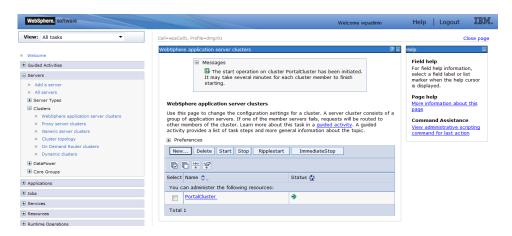
2. Login as the WebSphere Application Server administrator



- 3. Navigate to Servers > Clusters > WebSphere application server clusters
- 4. Check the checkbox by the WebSphere Portal Cluster (Portal Cluster)
- 5. Click Start



6. The message will appear that the stop process has been initiated.



7. Wave the mouse over the icon under the Status column until it turns fully green. When it becomes fully green then the WebSphere Portal cluster has started



- 8. Navigate to Servers > Server Types > WebSphere application servers
- 9. Verify the WebSphere_Portal status is green

6.4 WebSphere Portal





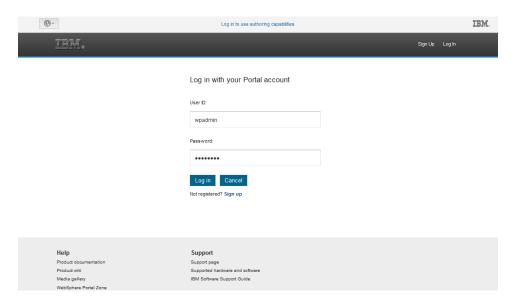
1. Open a browser and set the URL to the WebSphere Portal URL

http://<HOSTNAME>:<PORT>/wps/portal

Example:

http://wps85-64.ibm.com:10039/wps/portal

2. Click Login



- 3. Under User ID, enter the WebSphere Portal Administrator
- 4. Under Password, enter the WebSphere Portal Administrator password
- 5. Click Log in

