

## **Step-by-Step guide to setup an IBM WebSphere Portal and IBM Web Content Manager V8.5 Cluster From Zero to Hero (Part 2.)**

# Summary

## STEP-BY-STEP GUIDE TO SETUP AN IBM WEBSPHERE PORTAL AND IBM WEB CONTENT MANAGER V8.5 CLUSTER FROM ZERO TO HERO (PART 2.)

SUMMARY .....	2
ABSTRACT .....	3
WINDOWS/UNIX DIFFERENCES .....	3
HOSTNAMES USED IN THIS GUIDE .....	3
CLUSTER CONCEPTS .....	4
MAIN GUIDE .....	5
PREPARE SECONDARY NODE .....	5
<i>Pre check</i> .....	5
<i>Create Additional Cluster Node</i> .....	7
Install IBM Installation manager: .....	7
Install WebSphere Portal .....	10
Federated Additional Cluster Member .....	19
Install profile templates .....	23
PreSet the database drivers on the additional node .....	24
Verify Time Set .....	24
Create Secondary Profile .....	24
Federated Secondary Node .....	25
AddSecondaryNode .....	26
CONFIGURING THE WEB SERVER .....	28
<i>Install IBM HTTP Server</i> .....	28
<i>Configure Virtual-Host</i> .....	31
<i>Define WebServer into WebSphere ICS</i> .....	33
AUTHOR: .....	36

## ***Abstract***

This guide want to explain how install, configure, and building an IBM WebSphere Portal v8.5 cluster using:

IBM WebSphere Application Server  
Red Hat Enterprise Linux 6.0 update 3  
DB2 10.5  
Active Directory 2012 R2 mixed mode  
IBM HTTP Server 8.0

## ***Windows/Unix Differences***

This guide was written using Linux as the base operating system, however the steps/concepts listed in this guide are independent of operating system.

The only significant difference is that for Windows, you must use the batch file commands instead of the UNIX shell commands listed in this guide.

For example:

UNIX: ./startServer.sh WebSphere\_Portal  
Windows: startServer.bat WebSphere\_Portal

Or

UNIX: ./ConfigEngine.sh cluster-node-config-cluster-setup  
Windows: ConfigEngine.bat cluster-node-config-cluster-setup

## ***Hostnames Used in this Guide***

To avoid confusion with my own hostnames, I've replaced each instance of the hostnames of my servers with a sample value that corresponds to the server it belongs to so that it may be easier to understand which server I'm referring to in my examples.

I use the following values:

Primary Node :	first.ondemand.com
Secondary Node:	second.ondemand.com
DMGR:	dmgr.ondemand.com
Database Server:	dbstore.ondemand.com
LDAP Server:	ldap.ondemand.com
IBM HTTP Server:	portal.ondemand.com

## ***Cluster Concepts***

- Server - A Java Virtual Machine (JVM) that manages user applications (such as WebSphere Portal and Web Content Management).
- Node - A logical grouping of one or more application servers. A node does not necessarily mean a single physical server.
- Cell - A logical grouping of one more nodes.
- Cluster - A logical grouping of one or more servers across one or more nodes. The servers are managed together and participate in workload management. Servers in a cluster share resources, such as applications. Multiple clusters can exist in a single cell, but a single cluster cannot exist across multiple cells.

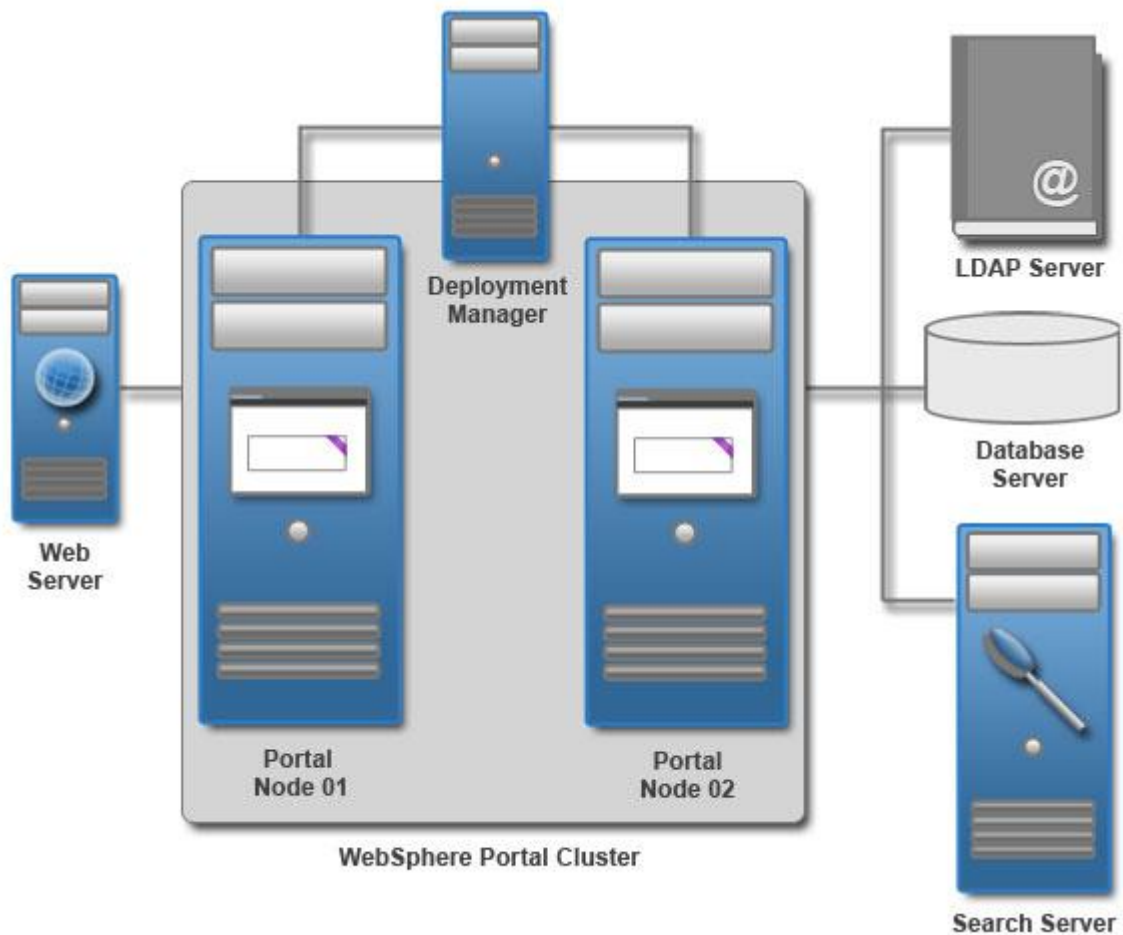


Figure 1 - WebSphere Portal cluster with two nodes, each with three cluster members.

# Main Guide

## *Prepare Secondary Node*

### Pre check

Verify have more then 5GB on temporary directory /tmp

Open terminal and verify if your system is reachable using fully qualified hostname

```
[root@serv01 /]# ping first.ondemand.com
```

In the same terminal, execute

```
[root@serv01 /]# ping localhost
```

To verify the “localhost” network settings are configured properly on your machine.

### **Linux/UNIX environments only.**

If in your environment do not use IPV6 verify that is disable in each machine.

In the same terminal, execute

```
[root@serv01 /]# cat /etc/sysconfig/network
```

And verify if your NETWORKING\_IPV6 is set to “no”

Ensure have sufficient file open limit, is set to 10240 or higher.

```
ulimit -n 10240
```

**Web Content Manager only:** Complete the following steps to remove any file size limits: Use the `ulimit -f` command to set the maximum size of files that can be created.

Following library is needed during installation process, if you do not configure X environment verify you can use `export display` to use each wizard, in this guide I use this method to execute installation.

```
gtk2-2.18.9-6.el6.x86_64.rpm
glib2-2.22.5-6.el6.x86_64.rpm
libXtst-1.0.99.2-3.el6.x86_64.rpm
compat-libstdc++-33-3.2.3-69.el6.x86_64.rpm
openmotif22-2.2.3-19.el6.x86_64.rpm
pam-1.1.1-10.el6.x86_64.rpm
libXp-1.0.0-15.1.el6.x86_64.rpm
libXmu-1.0.5-1.el6.x86_64.rpm
kernel-headers-2.6.18-238.19.1.el5.x86_64.rpm
compat-glibc-headers-2.3.4-2.26.x86_64.rpm
compat-glibc-2.3.4-2.26.x86_64.rpm
libgtk-x11-2.0.so.0
libgtk-x11-2.0.so.0
```

libcanberra-gtk-module.so  
glibc-2.12-1.47.el6.i686.rpm  
compat-libstdc++-33-3.2.3-69.el6.x86\_64.rpm  
compat-libstdc++-33-3.2.3-69.el6.i686.rpm  
yum search -1.0.0-15.1.el6.i686.rpm  
libXp-1.0.0-15.1.el6.x86\_64.rpm  
openmotif-2.3.3-4.el6.i686.rpm  
xterm  
xkeyboard-config  
tigervnc-server-1.0.90-0.17.20110314svn4359.el6.x86\_64.rpm  
xorg-x11-twm-1.0.3-5.1.el6.x86\_64.rpm  
xorg-x11-font\*

## Create Additional Cluster Node

Connect to secondary server and

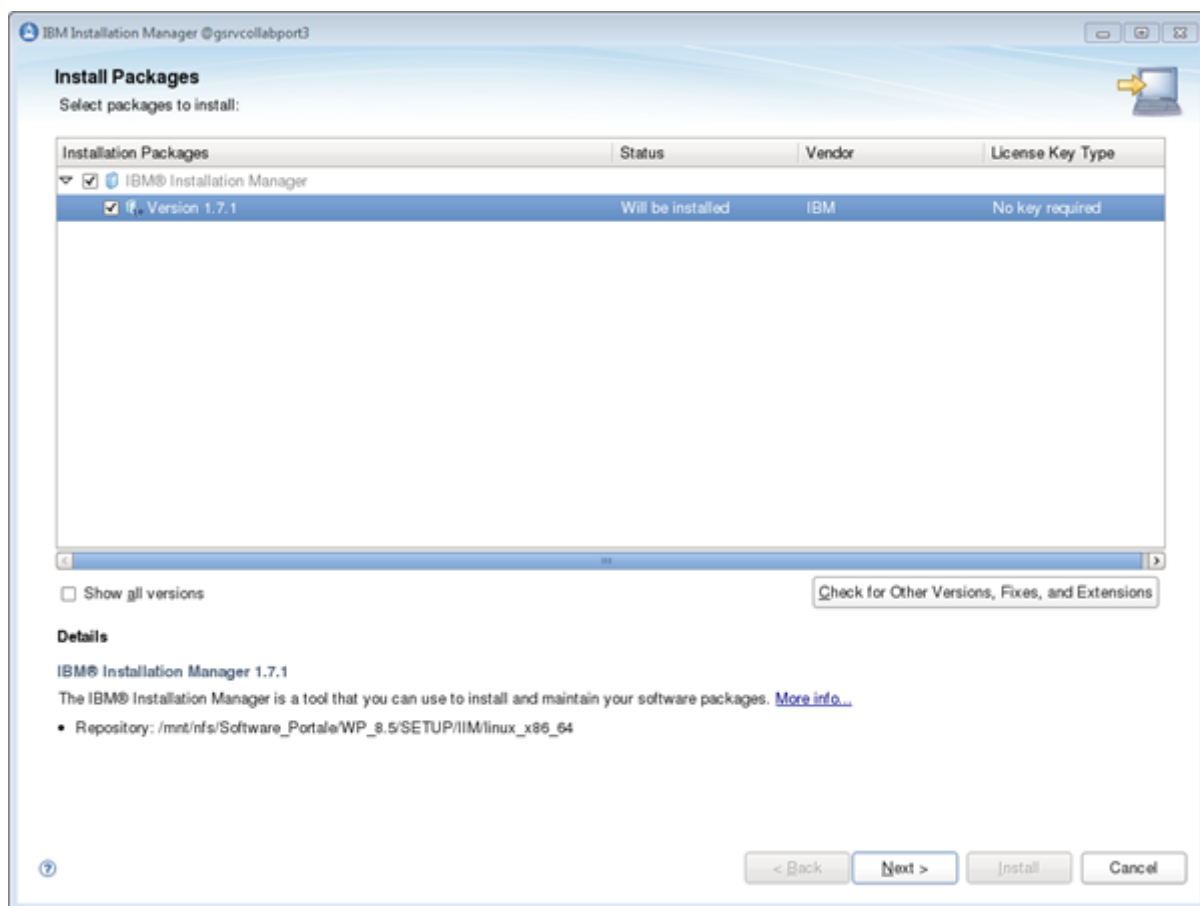
### Install IBM Installation manager:

From shared disc where you have already expand all packages needed to execute installation, move where you have expand WSP\_Server\_8.5\_Setup.zip and find following path

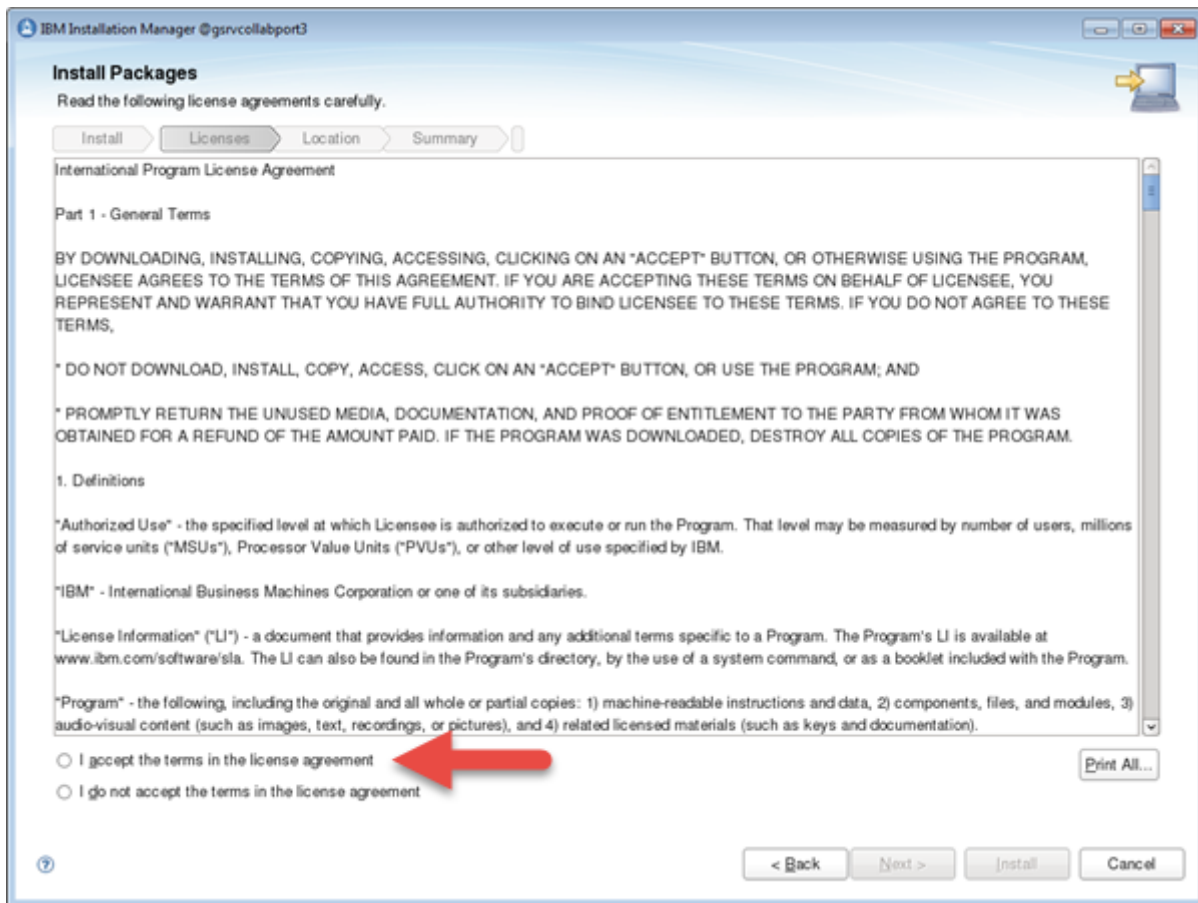
<expandHome>/SETUP/IIM/Linux\_x86\_64

and run ./install

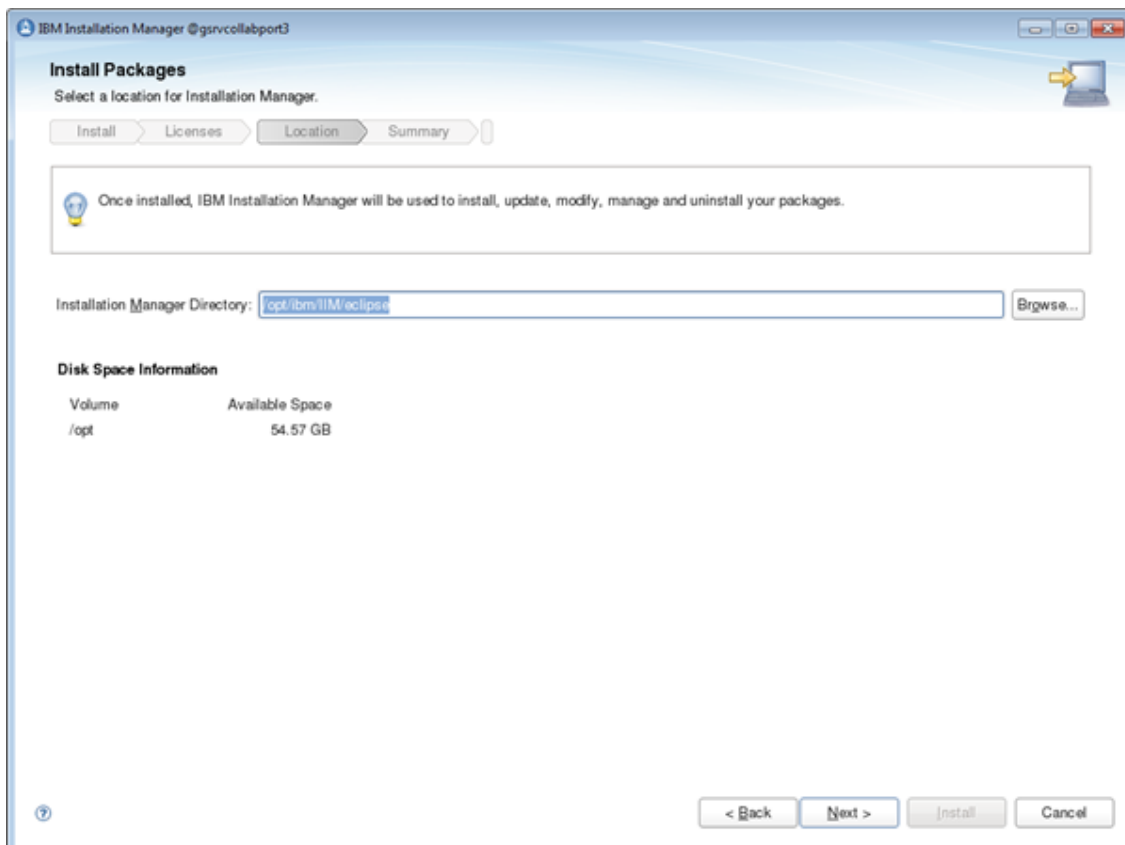
following screen appear to you:



Click next.

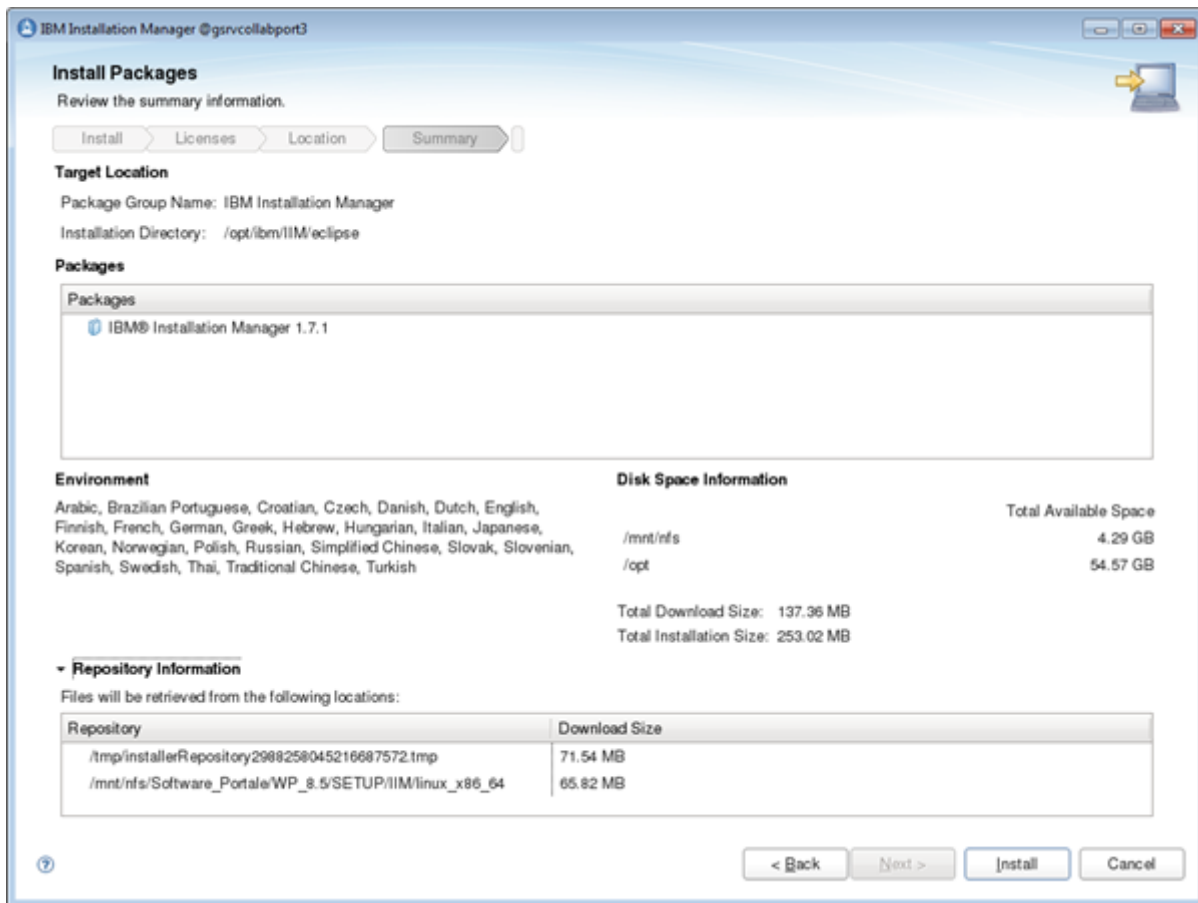


Accept license and click next

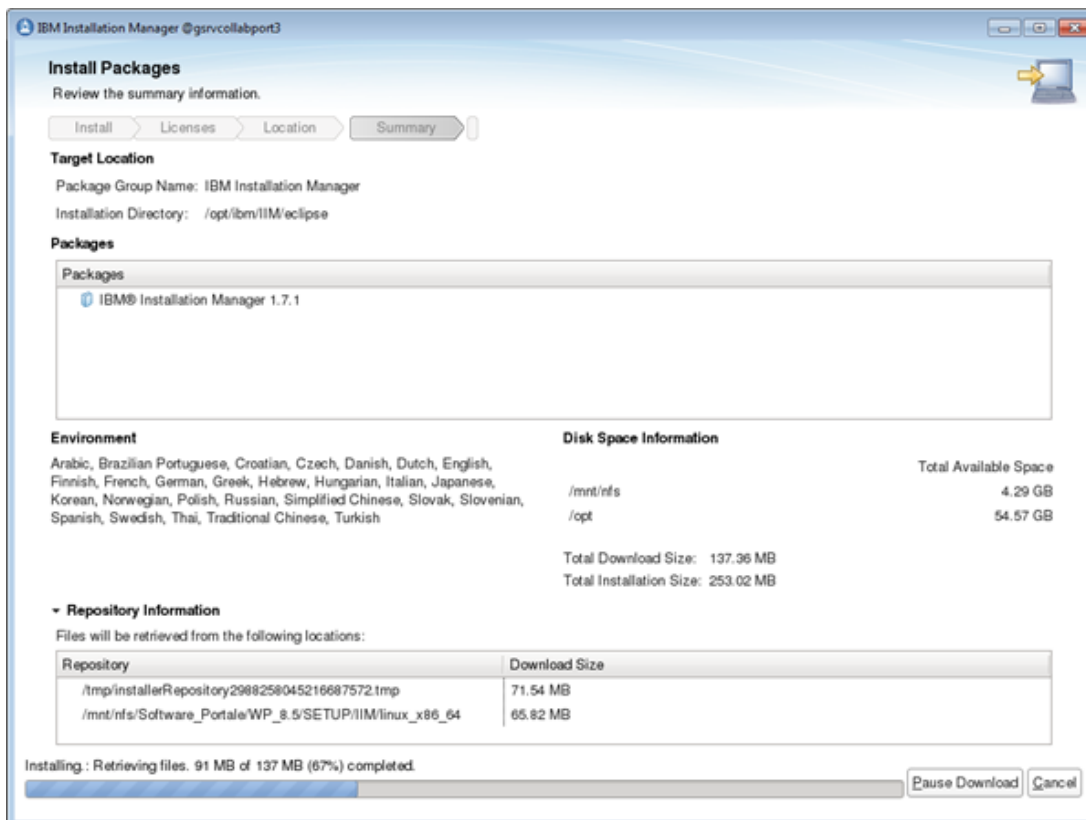


Choose installation path, in my case /opt/ibm/IIM/eclipse, and next

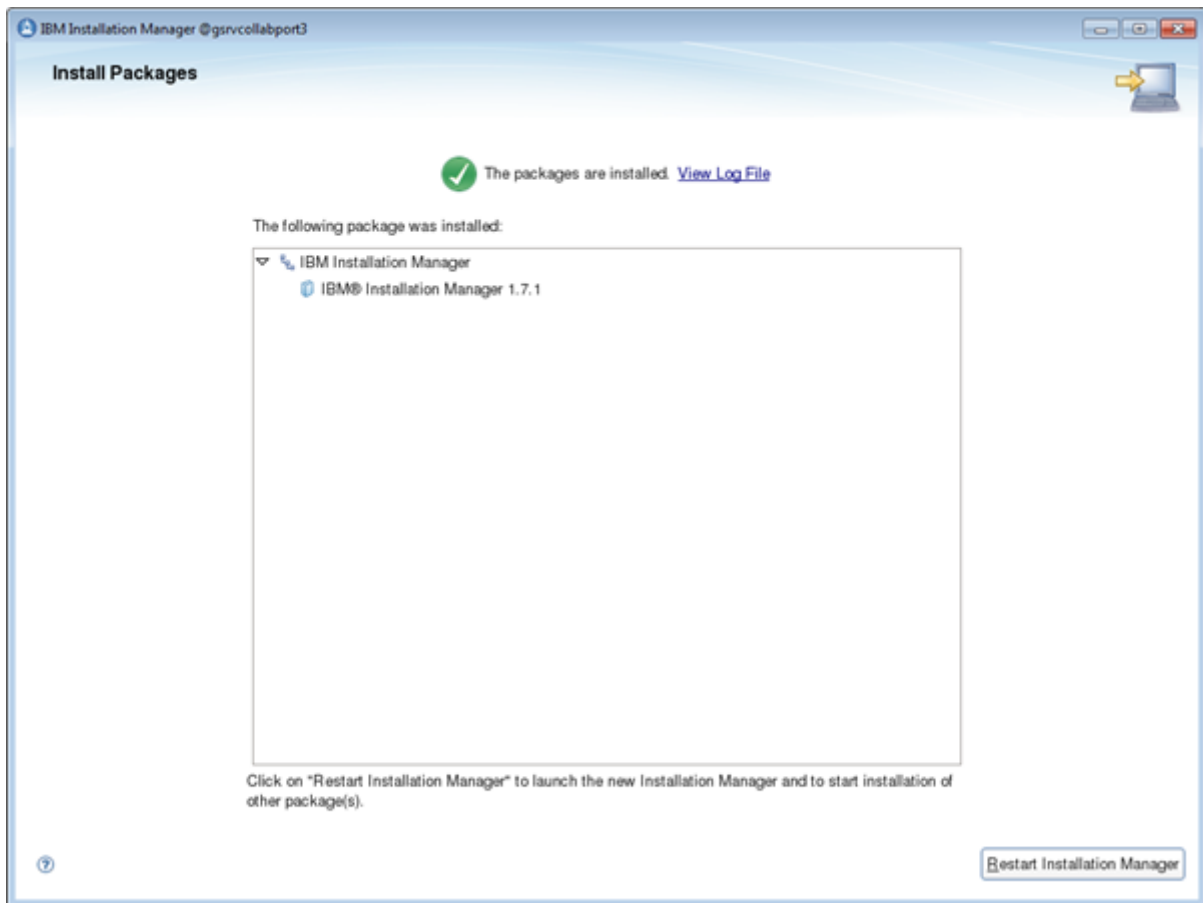




If all summarize information is ok, click install



Waiting to install

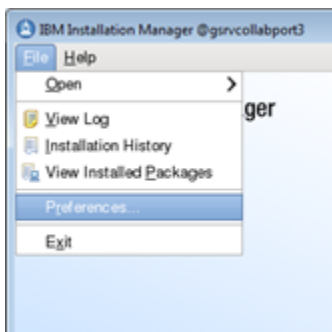


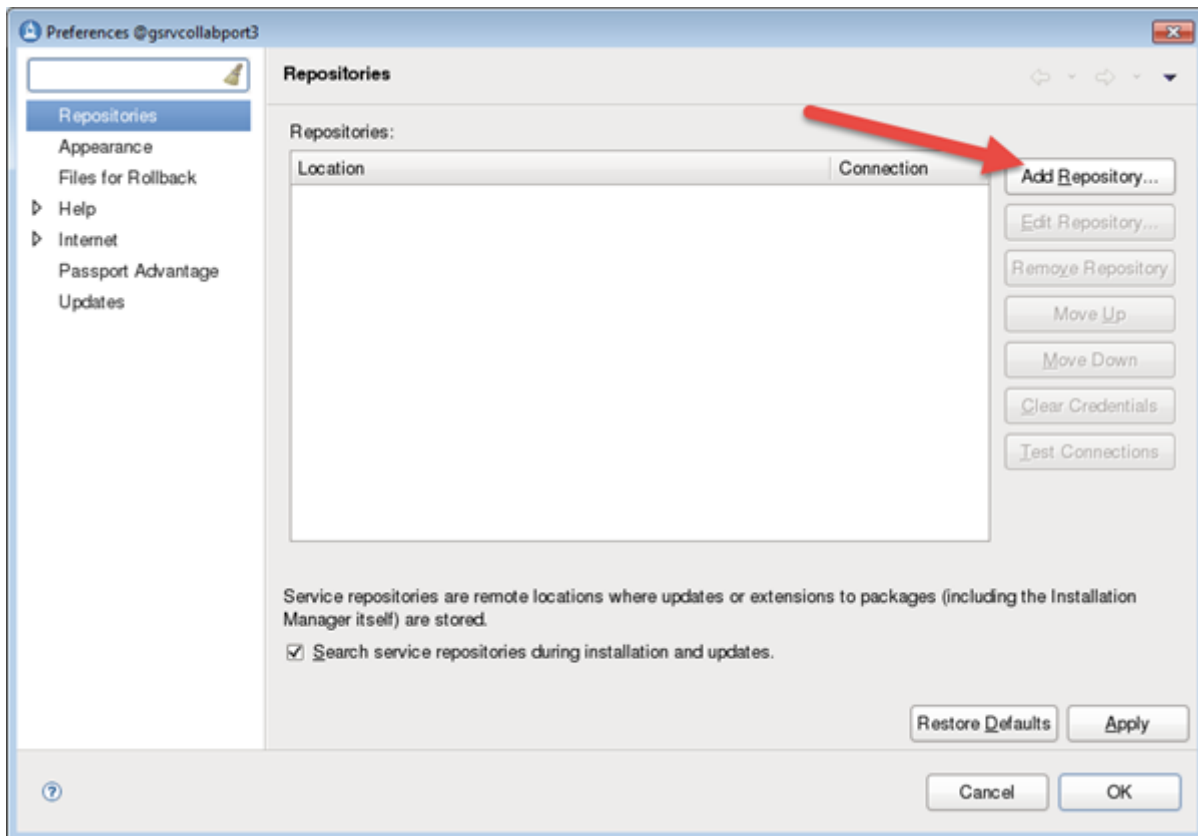
If Success you can click Restart Installation Manager, otherwise correct error and re-try.

## Install WebSphere Portal

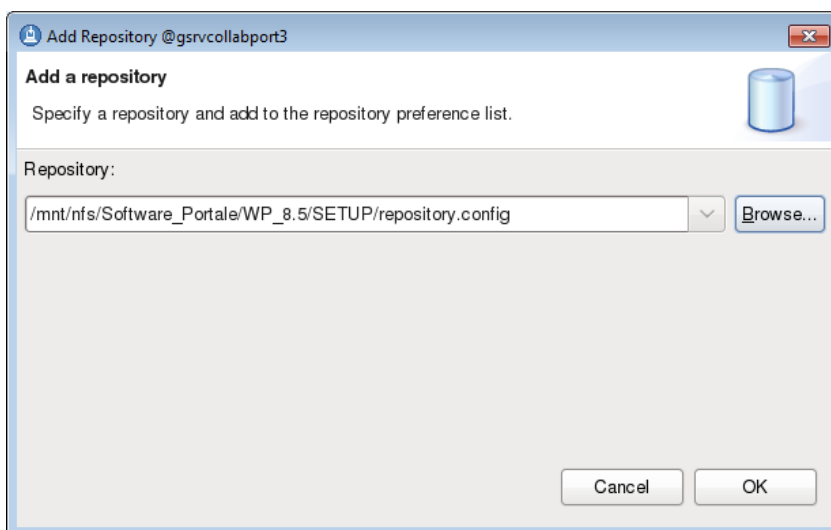
Now you are ready to install Digital Experience Software ( WebSphere Portal )

In installation manager menu select File / Preferences...



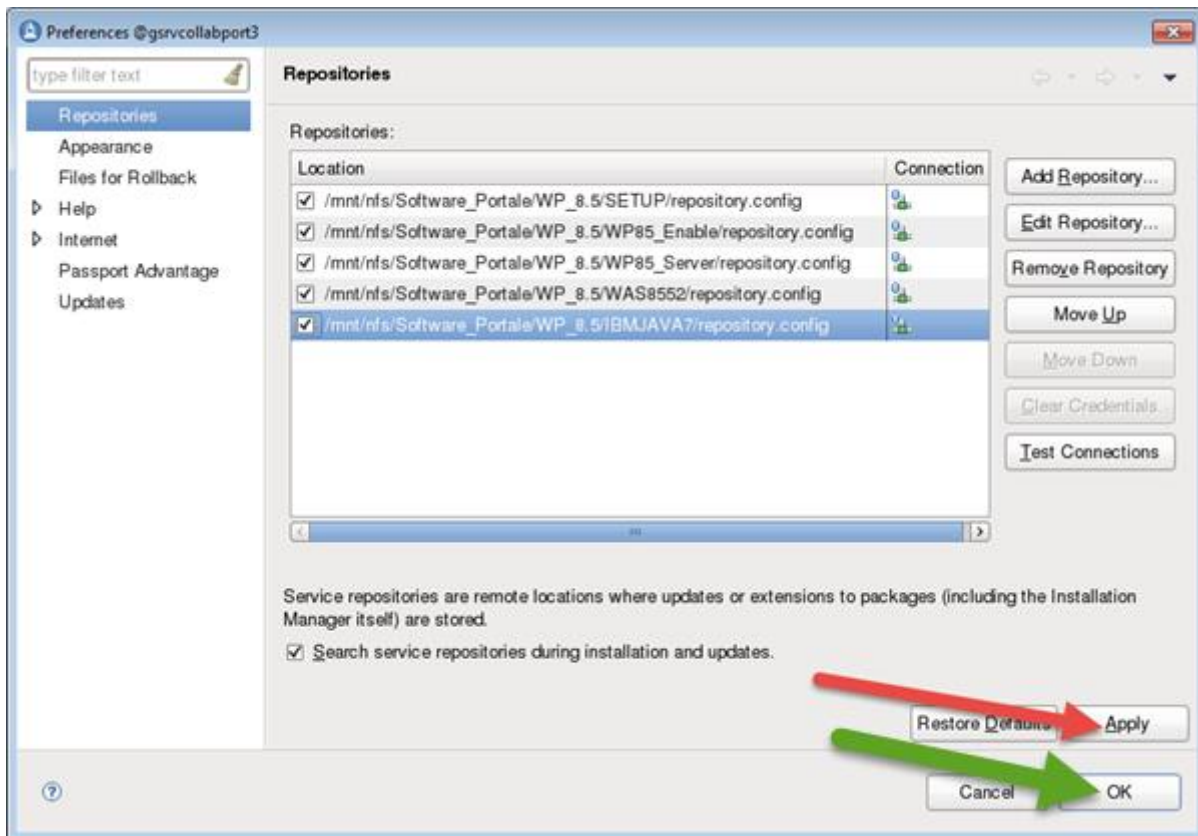


Add repository used during installation

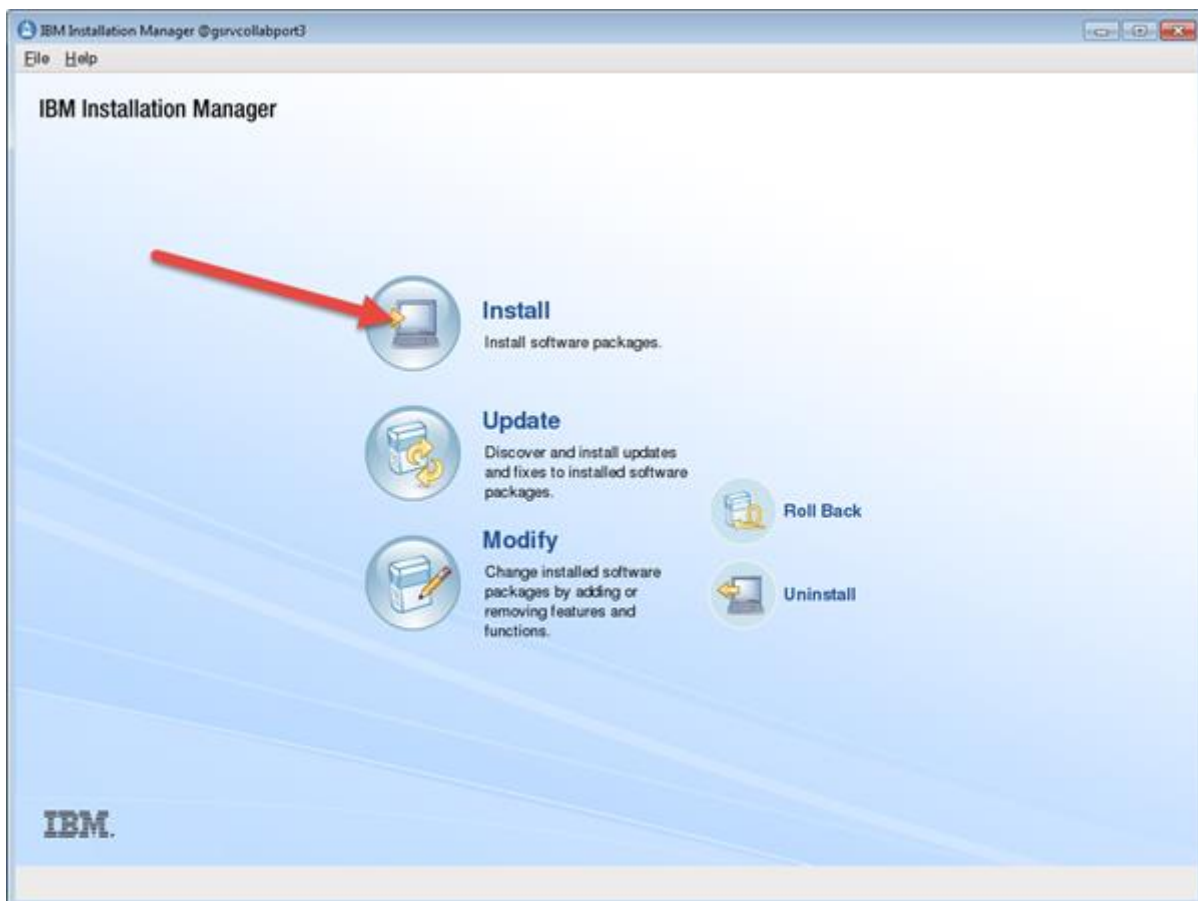


You must choose following repository

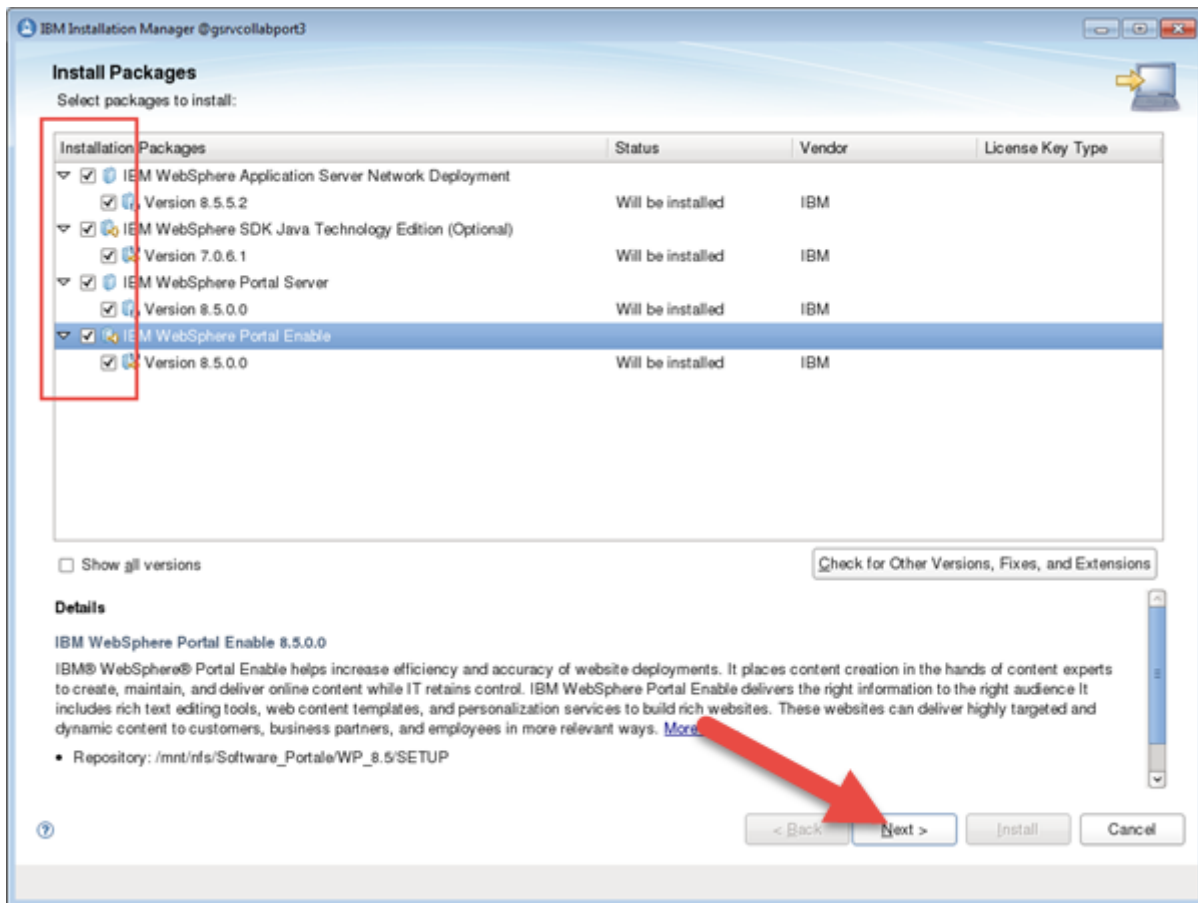
Repositories:	
Location	Connection
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/SETUP/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/WP85_Enable/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/WP85_Server/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/WAS8552/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/IBMJAVA7/repository.config	



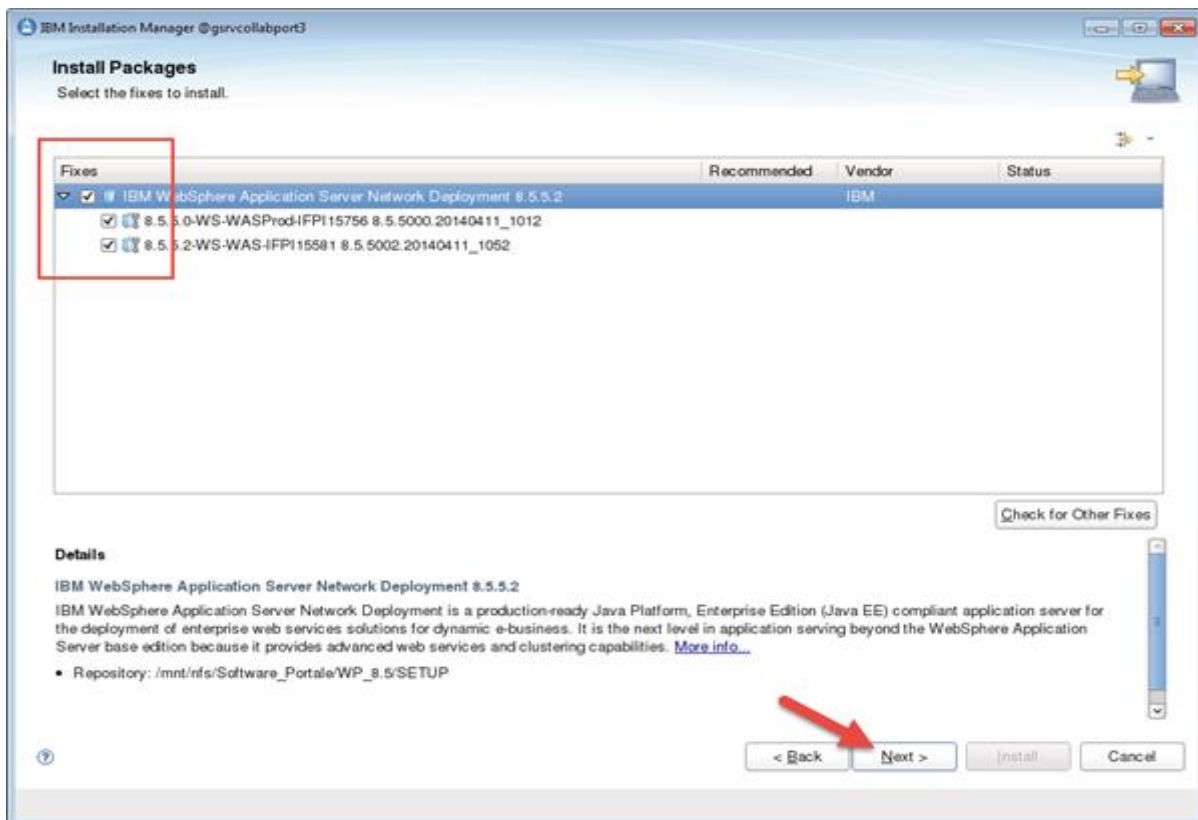
Click Apply and OK



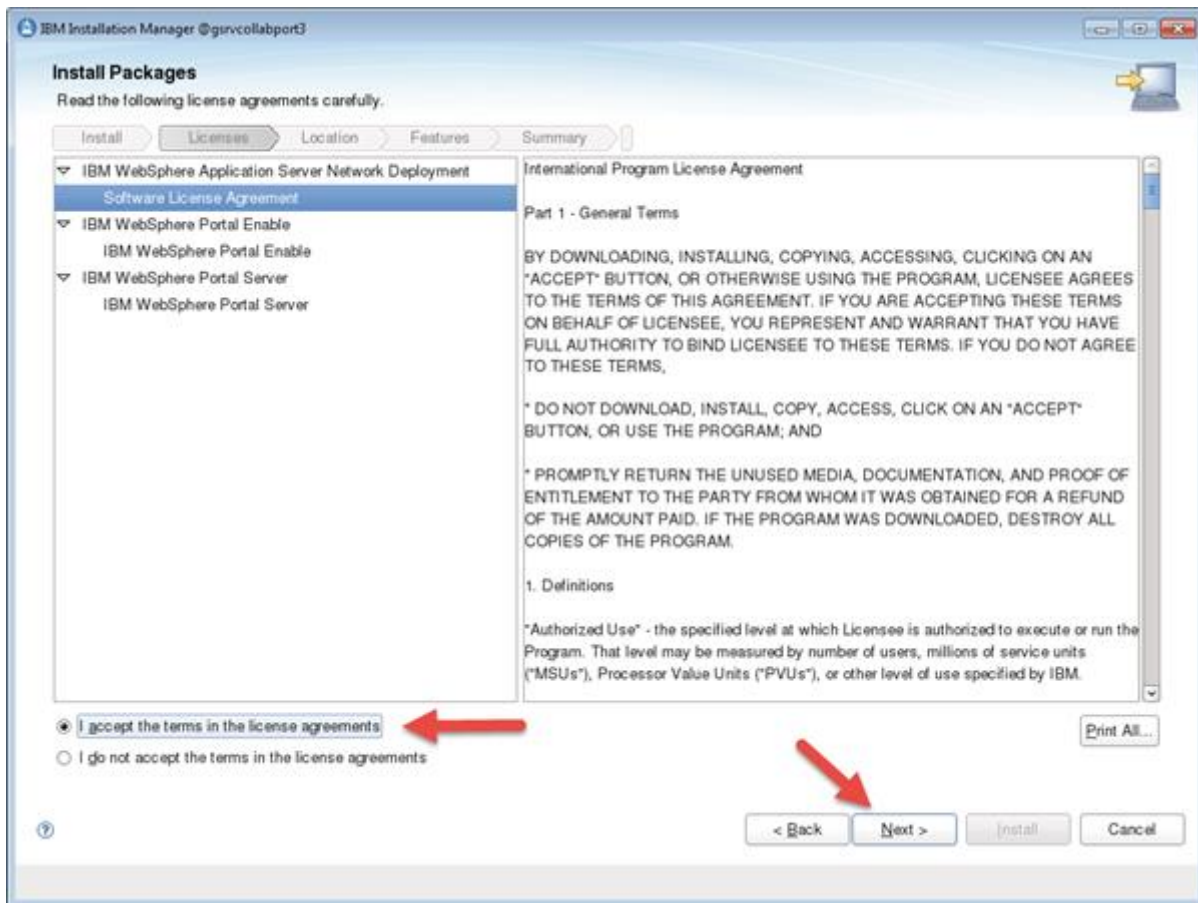
Now click Install



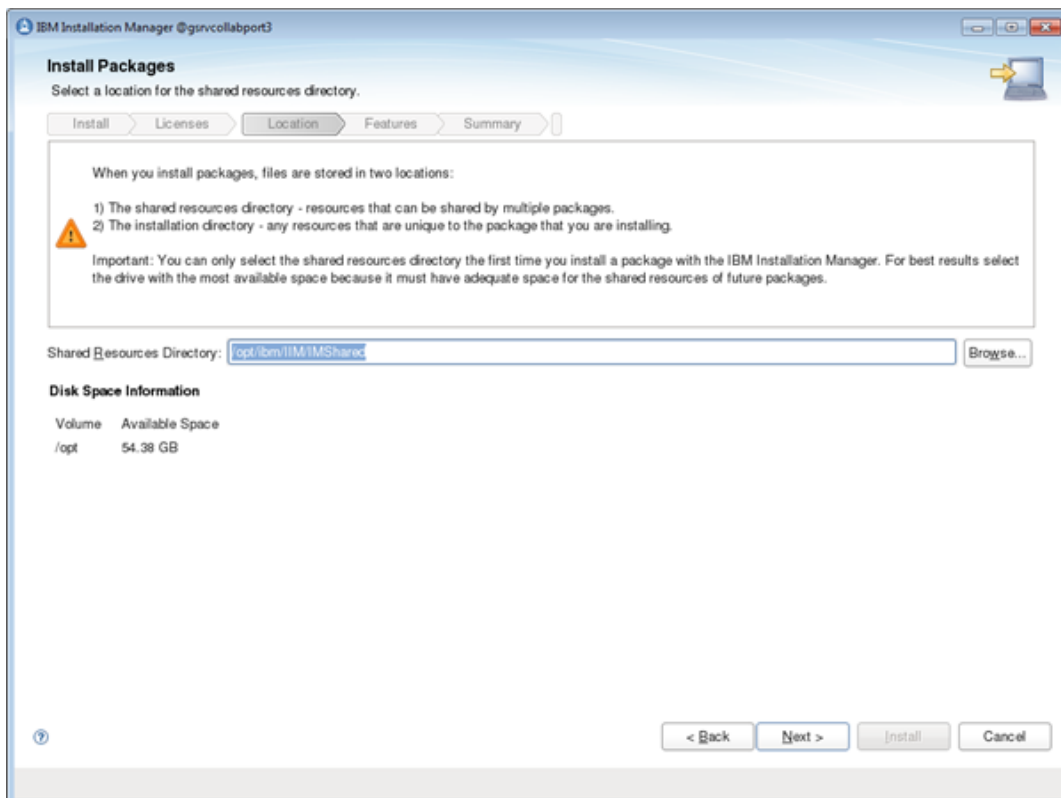
Select all Packages and Next



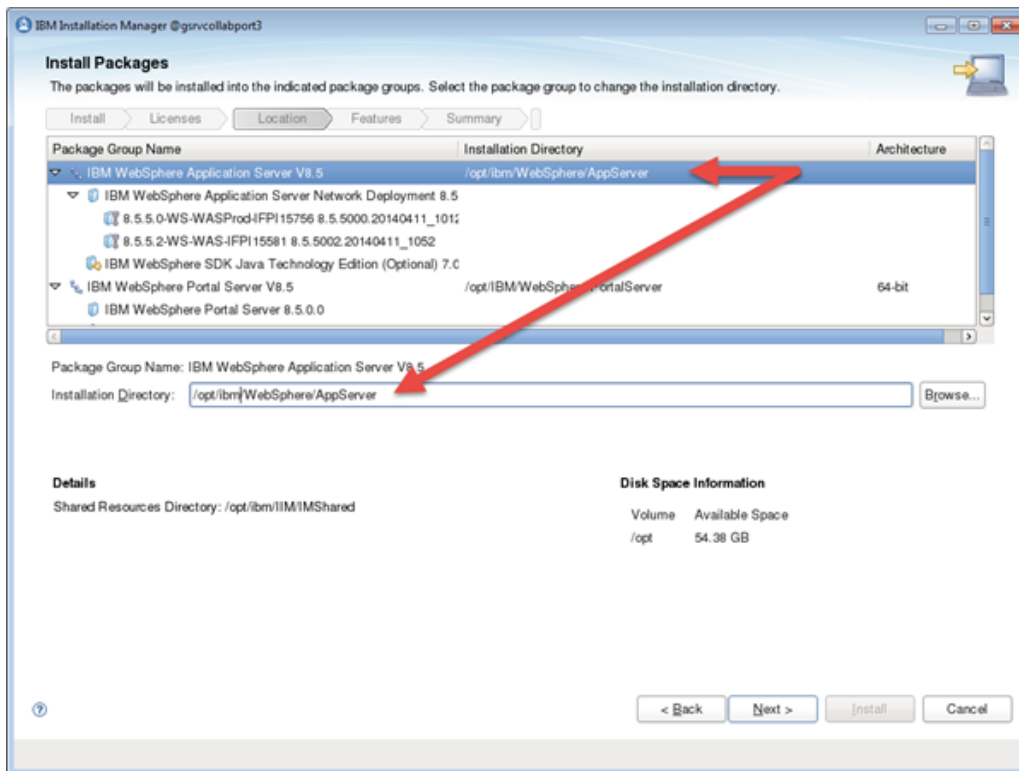
Select all Packages and Next



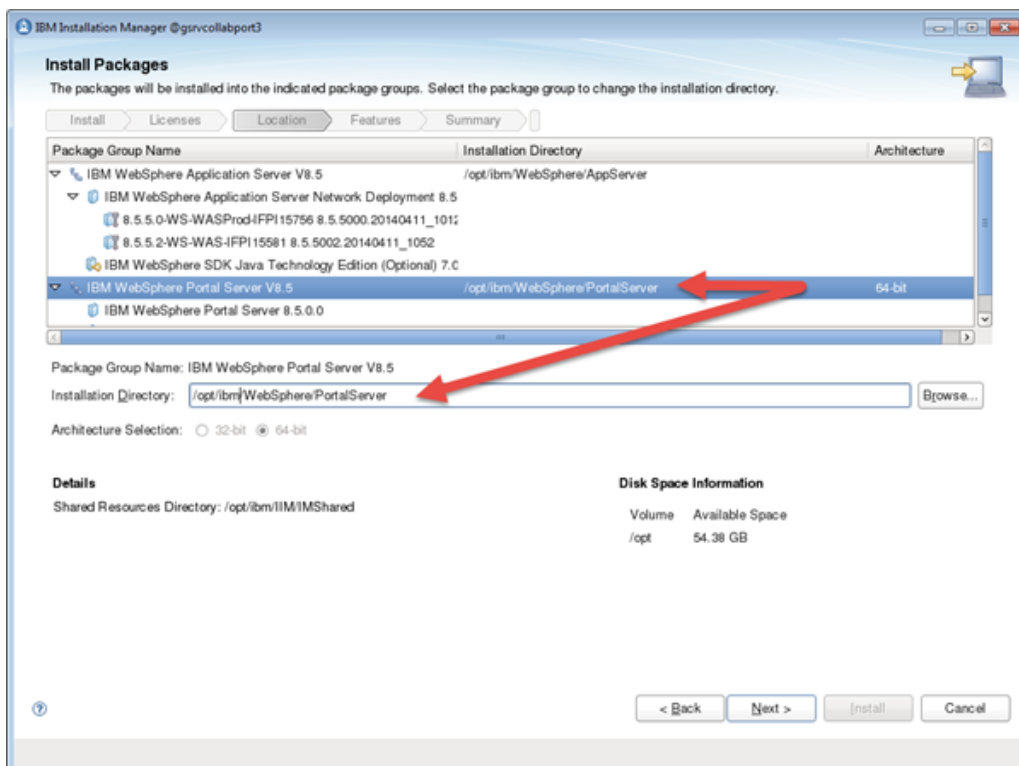
Accept license and Next



Choose your IMShared directory, in my case /opt/ibm/IIM/IMShared and Next

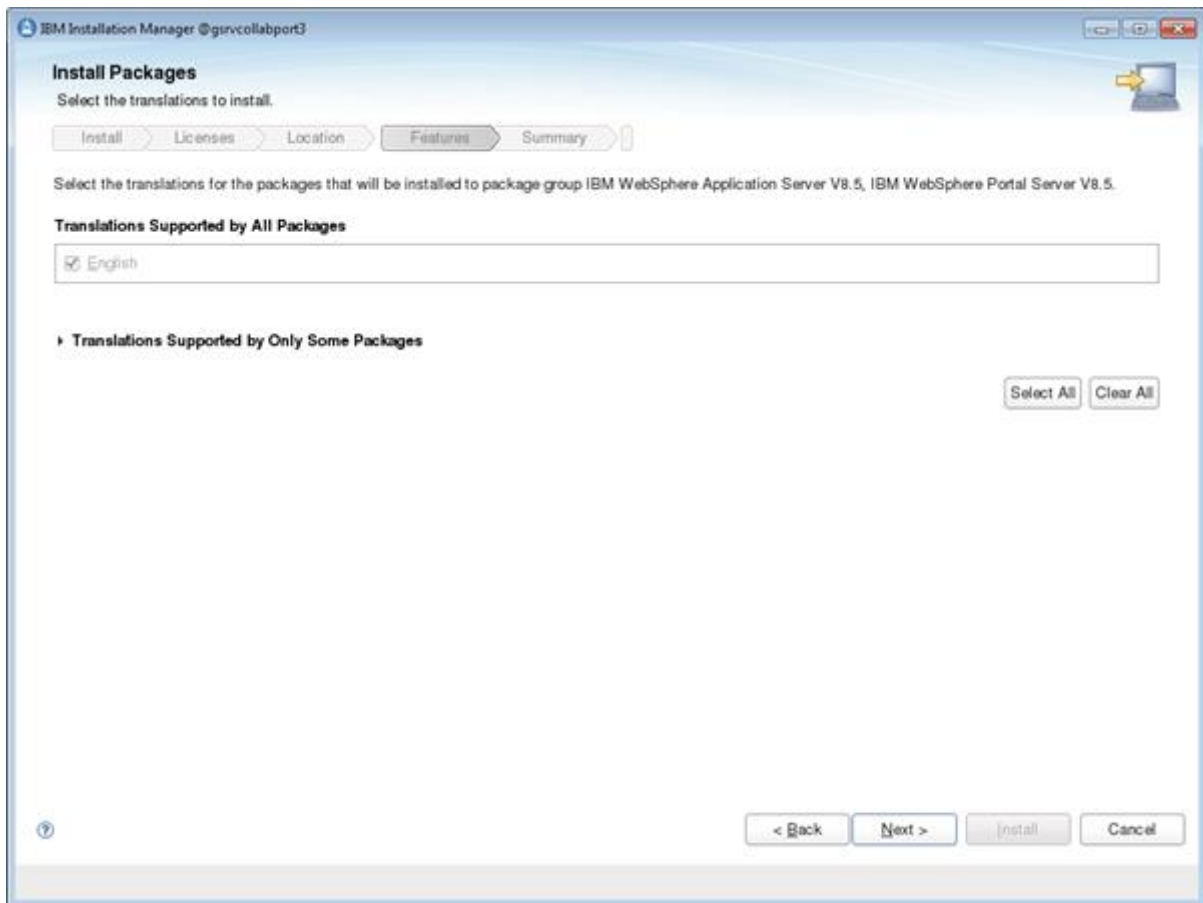


Choose your WebSphere Application Server install path, in my case  
/opt/ibm/WebSphere/AppServer

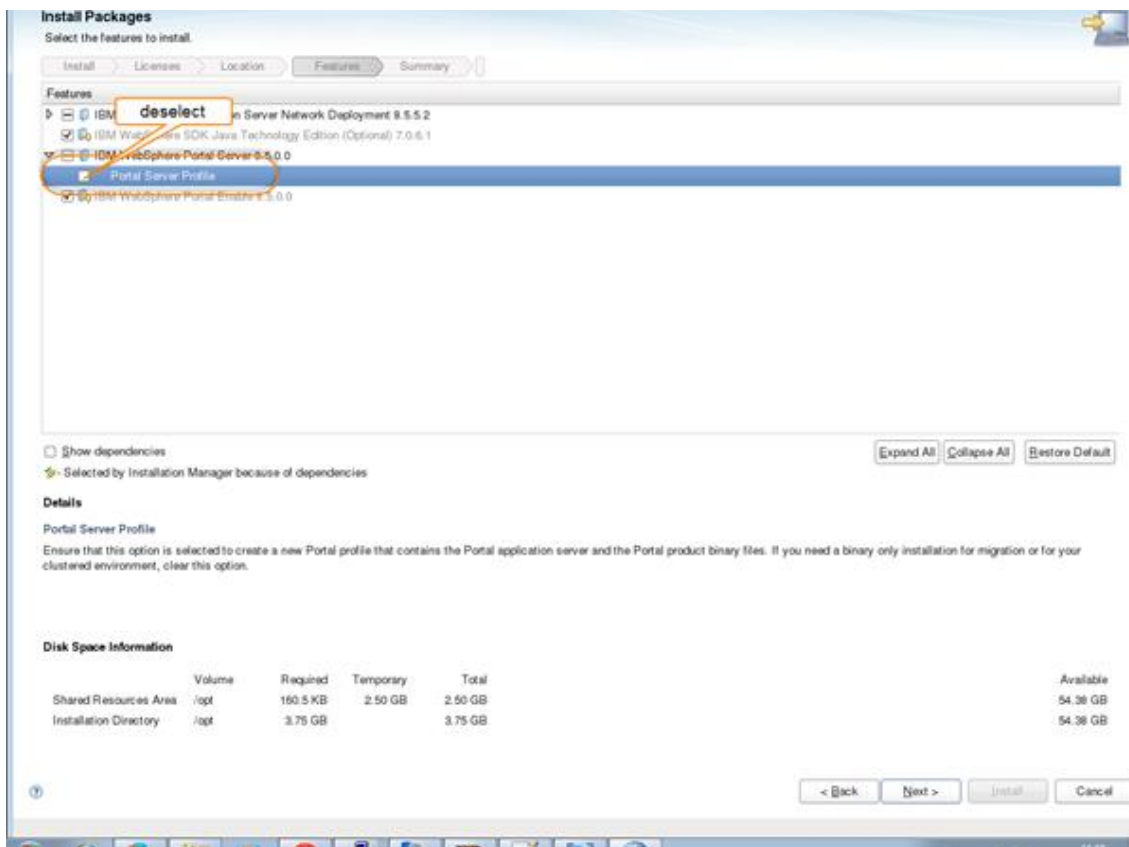


Choose your WebSphere Portal Server install path, in my case /opt/ibm/WebSphere/PortalServer  
and Next





If needed choose your language, otherwise Next



Verify that “Portal Server Profile” will be deselected, and Next



IBM Installation Manager @gsvcollabport3

**Install Packages**  
Click Next to continue.

Install Licenses Location **Features** Summary

IBM WebSphere Portal Server 8.5.0.0

Enter the Administrator user ID and password for the Configuration Wizard.

**Configuration Wizard Credentials**  
This ID is used only to log in to the Configuration Wizard and can be different from the Portal administrative ID.

Administrator user ID  
waslocal

Administrator user password  
\*\*\*\*\*

Confirm administrator user password  
\*\*\*\*\*

< Back Next > Install Cancel

Choose your WebSphere Administrator credential, this credential will be stored in Internal Repository and **MUST** be unique when you add your LDAP configuration, in my case I use waslocal / passw0rd

IBM Installation Manager @gsvcollabport3

**Install Packages**  
Click Next to continue.

Install Licenses Location **Features** Summary

IBM WebSphere Portal Server 8.5.0.0

Enter the Administrator user ID and password for the Portal Server.

**Selected configuration mode**  
☒ Standard  
☐ Advanced

**Standard details**

**Topology**

Host name  
first.ondemand.com

Node name  
WpNd01

Cell name  
WpCe01

**Admin Credentials for Portal Server**

Administrator user ID  
waslocal

Administrator user password  
\*\*\*\*\*

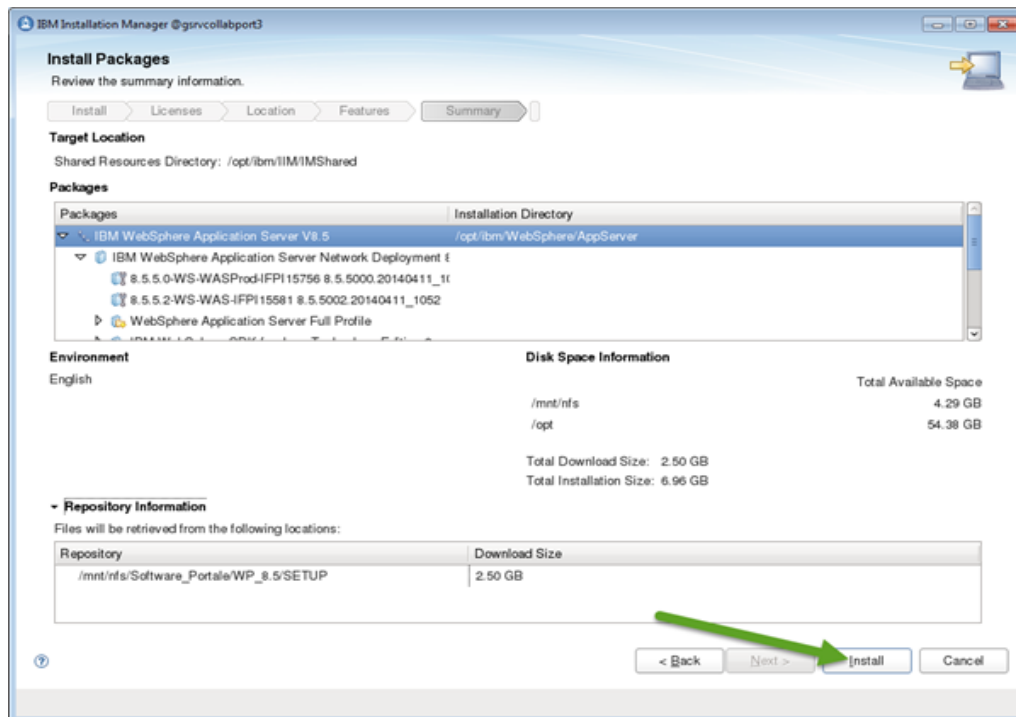
Details of the Standard configuration parameters

< Back Next > Install Cancel

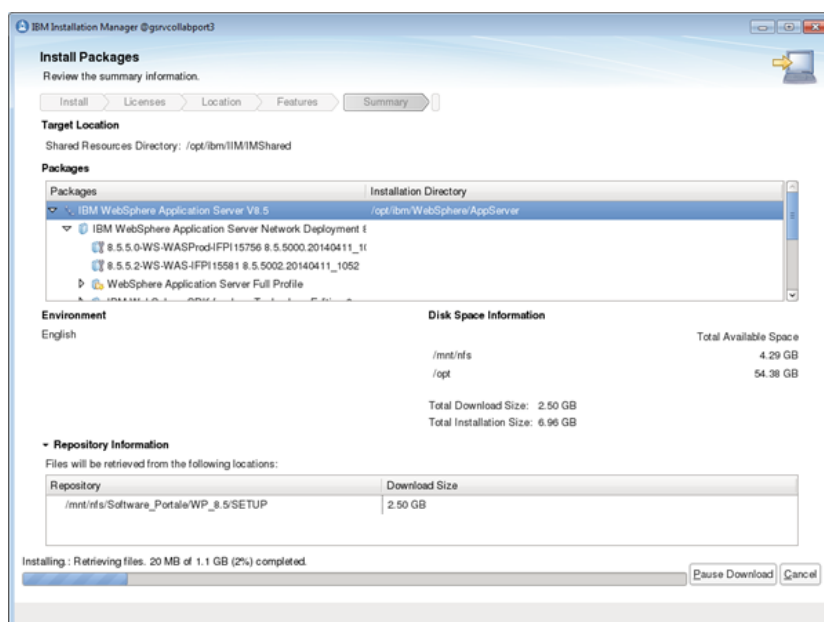
Set Hostname, this name will be solved during your digit. Set Node name and Cell Name, In my case I choose as Node name : WpNd02 and for Cell name: WpCe02, this cell name will be updated when node will be federated to DMGR.

Choose your WebSphere Portal Administrator credential, this credential will be stored in Internal Repository and MUST be unique when you add your LDAP configuration, to simplify your work I can suggestion to use same user you choose as WebSphere Administartor, in my case I use Waslocal / passw0rd

**Optional:** If you select the Advanced Configuration radio button at the top of this screen (not shown), you can also set the Context Root, Default Home, Personalized Home, starting Port range, Profile Name, and Profile Path. For this guide, these were all left as the defaults but you are welcome to configure these as you see fit.

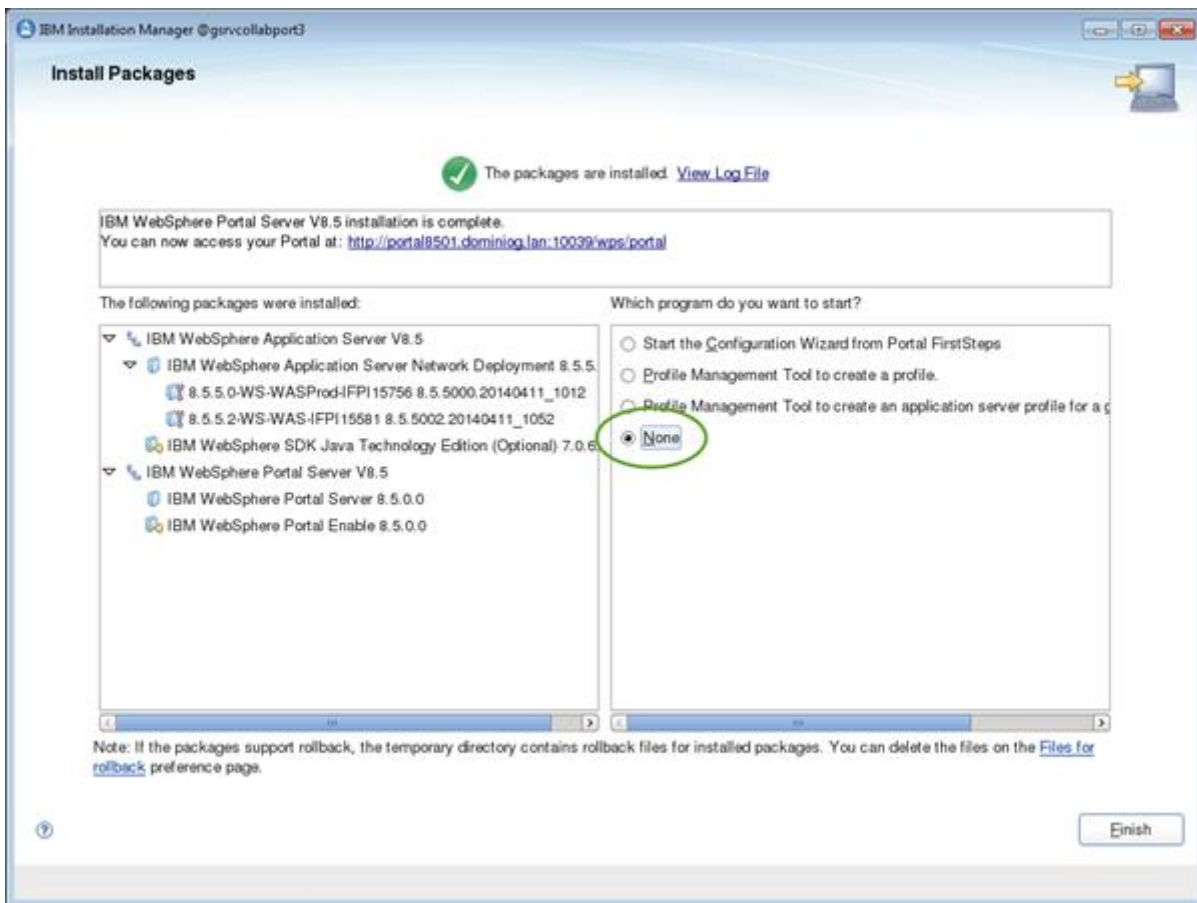


If all summarize data is OK, you can click Install



And wait to complete

if all activities are successful you will get the following screen, it will take enough time, if you see the bar stops do not worry to be patient.



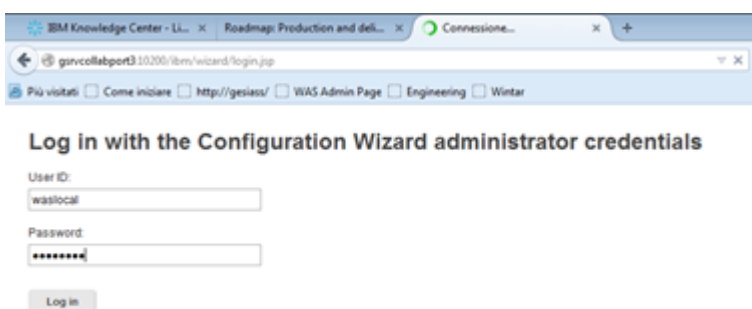
Now choose “None”, and Finish

## Federated Additional Cluster Member

Now we must federate new node in our cell.

Use the Configuration Wizard to generate script to define additional cluster node.

Connect to <http://localhost:10200/ibm/wizard> , start it if stopped.



Authenticate using waslocal

## Configuration Wizard

Complete essential configuration tasks with less reading and time spent editing properties files. Repeat con for a new session. [Learn More](#)

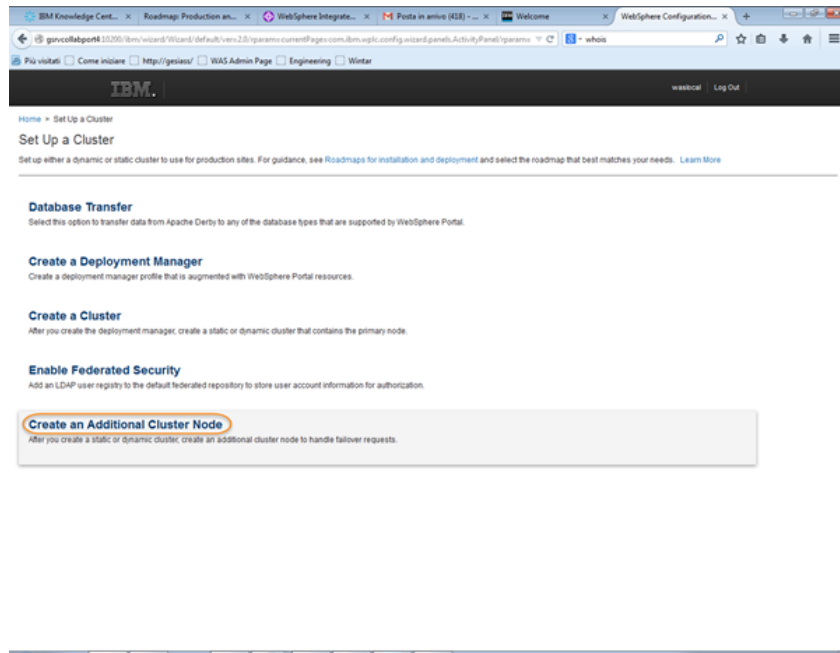
### Set Up a Stand-alone Server

Set up a stand-alone server environment to use for development, demonstrations, and small production s

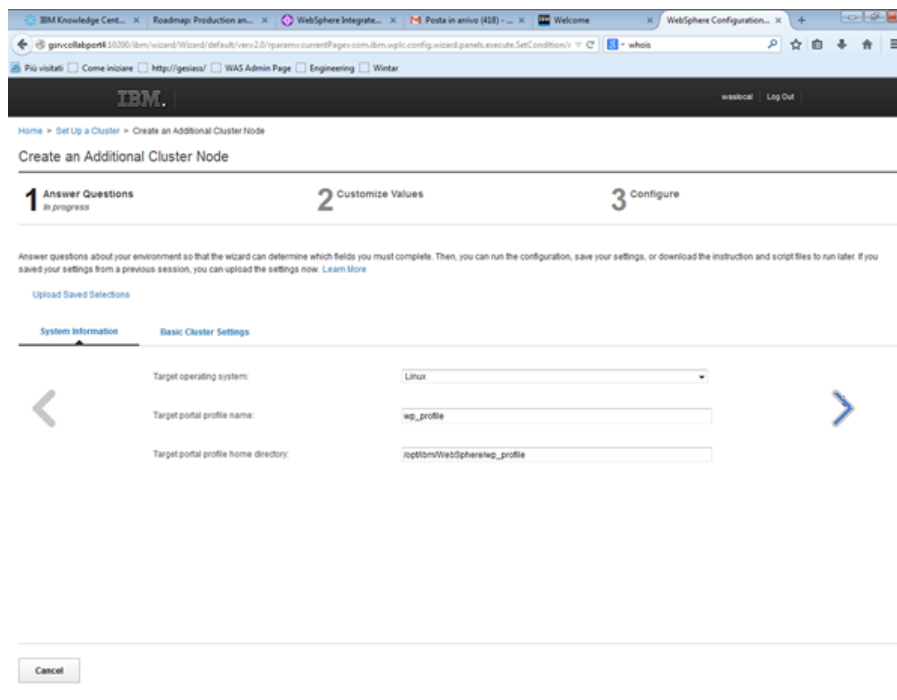
### Set Up a Cluster

Set up either a dynamic or static cluster to use for production sites. For guidance, see [Roadmaps for insta](#)

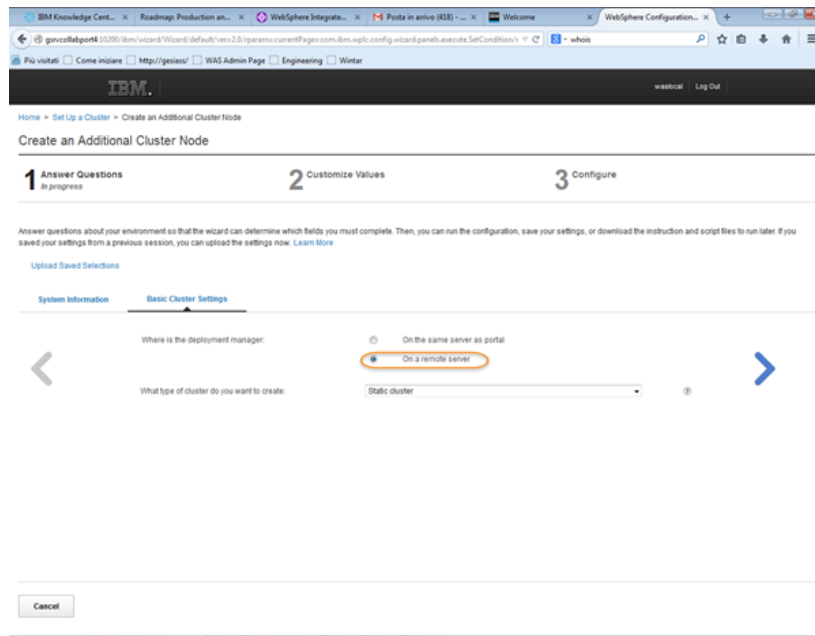
## Choose Set Up a cluster



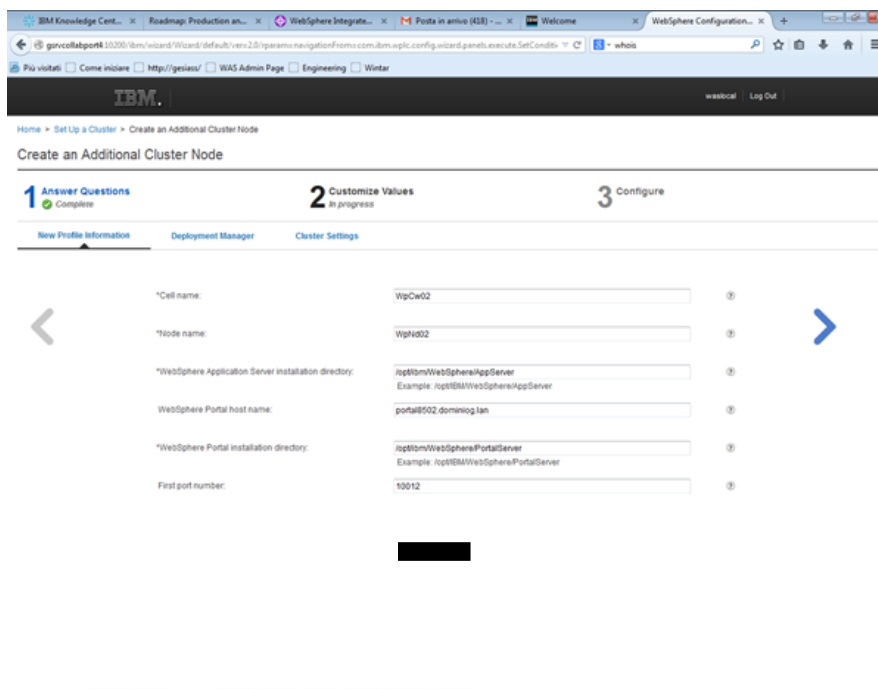
and choose “Create an Additional Cluster Node”



Select default for your script environment and next (right blue arrow)



In our case choose “On Remote Server” and next



Specify parameter, in my case

CellName: WpCe02

NodeName: WpNd02

WasHome: /opt/ibm/WebSphere/AppServer

PortalHost: portal8502.xxxxxxxxxxxxxx

WpsHome: /opt/ibm/WebSphere/PortalServer

and Next

IBM Knowledge Cent... Roadmap: Production an... WebSphere Integrate... Posta in arrivo (438) Welcome WebSphere Configuration...

gircollabport4.10200/ibm/wizard/Wizard/default/vers.2.0/params/navigationFrom.com.ibm.wglic.config.wizard.panels.execute.SetConditio... whois

Più visitati Come iniziare http://gesiaas/ WAS Admin Page Engineering Winter

IBM. waslocal Log Out

Home > Set Up a Cluster > Create an Additional Cluster Node

### Create an Additional Cluster Node

1 Answer Questions Complete 2 Customize Values In progress 3 Configure

New Profile Information Deployment Manager Cluster Settings

\*WebSphere Application Server administrator ID: waslocal ⓘ

\*WebSphere Application Server administrator password: xxxxxxxx ⓘ

\*Re-enter the password: xxxxxxxx ⓘ Next

\*Deployment manager cell name: dmgrCell01 ⓘ  
Example: dmgrCell01

\*Deployment manager node name: dmgrNode01 ⓘ  
Example: dmgrNode01

\*Deployment manager profile path: /opt/ibm/WebSphere/AppServer/profiles/dmgr01 ⓘ  
Example: /opt/ibm/WebSphere/AppServer/profiles/dmgr01

\*Deployment manager host name: portaldmgr ⓘ

\*SOAP port: 8879 ⓘ

WebSphere Portal installation directory: /opt/ibm/WebSphere/PortalServer ⓘ  
Example: /opt/ibm/WebSphere/PortalServer

gircollabport4.10200/ibm/wizard/Wizard/default/vers.2.0/params/navigationFrom.com.ibm.wglic.config.wizard.pan...ges.com.ibm.wglic.config.wizard.panels.execute.SetParameter/params/workflow/Create an Additional Cluster Node#

Specify parameter, in my case

Was Admin: wpsadmin (DMGR Administrator)

Was Password: xxxxxxxxxx (DMGR Administrator)

CellName: dmgrCell01

NodeName: dmgrNd01

DmgrProfileHome: /opt/ibm/WebSphere/AppServer/profiles/Dmgr01

DmgrHost: portaldmgr.xxxxxxxxxxxxxxx

SOAP port: 8879

WpsHome: /opt/ibm/WebSphere/PortalServer

and Next

IBM Knowledge Cent... Roadmap: Production an... WebSphere Integrate... Posta in arrivo (438) Welcome WebSphere Configuration...

gircollabport4.10200/ibm/wizard/Wizard/default/vers.2.0/params/navigationFrom.com.ibm.wglic.config.wizard.panels.execute.SetConditio... whois

Più visitati Come iniziare http://gesiaas/ WAS Admin Page Engineering Winter

IBM. waslocal Log Out

Home > Set Up a Cluster > Create an Additional Cluster Node

### Create an Additional Cluster Node

1 Answer Questions Complete 2 Customize Values In progress 3 Configure

New Profile Information Deployment Manager Cluster Settings

\*Cluster name: PortalCluster ⓘ

Choose your ClusterName, in my case “PortalCluster” and Next

## 1 Answer Questions

✓ Complete

## 2 Customize Values

✓ Complete

### Optional

[Download Wizard Selections](#)

Download your selections in case you need to run the config  
[More](#)

[Download Configuration Scripts](#)

If you plan to run scripts to set up the configuration instead of  
WorkflowInstanceScriptsAll.zip. [Learn More](#)

Choose Download Configuration Scripts

Copy WorkflowInstanceScriptAll.zip into Portal Server and expand it in temporary directory  
In my case I expand it in /opt/ibm/script/addnode

In my case I must following a different path to complete configuration, and use only first script  
generated, because in real configuration I have different credential between Deploy Manager and  
new node.

Good, now we must prepare new node to federation activities.

[Install profile templates.](#)

Create a directory to store templates.

1. Copy the /opt/ibm/WebSphere/PortalServer /profileTemplates.zip from the /opt/ibm/WebSphere/PortalServer/profileTemplates directory on the primary node to the same location on the additional cluster node. These instructions assume that the primary and secondary nodes are on the same operating system.

```
[root@gsrvcollabport4 profileTemplates]$ scp -r /opt/ibm/WebSphere/PortalServer/profileTemplates/profileTemplates.zip ./.
The authenticity of host 'gsrvcollabport3' can't be established.
RSA key fingerprint is 3c:f2:c9:8e:01:11:c5:14:0c:e2:0c:61:06:08:b3:fb.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'gsrvcollabport3' (RSA) to the list of known hosts.
root@gsrvcollabport4:~#
profileTemplates.zip
[root@gsrvcollabport4 profileTemplates]$ ll
total 470204
-rw-r--r-- 1 root root 481487351 Jul 14 13:59 profileTemplates.zip
[root@gsrvcollabport4 profileTemplates]$ unzip profileTemplates.zip
```

2. Extract the profileTemplates.zip file in the same location. If any of the templates exist in your profileTemplates directory, overwrite them.

```
[root@gsrvcollabport4 profileTemplates]$ ll
total 470248
drwxr-xr-x 8 root root      4096 Jun  9 10:48 default.portal
drwxr-xr-x 8 root root      4096 Jun  9 10:48 default.portal.augment
-rwxr-xr-x 1 root root    10409 Jun  9 10:48 installPortalTemplates.ant
-rwxr-xr-x 1 root root     1921 Jun  9 10:48 installPortalTemplates.bat
-rwxr-xr-x 1 root root     4834 Jun  9 10:48 installPortalTemplates.sh
drwxr-xr-x 6 root root      4096 Jun  9 10:48 managed.portal
drwxr-xr-x 6 root root      4096 Jun  9 10:48 managed.portal.augment
drwxr-xr-x 5 root root      4096 Jun  9 10:48 management.portal.augment
-rw-r--r-- 1 root root 481487351 Jul 14 13:59 profileTemplates.zip
[root@gsrvcollabport4 profileTemplates]$
```



3. Run the `installPortalTemplates` script from the newly created `profileTemplates` directory to install the copied profile template. This script updates and registers the profile templates with the Profile Management Tool if it exists on your server.

```
installPortalTemplates.sh /opt/ibm/WebSphere/AppServer
```

```
[root@... profileTemplates]# ./installPortalTemplates.sh /opt/ibm/WebSphere/AppServer
The appserver directory at /opt/ibm/WebSphere/AppServer exists.
registering the profileTemplates in /opt/ibm/WebSphere/AppServer
/opt/ibm/WebSphere/AppServer/java_1.7_64
Buildfile: /opt/ibm/WebSphere/PortalServer/profileTemplates/installPortalTemplates.ant

unifyPaths:

check-profile-availability:

modify-template-base:

modify-template-full:

modify-template-express:

modify-template-custom:

copy-template-custom:

installPortalTemplates:
[echo] Using Portal home directory: /opt/ibm/WebSphere/PortalServer
[echo] Using WAS home directory: /opt/ibm/WebSphere/AppServer
[copy] Copying 3 files to /opt/ibm/WebSphere/PortalServer/profileTemplates/default.portal.full
[copy] Copying 3 files to /opt/ibm/WebSphere/PortalServer/profileTemplates/default.portal.base
[copy] Copying 3 files to /opt/ibm/WebSphere/PortalServer/profileTemplates/managed.portal
[copy] Copying 2 files to /opt/ibm/WebSphere/AppServer/bin/ProfileManagement/plugins
[echo] fixing up file /opt/ibm/WebSphere/PortalServer/profileTemplates/managed.portal.augment/templateMetadata.xml
[echo] fixing up file /opt/ibm/WebSphere/PortalServer/profileTemplates/managed.portal.augment/templateMetadata.xml
[echo] fixing up file /opt/ibm/WebSphere/PortalServer/profileTemplates/managed.portal/templateMetadata.xml

BUILD SUCCESSFUL
Total time: 1 second
[root@... profileTemplates]#
```

[PreSet the database drivers on the additional node.](#)

You must copy the drivers to the same directory path on the additional node. To find the location of your database driver JAR files, see the examples for *your\_database.DbLibrary* property in the `wkplc_dbtype.properties` file at:

```
${WasUserHome}/ConfigEngine/properties/wkplc_dbtype.properties
```

You must copy the drivers to the same directory path on the additional node. To find the location of your database driver JAR files, see the examples for *your\_database.DbLibrary* property in the `wkplc_dbtype.properties` file at:

```
${WasUserHome}/ConfigEngine/properties/wkplc_dbtype.properties
```

In our, case “`/opt/ibm/jdbc`”

[Verify Time Set](#)

For the deployment manager and each portal node to be in the cluster, verify that the system clocks are within 5 minutes of each other, or the `addNode` command fails.

[Create Secondary Profile](#)

If all ready, you can run first script to create secondary portal profile.

Run `./CreateSecondaryNodeProfile.sh` from `/opt/ibm/script/addnode/scripts`

```
[root@... scripts]# ./CreateSecondaryNodeProfile.sh
INSTCONFSUCCESS: Success: Profile wp_profile now exists. Please consult /opt/ibm/WebSphere/wp_profile/logs/AboutThisProfile.txt for more information about this profile.
[root@... scripts]#
```

This task will be silent for some minutes, at the end write if success or not, you must wait until it finish.

Now we must continue manually, suing following command.



## Federated Secondary Node

Now we proceed to federate new node into our cell, to doing you must run following command

```
./addNode.sh dmgr_hostname dmgr_port  
-username was_admin_user  
-password was_admin_password
```

The variables are defined as:

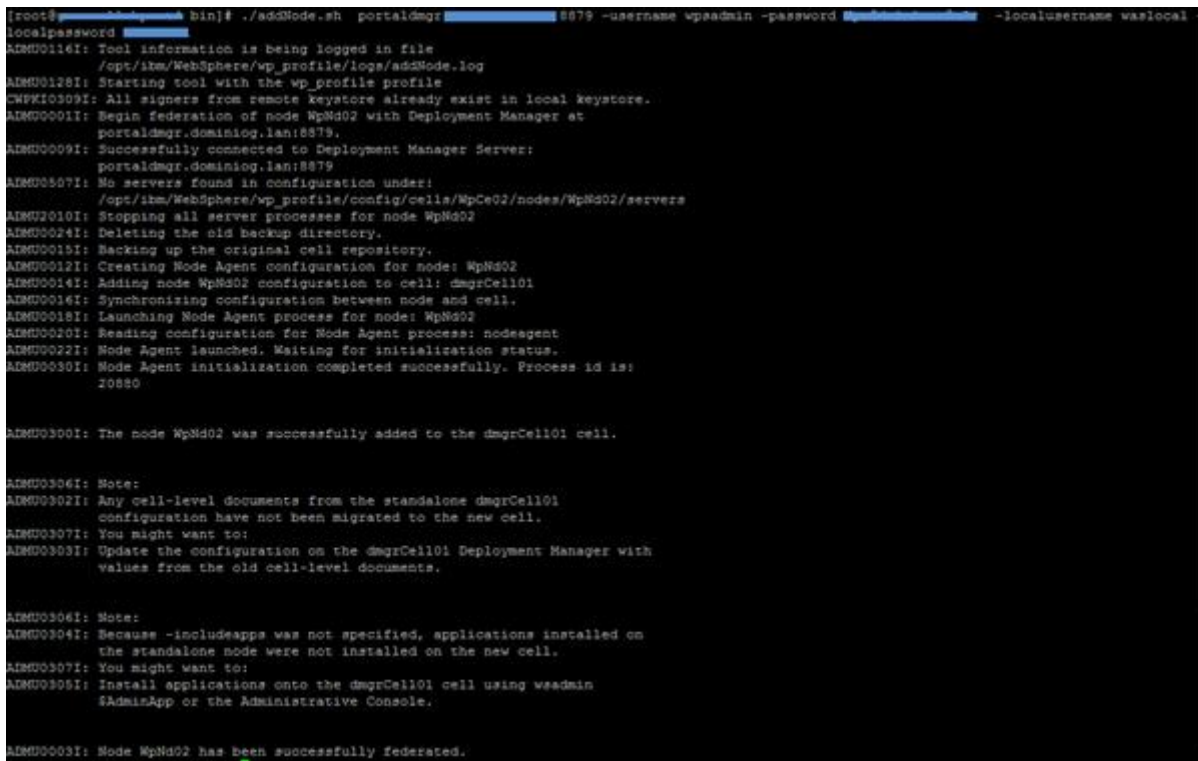
- *dmgr\_hostname* is the TCP/IP host name of the Deployment Manager server
- *dmgr\_port* is the SOAP port number of the Deployment Manager server
- *was\_admin\_user* and *was\_admin\_password* are the user ID and password for the Deployment Manager administrator

If the WebSphere Application Server administrator user ID and password are different from the Deployment Manager values, add the following parameters to the addNode task:

- `-localusername local_was_admin_user`
- `-localpassword local_was_admin_password`

In our case:

```
./addNode.sh portaldmgr.xxxxxxxx 8879 -username xxxxxx -password xxxxxx -localusername  
waslocal -localpassword xxxxxxxx
```



```
[root@xxxxxxxxx bin]# ./addNode.sh portaldmgr:xxxxxxx 8879 -username wpadmin -password xxxxxxxxxx -localusername waslocal -  
localpassword xxxxxxxx  
AIMU00116I: Tool information is being logged in file  
/opt/ibm/WebSphere/wp_profile/logs/addNode.log  
AIMU00126I: Starting tool with the wp_profile profile  
CWPXIO0309I: All signers from remote Keystore already exist in local keystore.  
AIMU00001I: Begin federation of node WpNd02 with Deployment Manager at  
portaldmgr.domainlog.ian:8879.  
AIMU00009I: Successfully connected to Deployment Manager Server:  
portaldmgr.domainlog.ian:8879  
AIMU00307I: No servers found in configuration under:  
/opt/ibm/WebSphere/wp_profile/config/cells/WpCe02/nodes/WpNd02/servers  
AIMU00101I: Stopping all server processes for node: WpNd02  
AIMU00024I: Deleting the old backup directory.  
AIMU00015I: Backing up the original cell repository.  
AIMU00012I: Creating Node Agent configuration for node: WpNd02  
AIMU00014I: Adding node WpNd02 configuration to cell: dmgrCell01  
AIMU00016I: Synchronizing configuration between node and cell.  
AIMU00018I: Launching Node Agent process for node: WpNd02  
AIMU00020I: Reading configuration for Node Agent process: nodeagent  
AIMU00022I: Node Agent launched. Waiting for initialization status.  
AIMU00030I: Node Agent initialization completed successfully. Process id is:  
10880  
  
AIMU00300I: The node WpNd02 was successfully added to the dmgrCell01 cell.  
  
AIMU00306I: Note:  
AIMU00302I: Any cell-level documents from the standalone dmgrCell01  
configuration have not been migrated to the new cell.  
AIMU00307I: You might want to:  
AIMU00303I: Update the configuration on the dmgrCell01 Deployment Manager with  
values from the old cell-level documents.  
  
AIMU00306I: Note:  
AIMU00304I: Because -includeapps was not specified, applications installed on  
the standalone node were not installed on the new cell.  
AIMU00307I: You might want to:  
AIMU00305I: Install applications onto the dmgrCell01 cell using wsadmin  
$AdminApp or the Administrative Console.  
  
AIMU00003I: Node WpNd02 has been successfully federated.
```

**Warning:** If the addNode task fails for any reason, you must complete the following steps before you rerun the task:

- a. Remove the node if the AddNode task succeeded in creating the node.
- b. If the items exist, log on to the deployment manager and complete the following steps:
  - i. Remove the WebSphere\_Portal server definition.
  - ii. Remove the WebSphere Portal JDBC Provider.

## AddSecondaryNode

This step create a secondary JVM and add it to your cluster, and synchronize all configuration from DMGR.

Before execute, you must ensure that the following parameters are set correctly in the `wkplc.properties` file:

**Note:** You can add these parameters (particularly passwords) directly to any task. However, you might want to temporarily add them to the properties file. You can then remove them when you are finished to keep your environment secure.

- a. Set `WasSoapPort` to the port used to connect remotely to the deployment manager.
- b. Set `WasRemoteHostName` to the full host name of the server that is used to remotely connect to the deployment manager.
- c. Change `ServerName` to `WebSphere_Portal_2`
- d. Verify that `WasUserid` is set to your Deployment Manager administrator user ID.
- e. Verify that `WasPassword` is set to your Deployment Manager administrator password.
- f. Verify that `PortalAdminPwd` is set to your WebSphere Portal administrator password.
- g. Verify that `ClusterName` is set, with the same value you have in `PrimaryNode`
- h. Verify that `PrimaryNode` is set to `false`.

Now you can run last step:

`./ConfigEngine.sh cluster-node-config-cluster-setup`

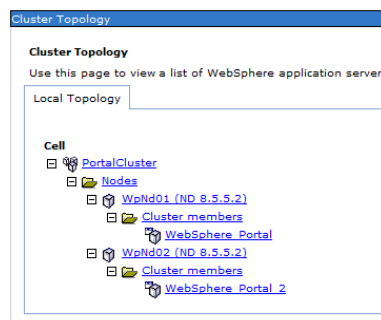
```
delete-temp-dirs:
Target started: delete-temp-dirs
[delete] Deleting: /opt/ibm/WebSphere/wp_profile/ConfigEngine/config/work/was/wp_portal.properties
[delete] Deleting: /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties/wkplc_comp_ascii.properties
[delete] Deleting: /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties/wkplc_ascii.properties
[delete] Deleting 4 files from /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties
Target finished: delete-temp-dirs

cleanup-work-dir:
Target started: cleanup-work-dir
[echo] Cleaning up...
[delete] Deleting directory /opt/ibm/WebSphere/wp_profile/ConfigEngine/config/work
[echo] Done.
Target finished: cleanup-work-dir





cleanup-config:
Target started: cleanup-config
[echo] executing post-configuration tasks
Target finished: cleanup-config
BUILD SUCCESSFUL
```

If you check in your ICS you find following configuration:





## Cluster Topology



## Server

New... Delete Templates... Start Stop Restart ImmediateStop Terminate						
   						
Select	Name ▾	Node ▾	Host Name ▾	Version ▾	Cluster Name ▾	Status ↻
You can administer the following resources:						
<input type="checkbox"/>	<a href="#">WebSphere Portal</a>	WpNd01	portal8501. [REDACTED]	ND 8.5.5.2	PortalCluster	➡
<input type="checkbox"/>	<a href="#">WebSphere Portal 2</a>	WpNd02	portal8502. [REDACTED]	ND 8.5.5.2	PortalCluster	➡
Total 2						

## Nodes

Add Node Remove Node Force Delete Synchronize Full Resynchronize Stop					
   					
Select	Name ▾	Host Name ▾	Version ▾	Discovery Protocol ▾	Status ↻
You can administer the following resources:					
<input type="checkbox"/>	<a href="#">WpNd01</a>	portal8501. [REDACTED]	ND 8.5.5.2	TCP	↻
<input type="checkbox"/>	<a href="#">WpNd02</a>	portal8502. [REDACTED]	ND 8.5.5.2	TCP	↻
	<a href="#">dmgrNode01</a>	portaldmgr. [REDACTED]	ND 8.5.5.2	TCP	↻
Total 3					

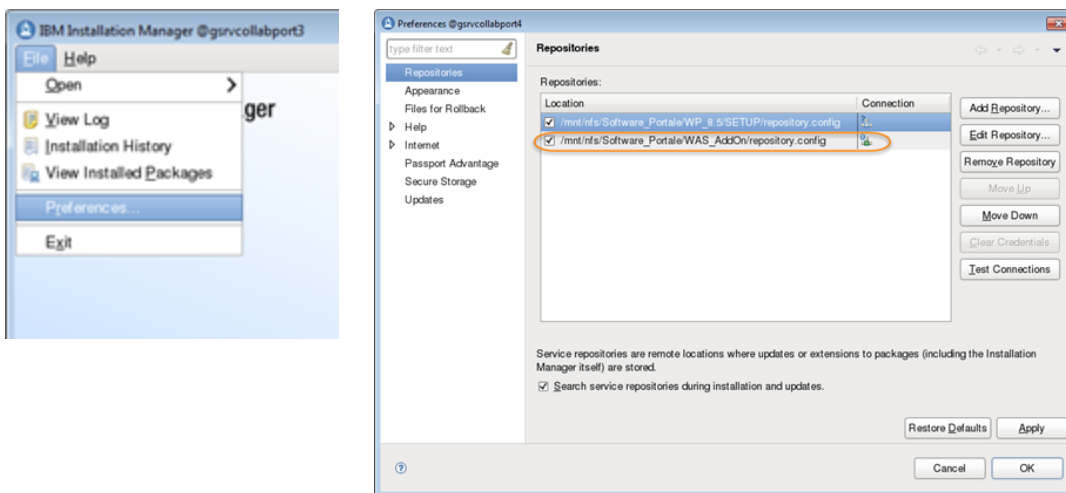
## Configuring the web server

To enable communication between the web server and WebSphere Application Server, a web server plug-in is required. The web server plug-in determines whether a request is handled by the web server or by the application server. The plug-in can be installed into a web server that is located either on the same server as WebSphere Application Server or on a separate server. The web server plug-in uses an XML configuration file (plugin-cfg.xml) that contains settings that describe how to handle and pass on requests to the WebSphere Application Server made accessible through the plug-in.

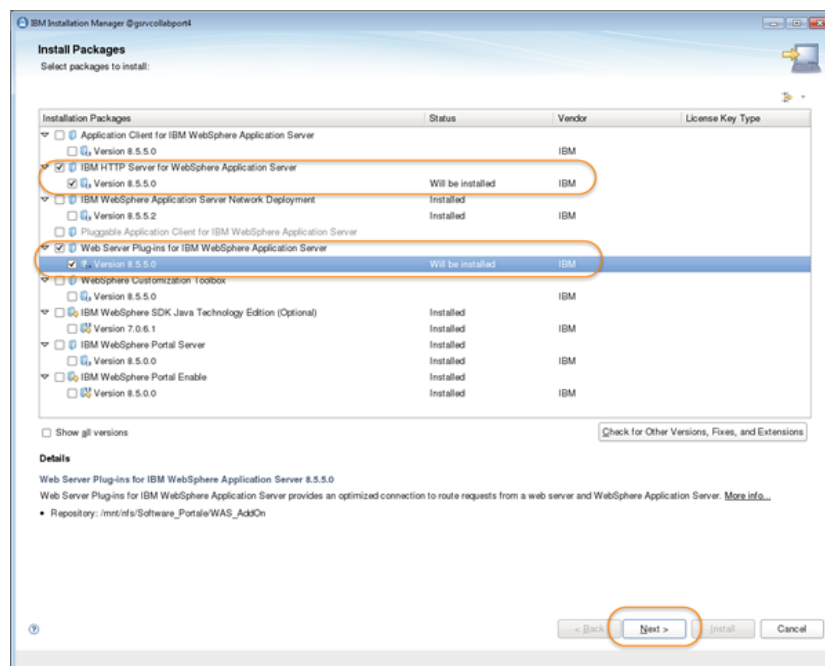
## Install IBM HTTP Server

To install IBM Http Server, you can apply next step:

Open IBM Installation Manager and add new repository:

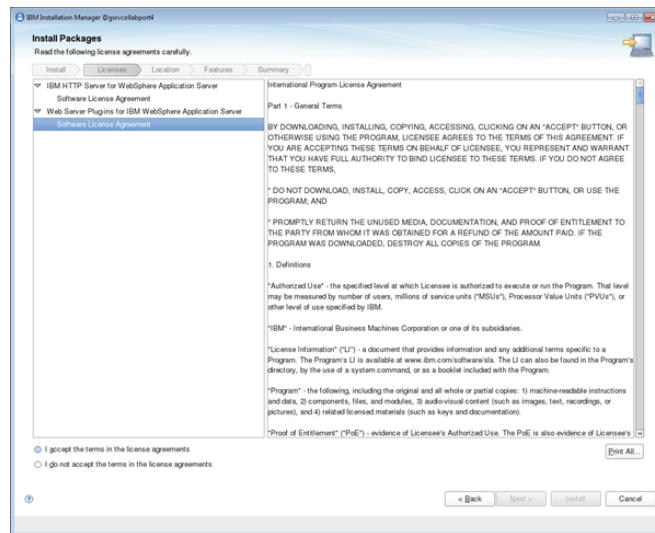


Apply, Ok, Install

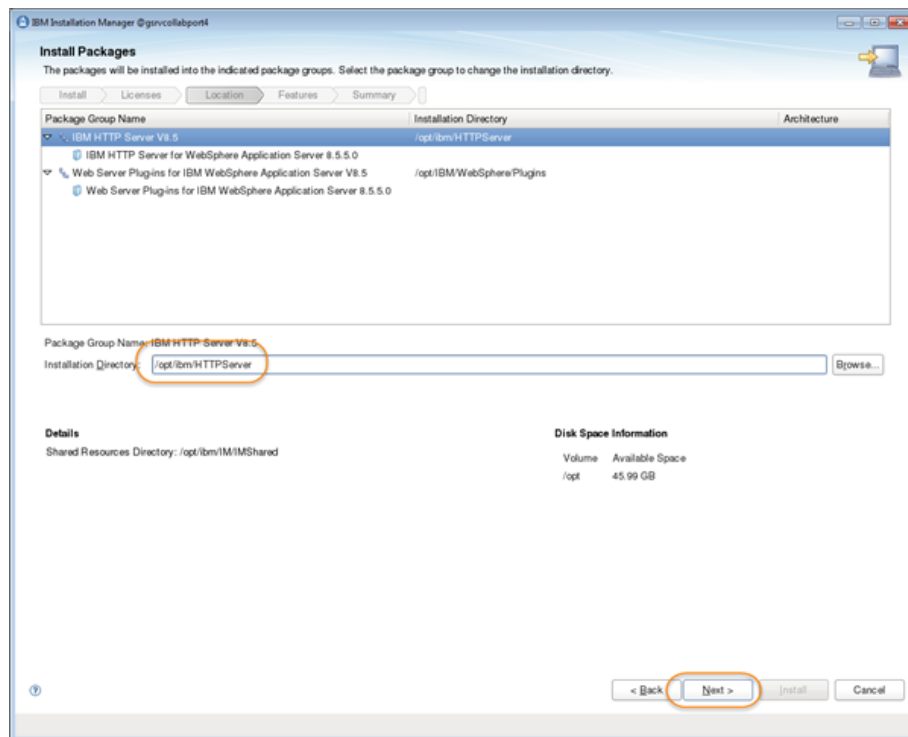


Select appropriate product,

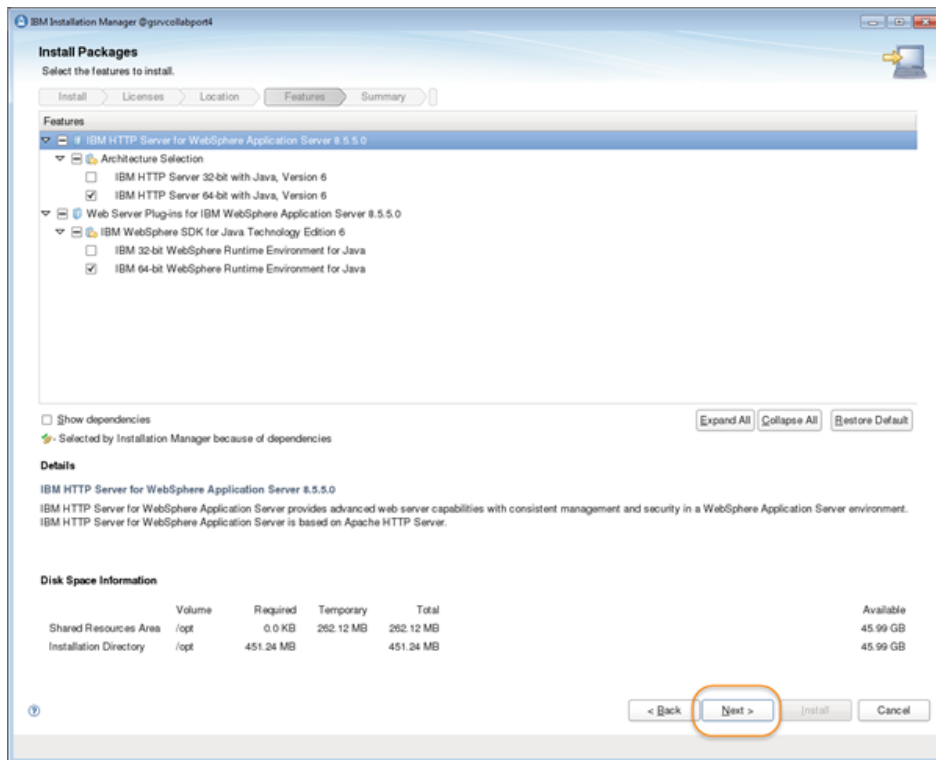
## IBM HTTP Server for IBM WebSphere Application Server Web Server Plug-in for IBM WebSphere Application Server And next



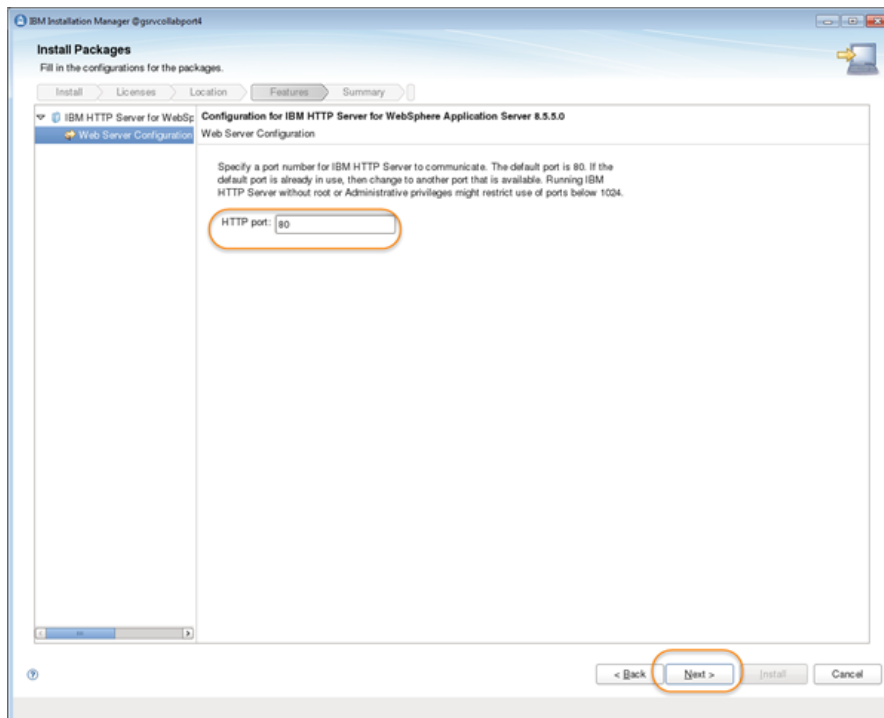
Accept License and next



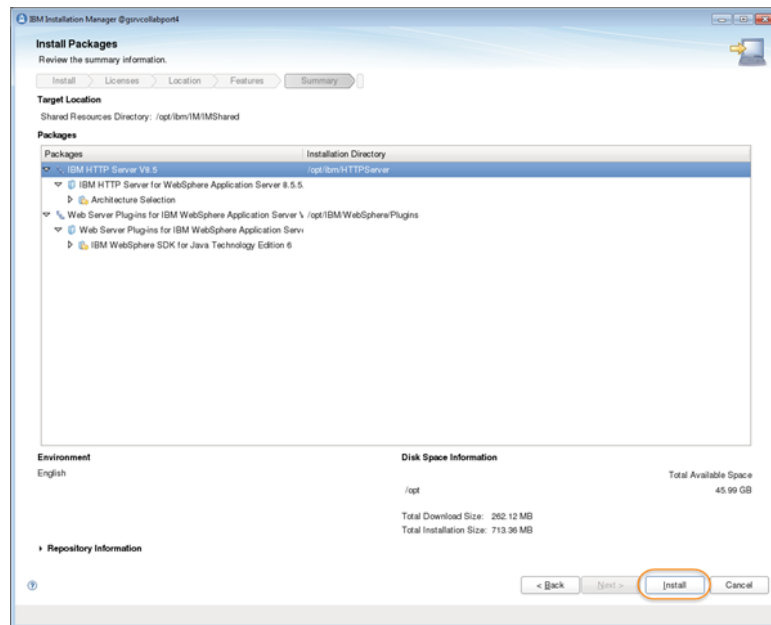
Select installation path,  
For HTTP Server use “/opt/ibm/HTTPServer”,  
For Plug-in use “/opt/ibm/Plugins”  
and Next



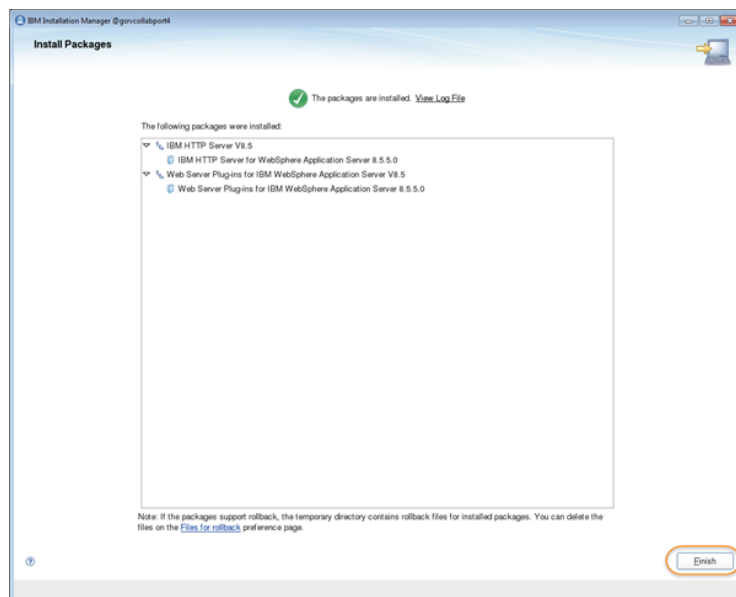
If summarize is ok, Next



Choose your standard port for http protocol, standard is 80, and next



Install, and wait until finish.



Finish and exit

## Configure Virtual-Host

Now configure your virtual server and propagate plugin.

Create in your installation path, definition for your Virtual Host, and include it in httpd.conf configuration file.

In our case:

I create a specific directory:

<httpHome>/conf/vh , where I put my virtual host configuration file

<httpHome>/logs/www/<VhName>, where I put my log  
<httpHome>/www/<VhName>, where I put static page/image and so on

Create file called portal.conf with my specification, inside <httpHome>/conf/vh, like this:

```
<VirtualHost *:80>
    ServerAdmin webmaster@net2action.com
    DocumentRoot www/portal
    ServerName portal.ondemand.com
    ErrorLog logs/www/portal/error.log
    CustomLog logs/www/portal/access.log common

    #-----
    # managing hidden redirection of /
    #-----
    RewriteEngine On
    RewriteLog logs/www/portal/rewrite.log
    RewriteLogLevel 0
    RewriteCond %{HTTP_HOST} ^portal.ondemand.com
    RewriteCond %{REQUEST_URI} ^(/)?$
    RewriteRule ^(/)?$ https://%{SERVER_NAME}/$1 [R=301,L]
    #-----

</VirtualHost>

<VirtualHost *:443>
    ServerAdmin webmaster@net2action.com
    DocumentRoot www/portal
    ServerName portal.ondemand.com
    ErrorLog logs/www/portal/error.log
    CustomLog logs/www/portal/access.log common
    SSLEnable
    #-----
    # managing hidden redirection of /
    #-----
    RewriteEngine On
    RewriteLog logs/www/portal/rewrite.log
    RewriteLogLevel 0
    RewriteCond %{HTTP_HOST} ^portal.ondemand.com
    RewriteCond %{REQUEST_URI} ^(/)?$
    RewriteRule ^(/)?$ /wps/portal/ [R=301,PT,NC]
    #-----

</VirtualHost>
SSLDisable
```

If you do not use SSL can omit second definition

Modify you httpd.conf file including following row:

```
NameVirtualHost *:80
AllowEncodedSlashes On
include conf/vh
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_connect_module modules/mod_proxy_connect.so
LoadModule proxy_ftp_module modules/mod_proxy_ftp.so
LoadModule proxy_http_module modules/mod_proxy_http.so
```



```
LoadModule rewrite_module modules/mod_rewrite.so
```

```
LoadModule was_ap22_module /opt/ibm/Plugins/bin/64bits/mod_was_ap22_http.so
```

```
WebSpherePluginConfig /opt/ibm/Plugins/config/WebServer1/plugin-online-cfg.xml
```

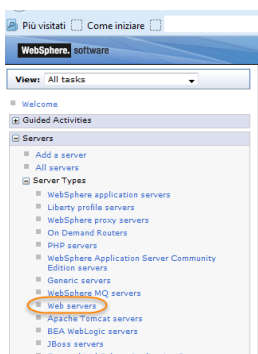
```
#
```

```
# -----
```

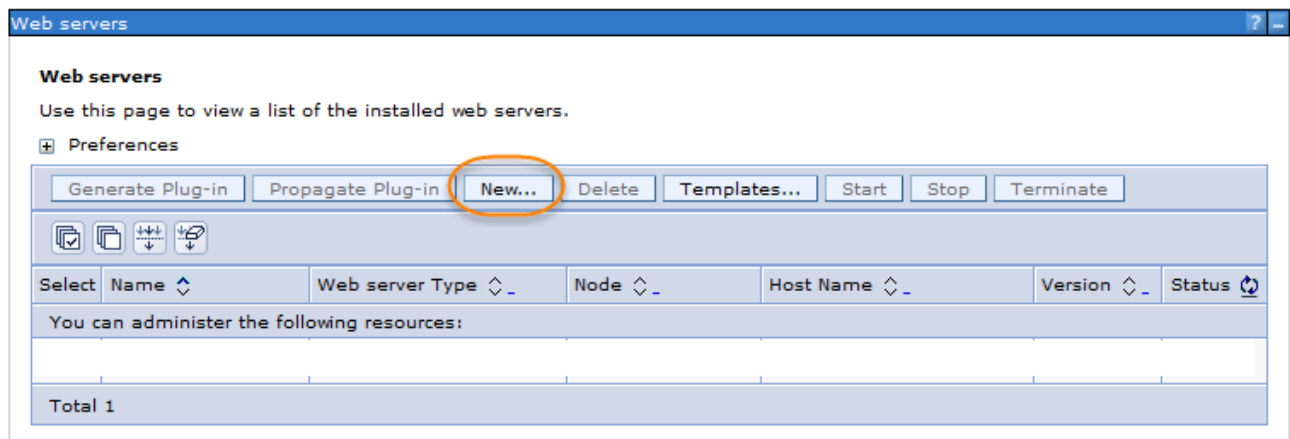
**Note:** I use plugin-online-cfg.xml to protect accidentally propagation of Plugin.

## Define WebServer into WebSphere ICS

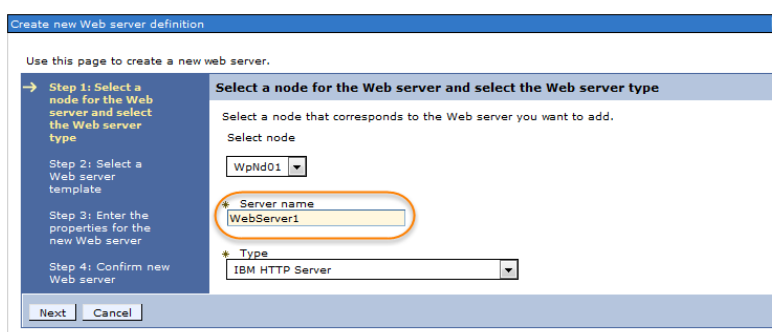
Open dmgr console and create WebServer definition:



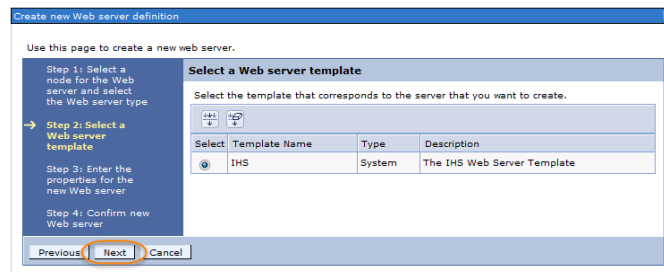
Select Servers, Server Type, Web server



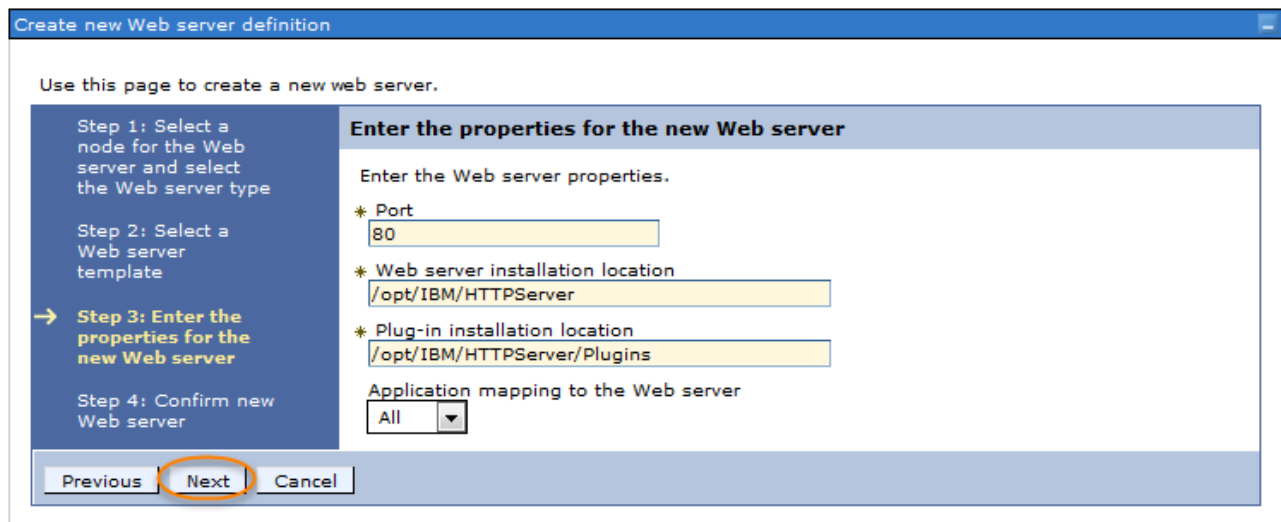
and New



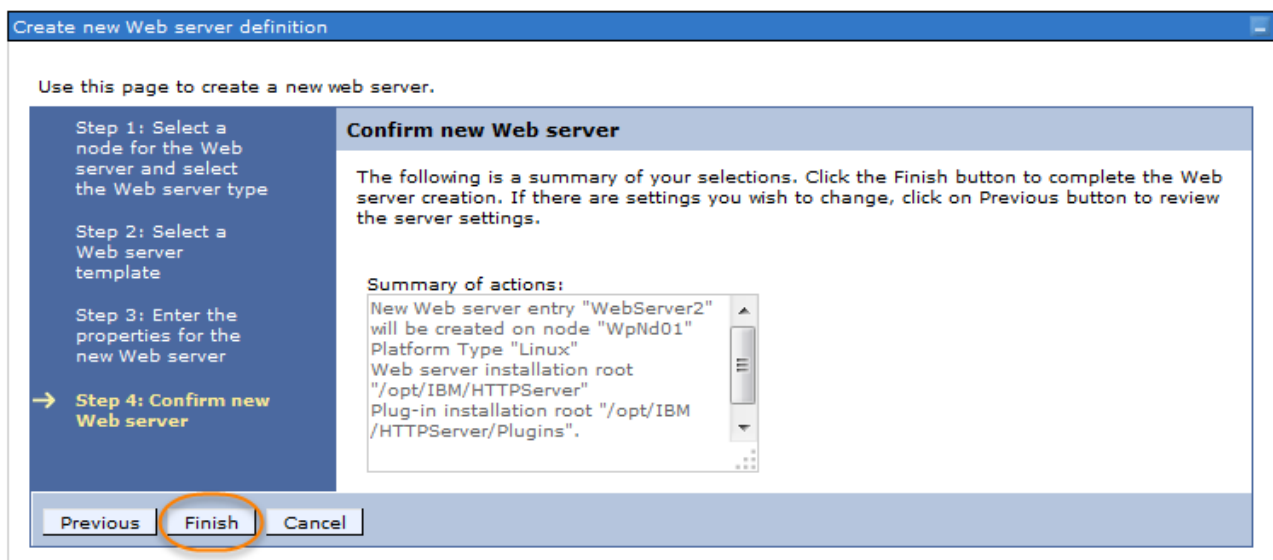
Specify ServerName, in pur case WebServer1, this is same name used to create configuration directory.



Next

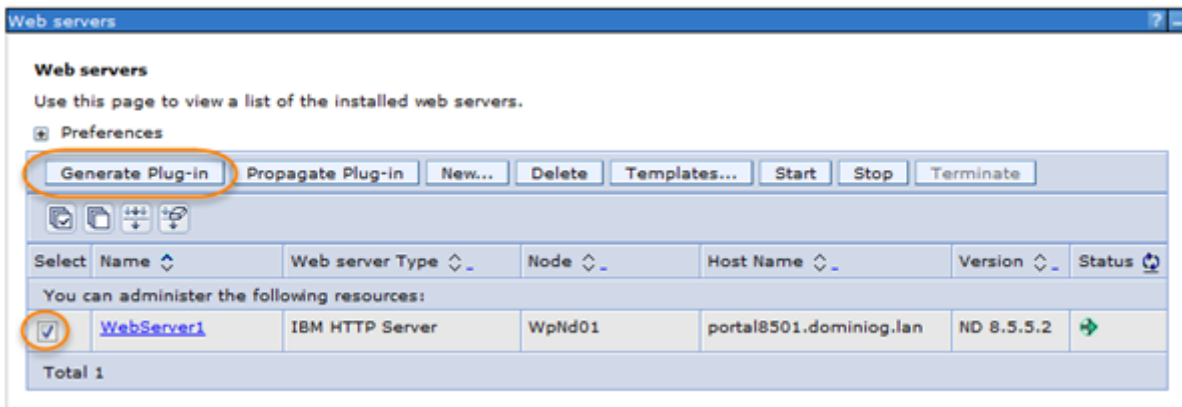


Next

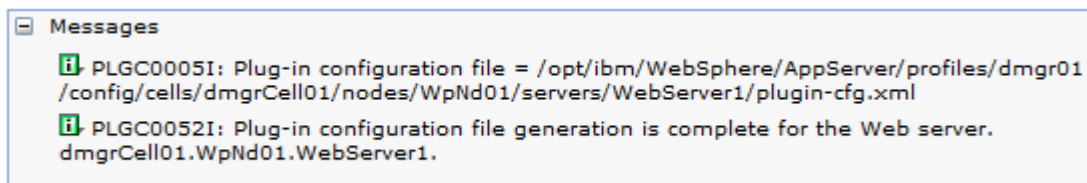


Finish

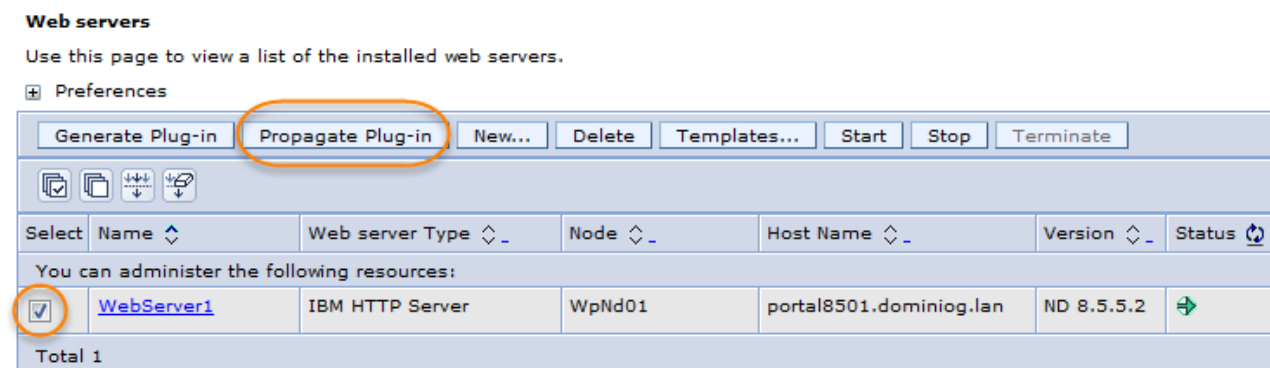
Now you can generate and propagate your plugin-cfg file



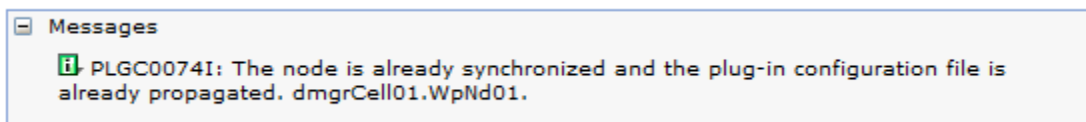
Select WebServer and Generate Plugin, if ok you receive next message



Now select Web Server and click Propagate Plug-in



If ok,



Verify configuration using following command:

<httpHome>/bin/apachectl -S

```
VirtualHost configuration:
*~:1080 is a NameVirtualHost
default server port ~ (/opt/ibm/HTTPServer/conf/vh/portal.conf:1)
port 1080 namevhost portal~ (/opt/ibm/HTTPServer/conf/vh/portal.conf:1)
port 1080 namevhost portal~ (/opt/ibm/HTTPServer/conf/vh/portal.conf:21)
port 1080 namevhost portal~ (/opt/ibm/HTTPServer/conf/vh/portal.conf:41)
port 1080 namevhost portala~ (/opt/ibm/HTTPServer/conf/vh/portal.conf:61)
Syntax OK
```

If OK, you can restart your HTTP Server,

<httpHome>/bin/apachectl -k graceful

And now you can use your portal:

<http://portal.ondemand.com>



Next step to complete our configuration is, configure Remote Search service, will be describe in next article

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