

## **Step-by-Step guide to setup an IBM WebSphere Portal and IBM Web Content Manager V8.5 Cluster From Zero to Hero (Part 1.)**

# Summary

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## ***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.

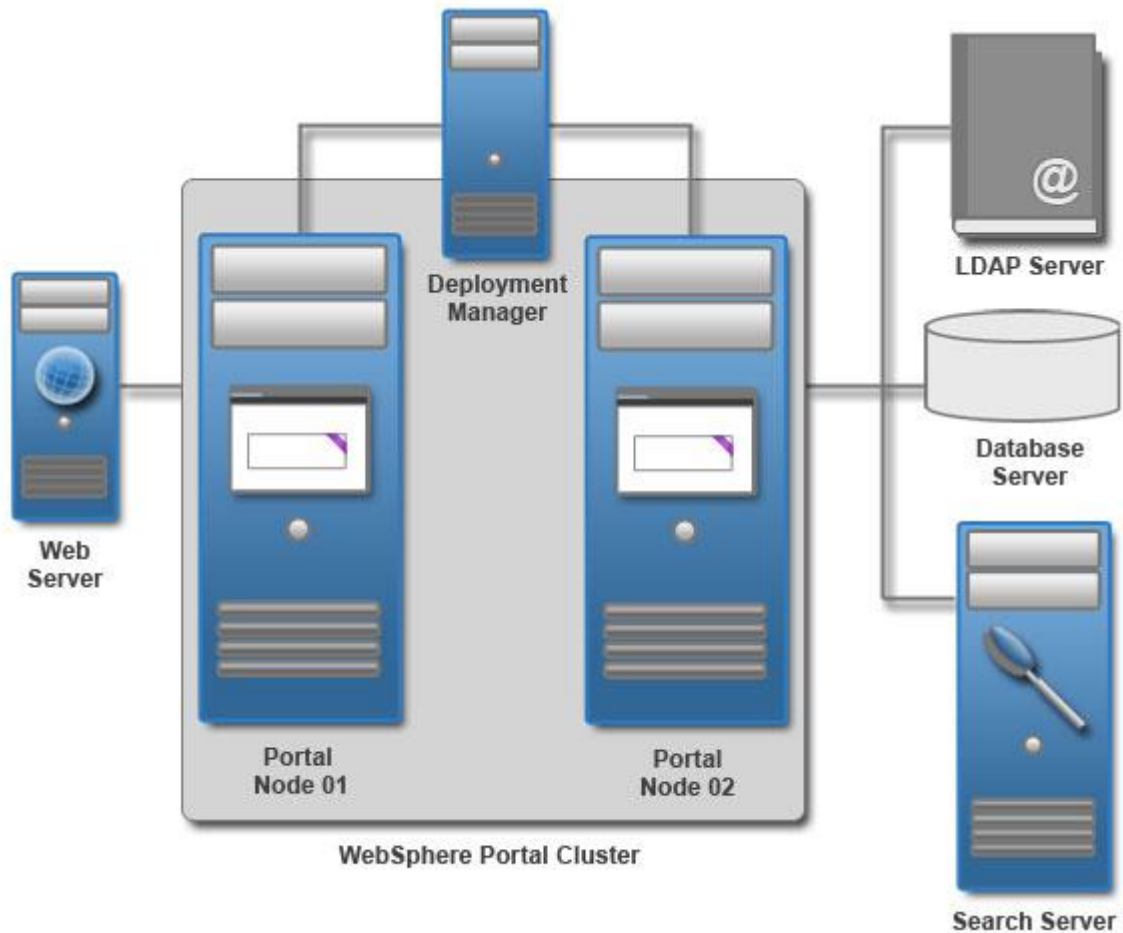


Figure 1 - WebSphere Portal cluster with two nodes, each with three cluster members.

# Main Guide

## ***Install IBM WebSphere Portal v8 on the Primary node***

In this section, you will install the IBM Installation Manager and WebSphere Portal on the server you intend to use as your primary portal server.

Before installing WebSphere Portal, please ensure you review the Planning documentation:

In this guide, the installation was completed as the 'root' user using installation images on a network drive. At the end we can change all access right to permit start with a specific user.

NOTE: There are different ways for you to get WebSphere® Portal and Web Content Manager Version 8.5 software. You can find what following me....

## **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\*

## *Installing the digital experience software*

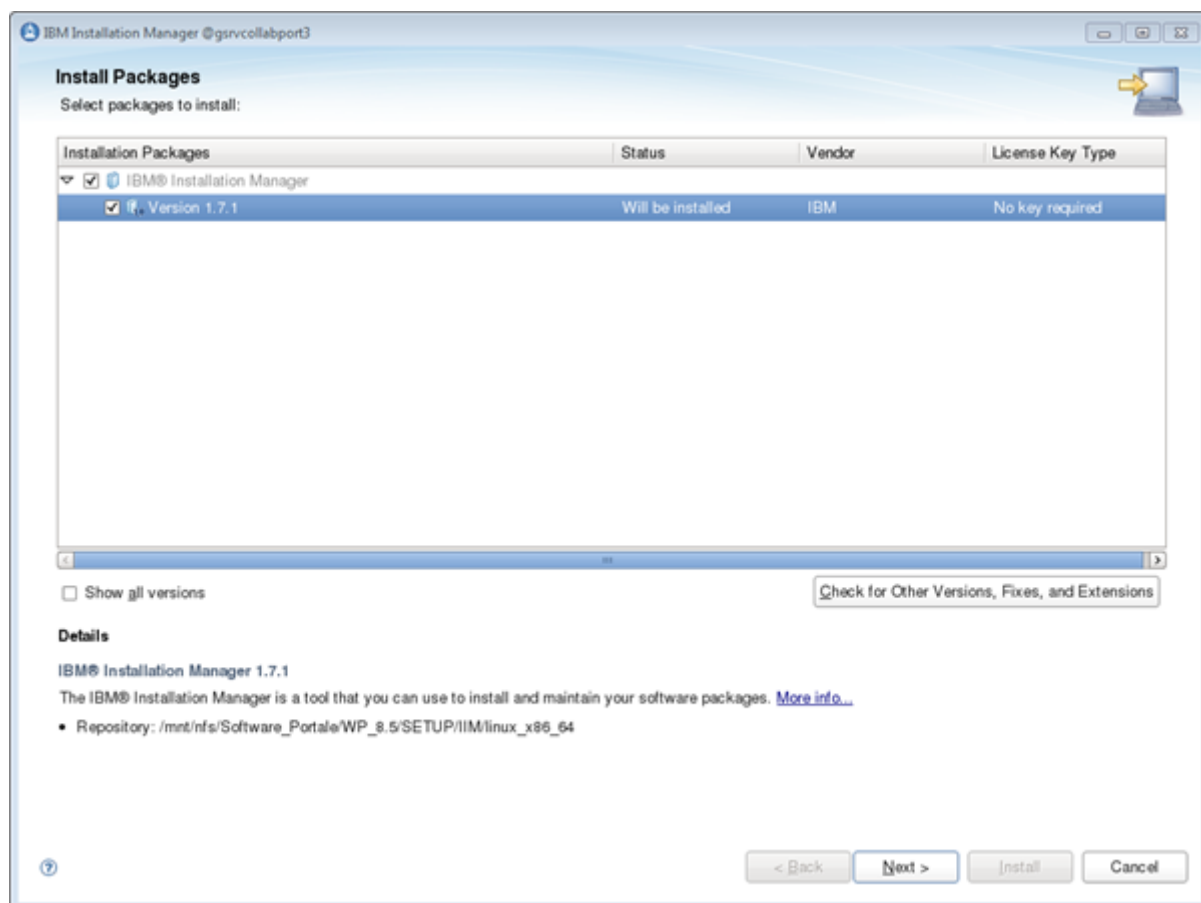
### **Install IBM Installation manager:**

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

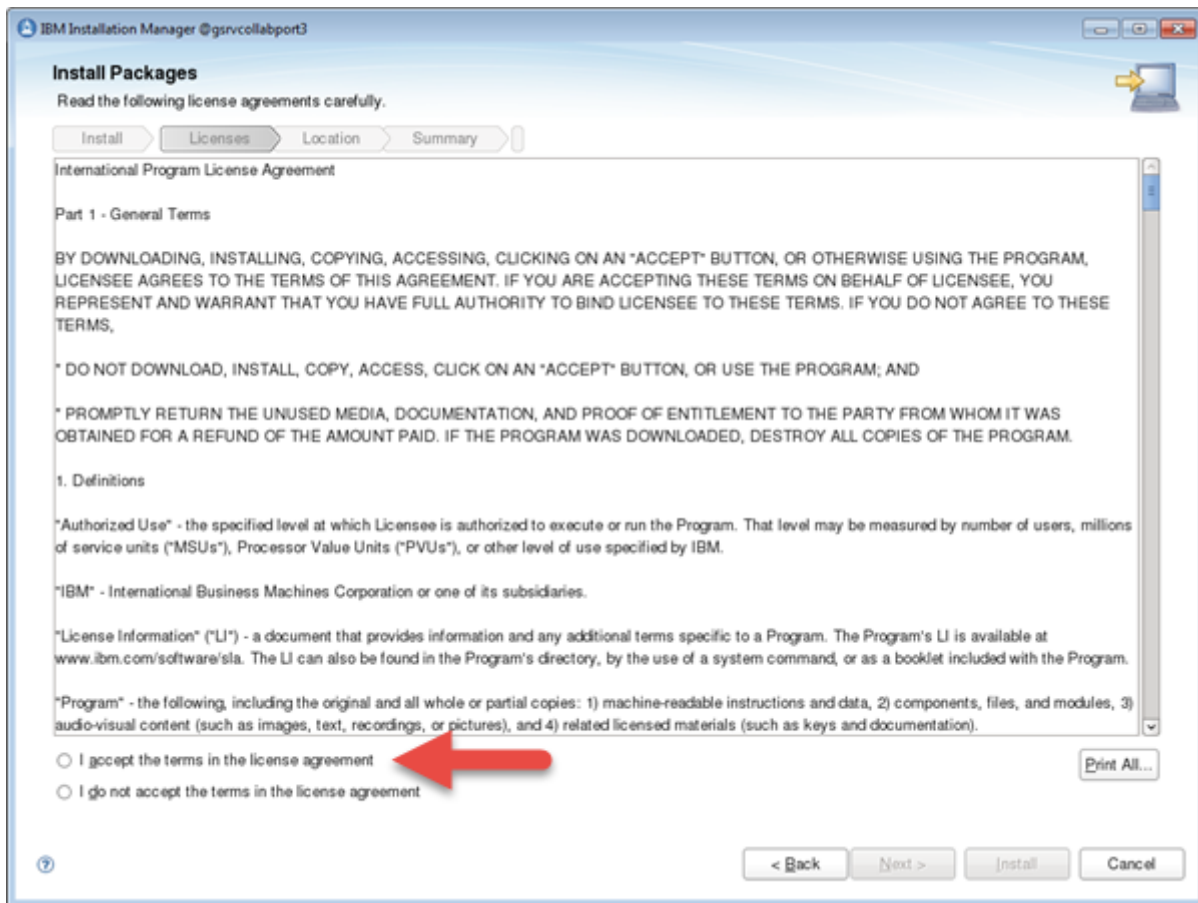
<expandHome>/SETUP/IIM/Linux\_x86\_64

and run ./install

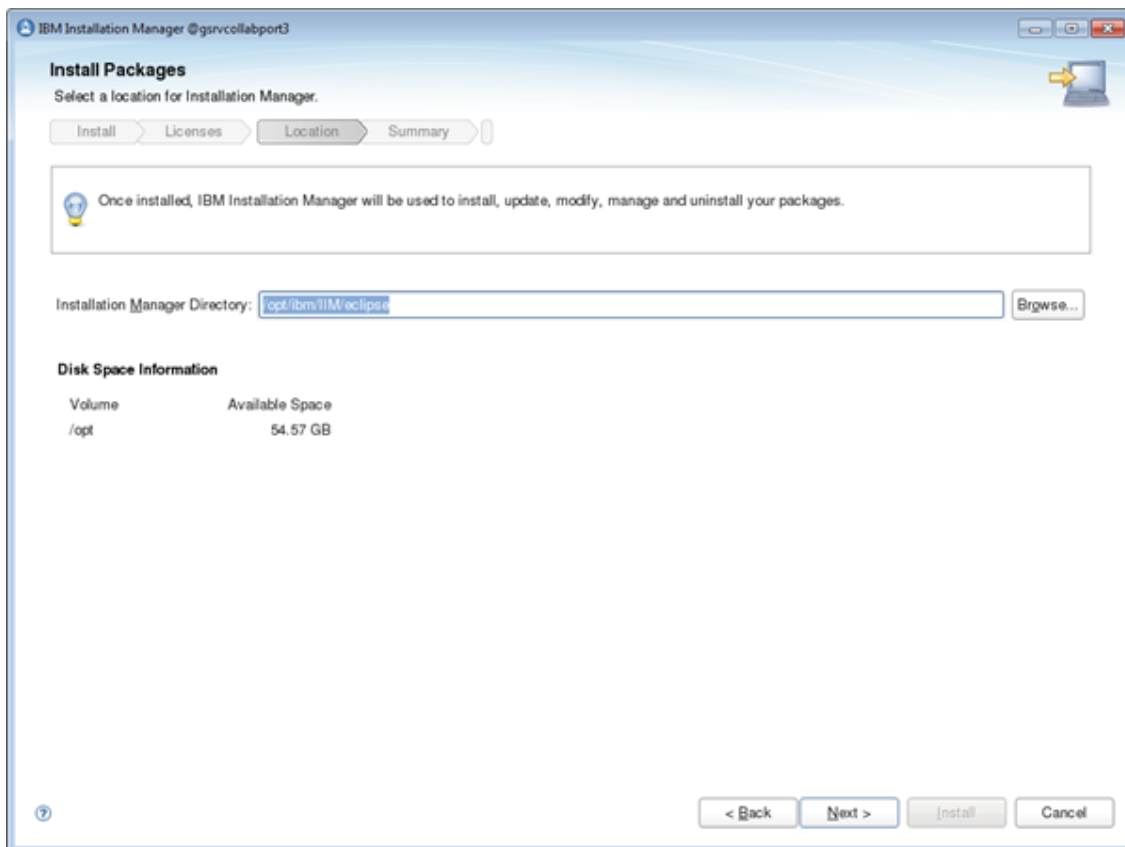
following screen appear to you:



Click next.

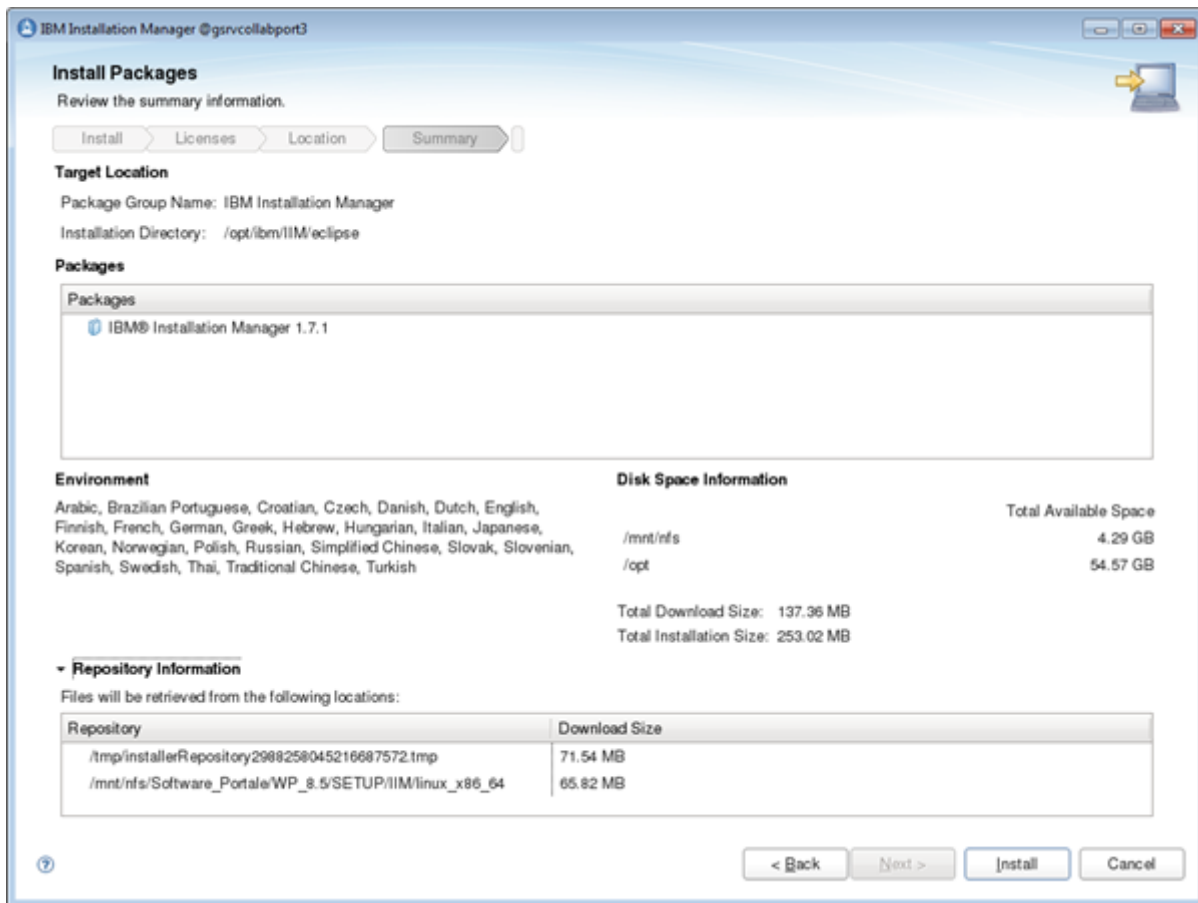


Accept license and click next

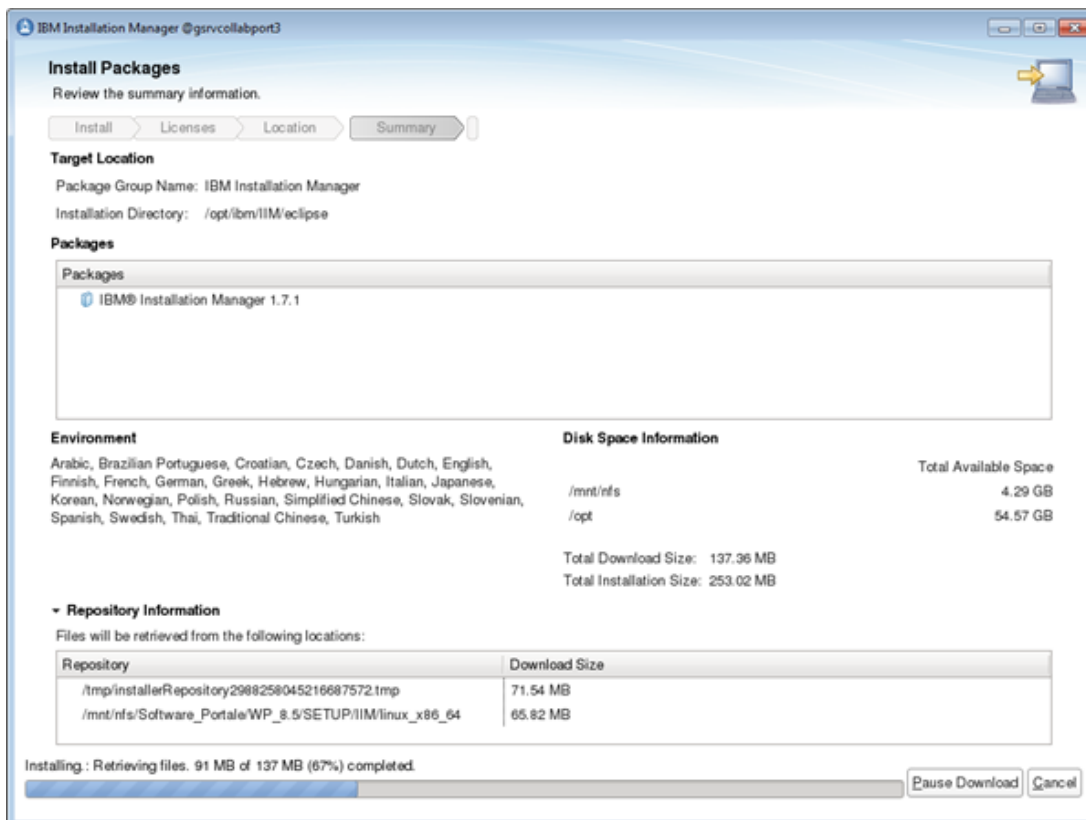


Choose installation path, in my case /opt/ibm/IIM/eclipse, and next

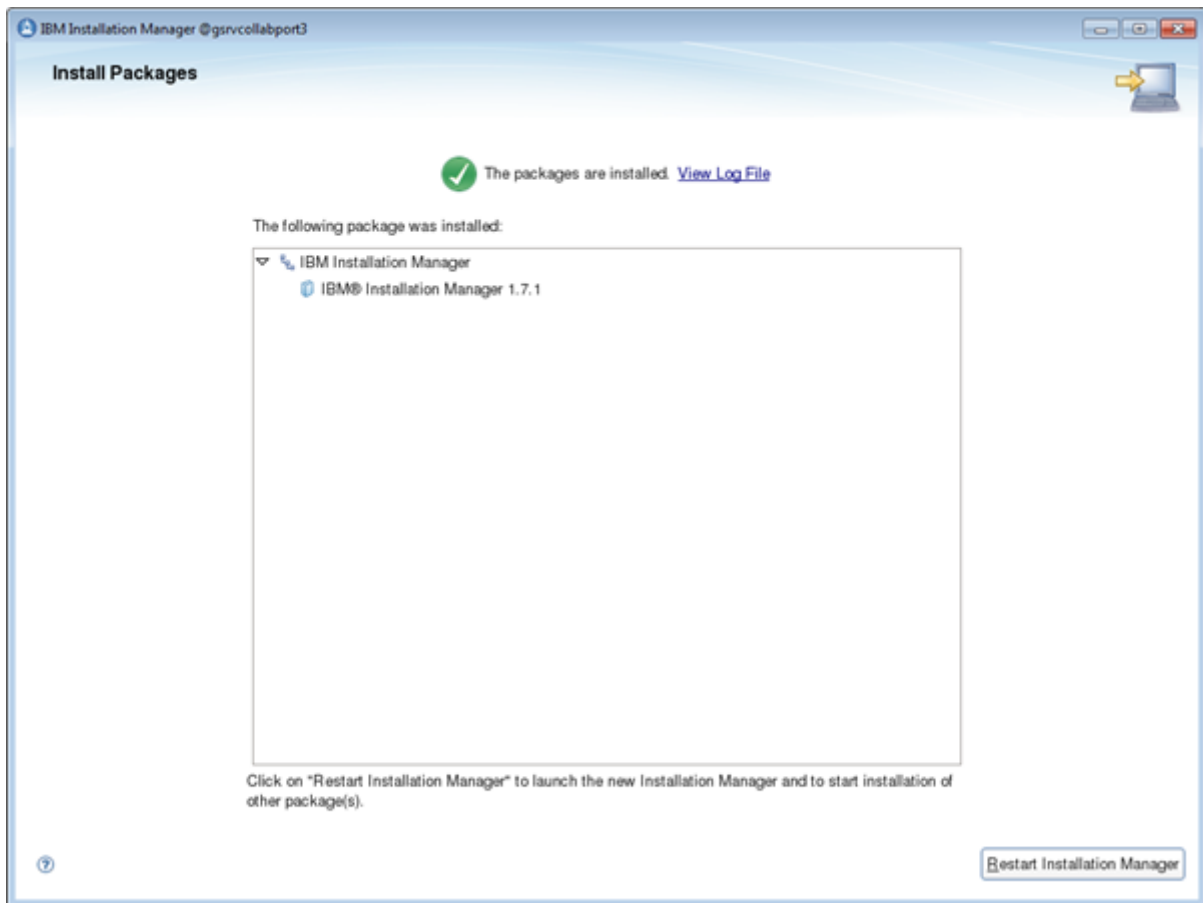




If all summarize information is ok, click install



Waiting to install

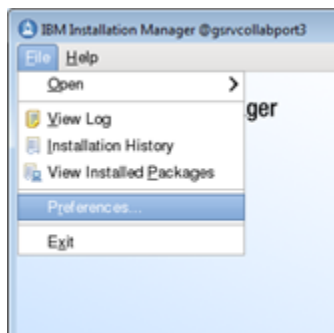


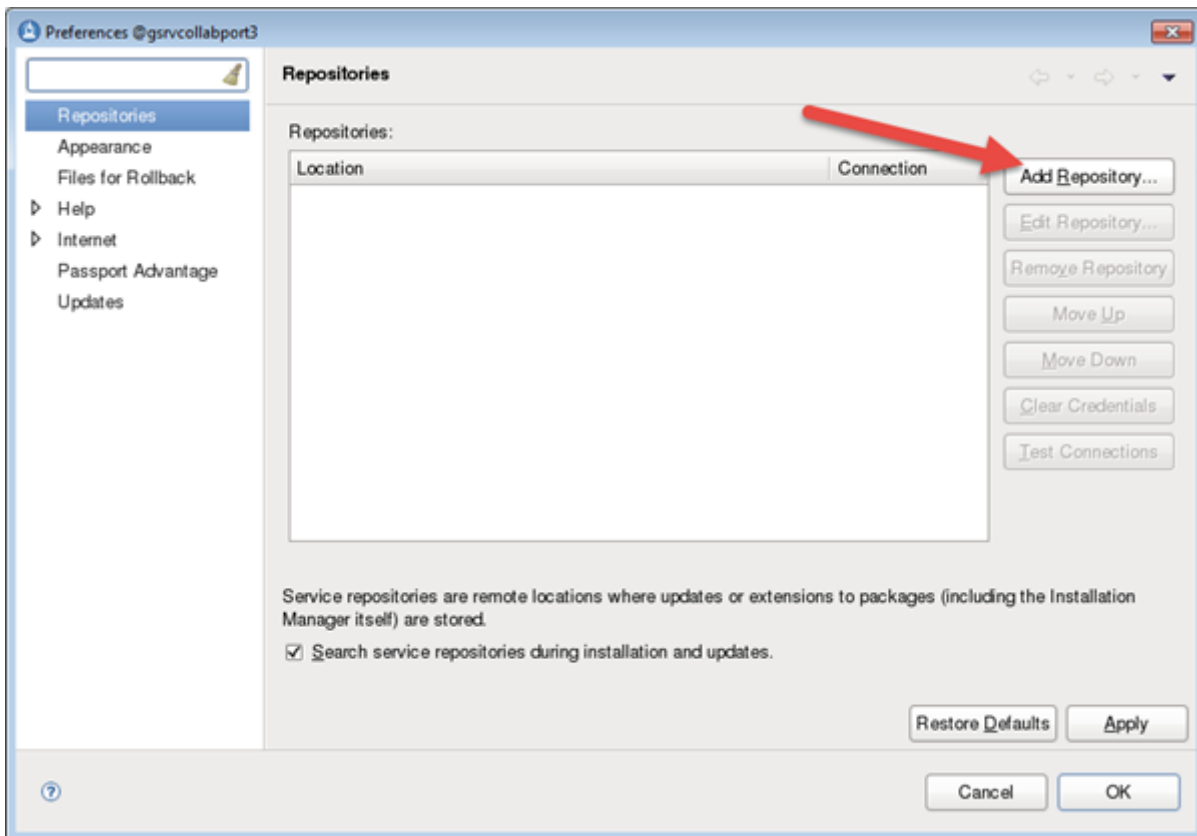
If Success you can click Restart Installation Manager, otherwise correct error and re-try.

## Install WebSphere Portal

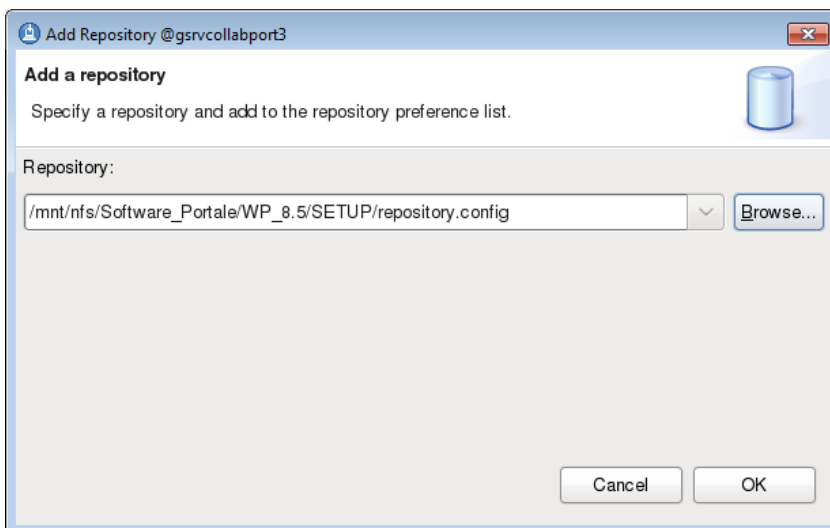
Now you are ready to install Digital Experience Software ( WebSphere Portal )

In installation manager menu select File / Preferences...



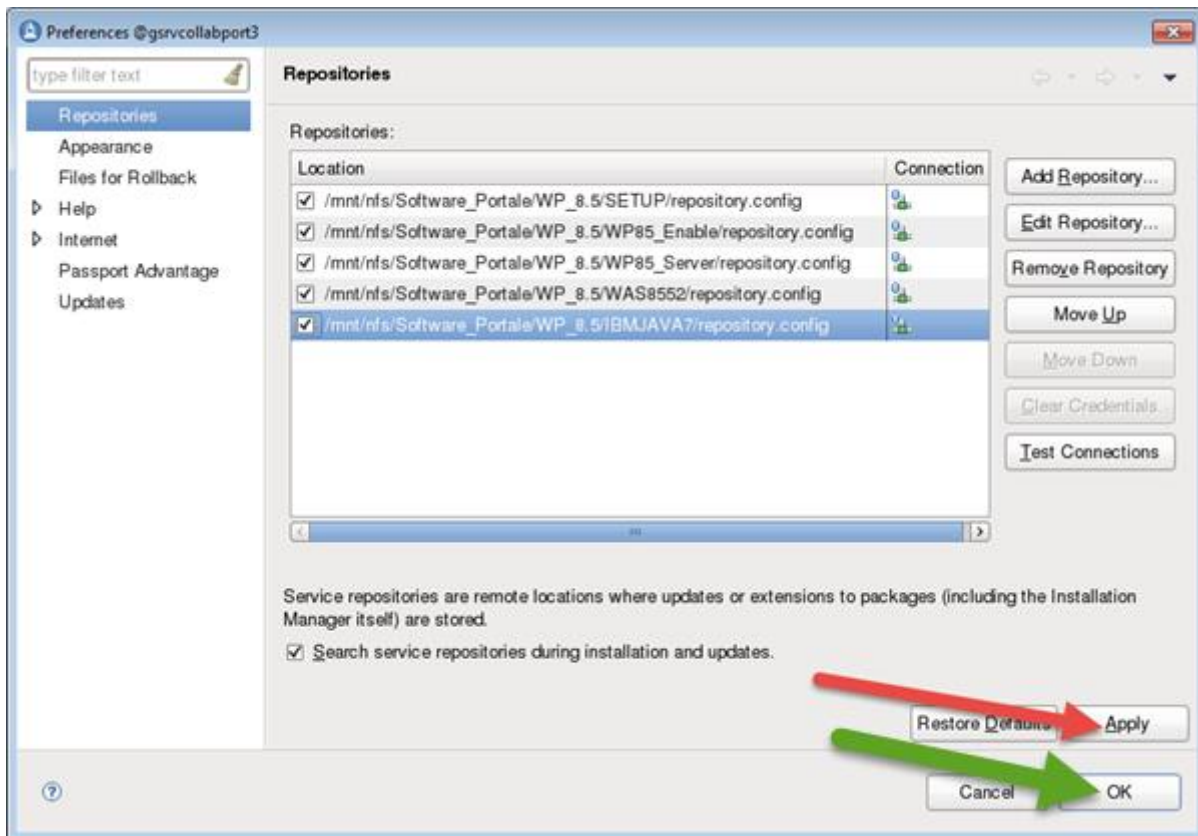


Add repository used during installation

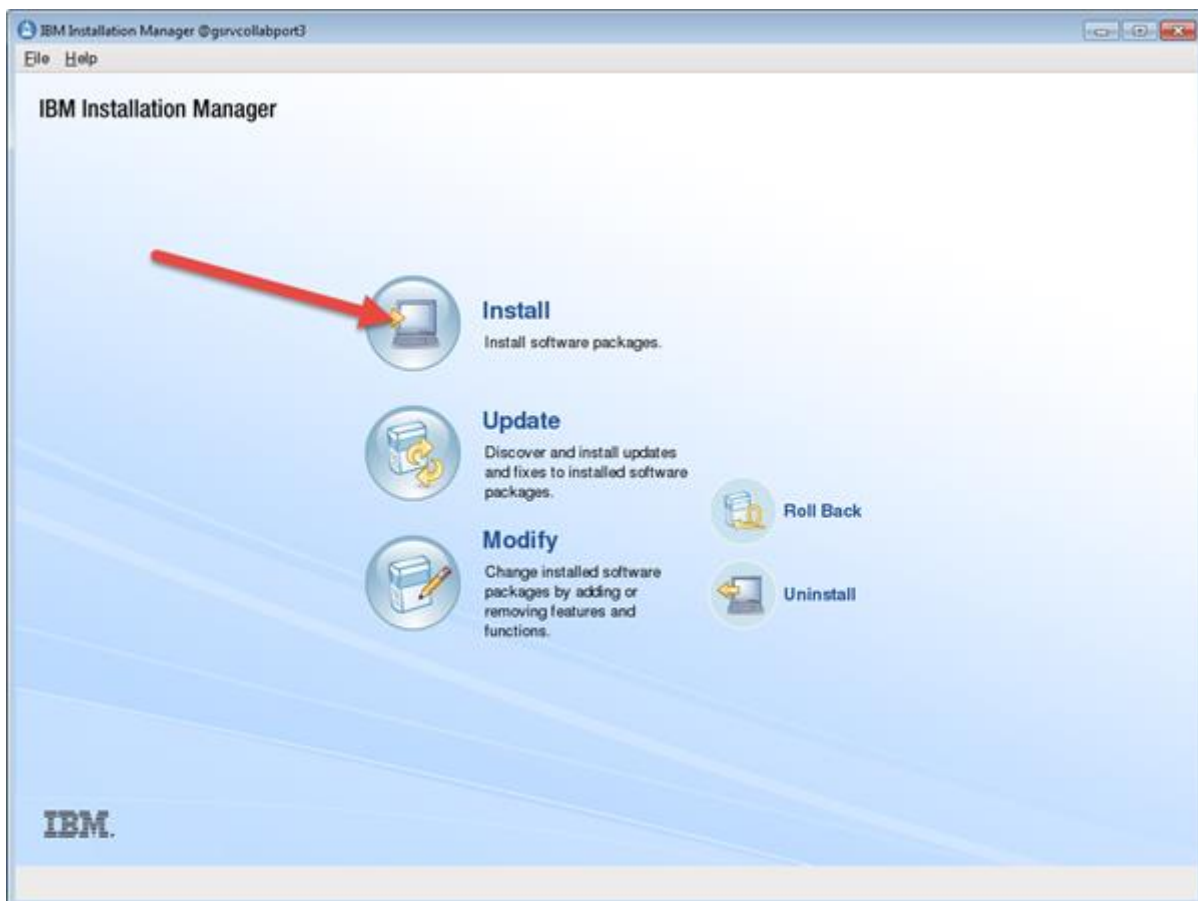


You must choose following repository

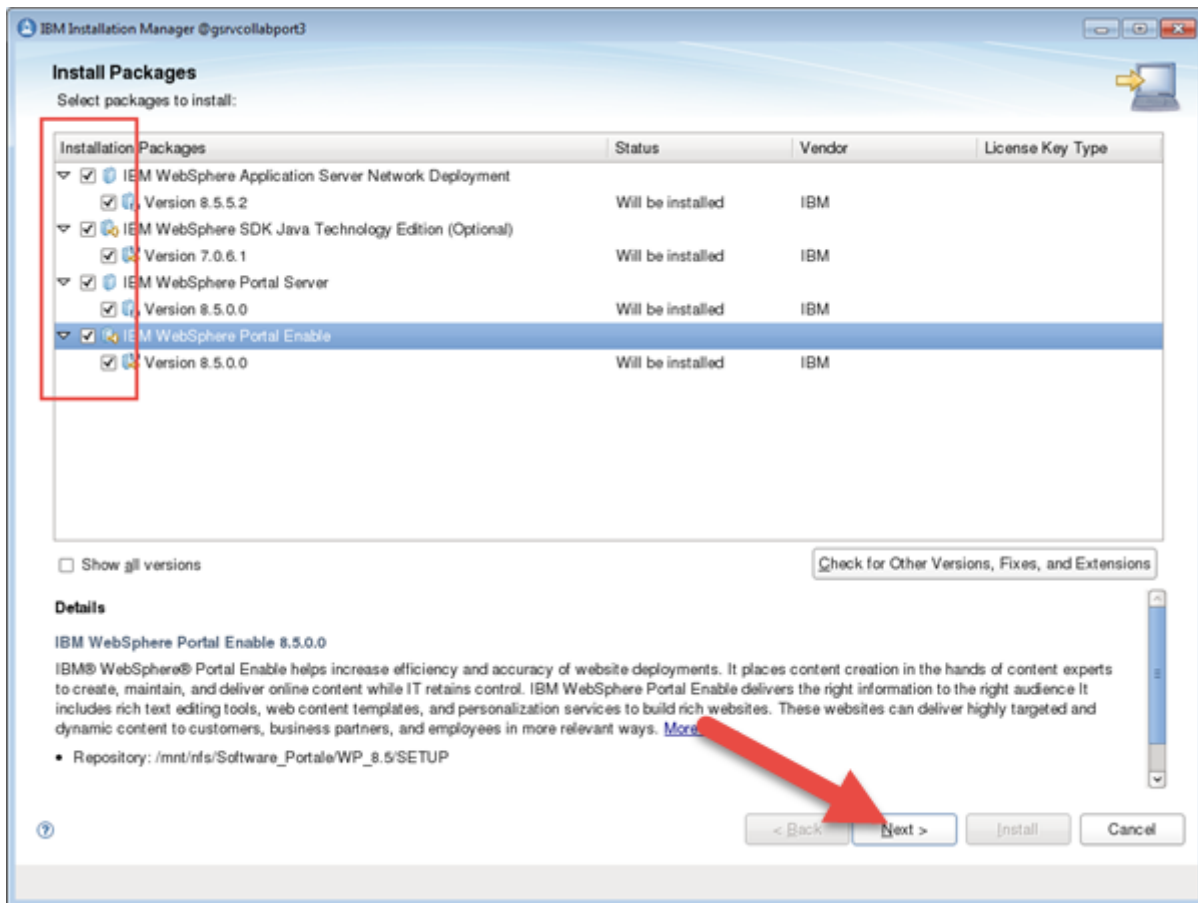
Repositories:	
Location	Connection
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/SETUP/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/WP85_Enable/repository.config	
<input checked="" type="checkbox"/> /mnt/nfs/Software_Portale/WP_8.5/WP85_Server/repository.config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



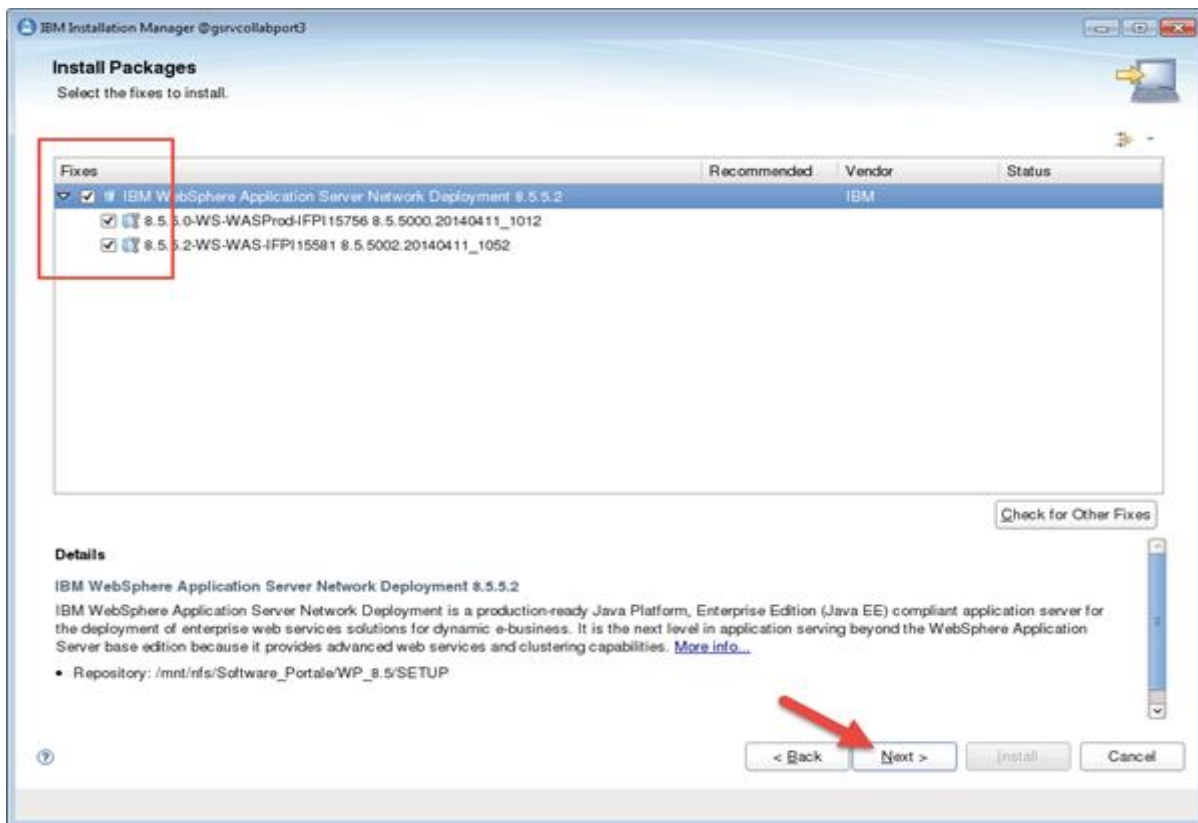
Click Apply and OK



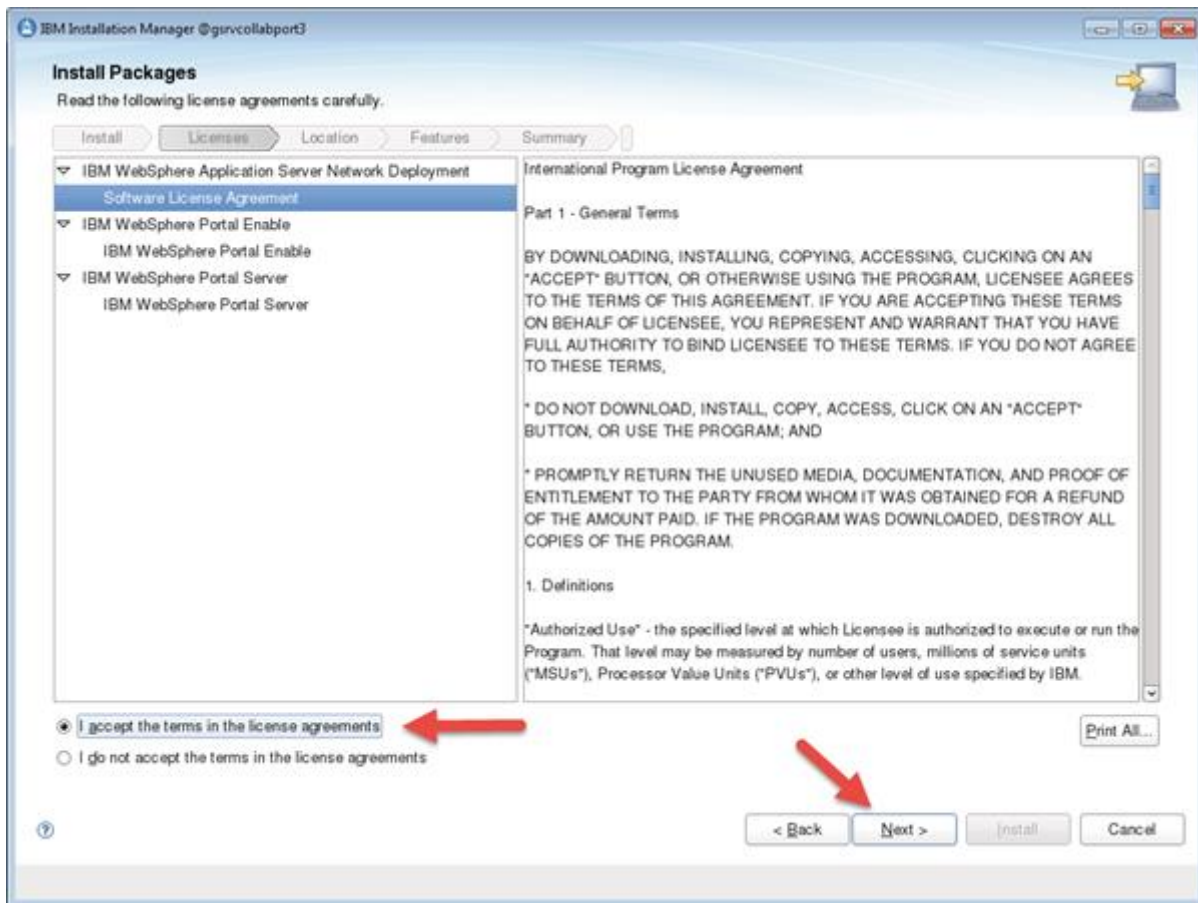
Now click Install



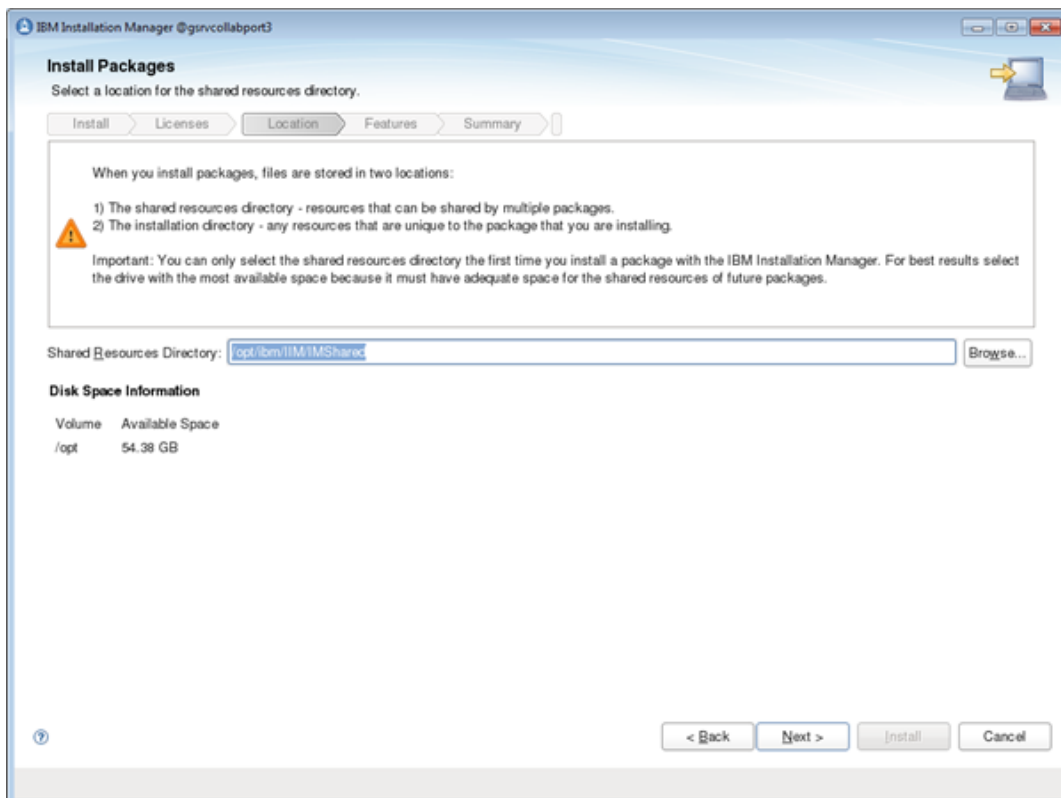
Select all Packages and Next



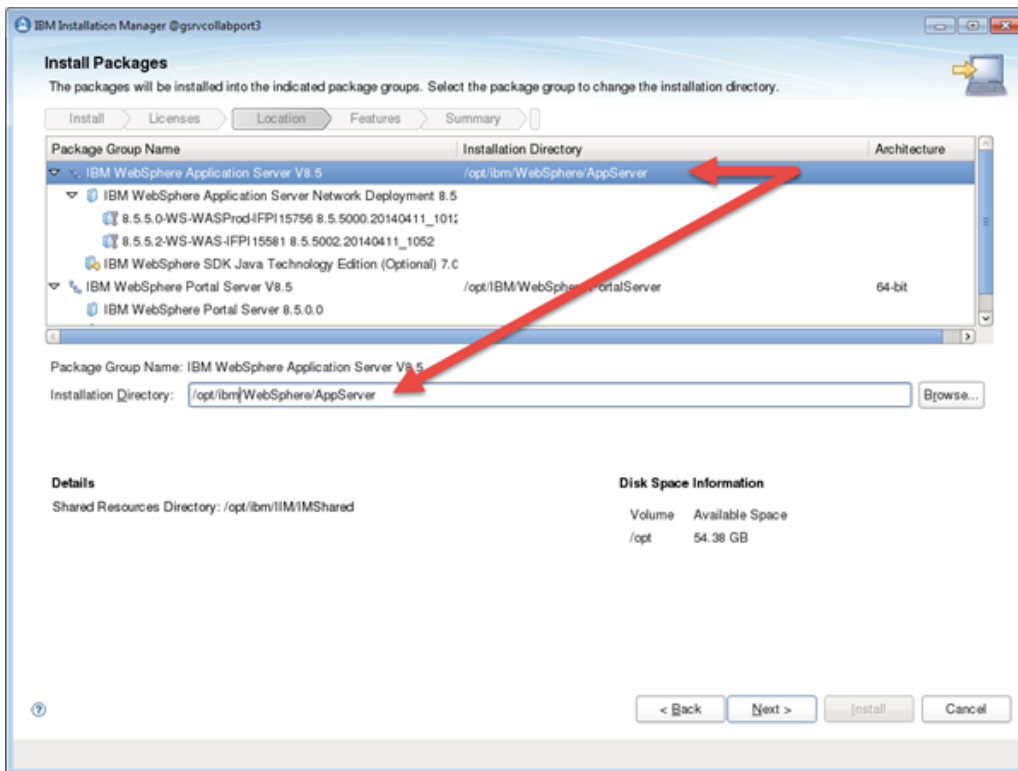
Select all Packages and Next



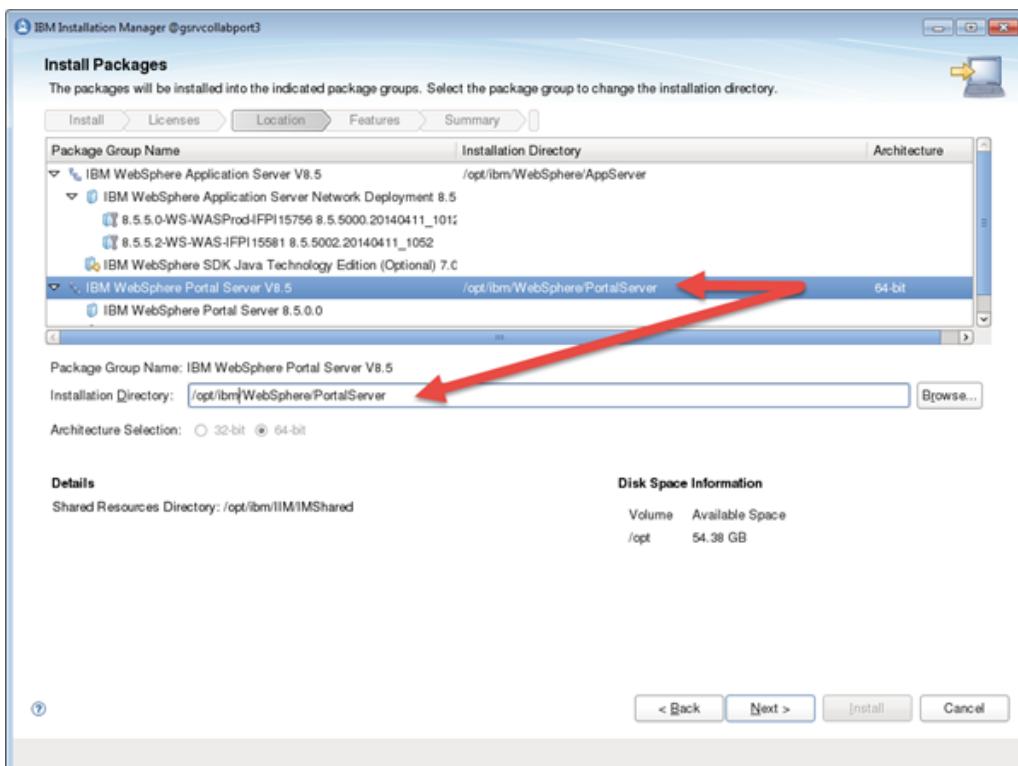
Accept license and Next



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

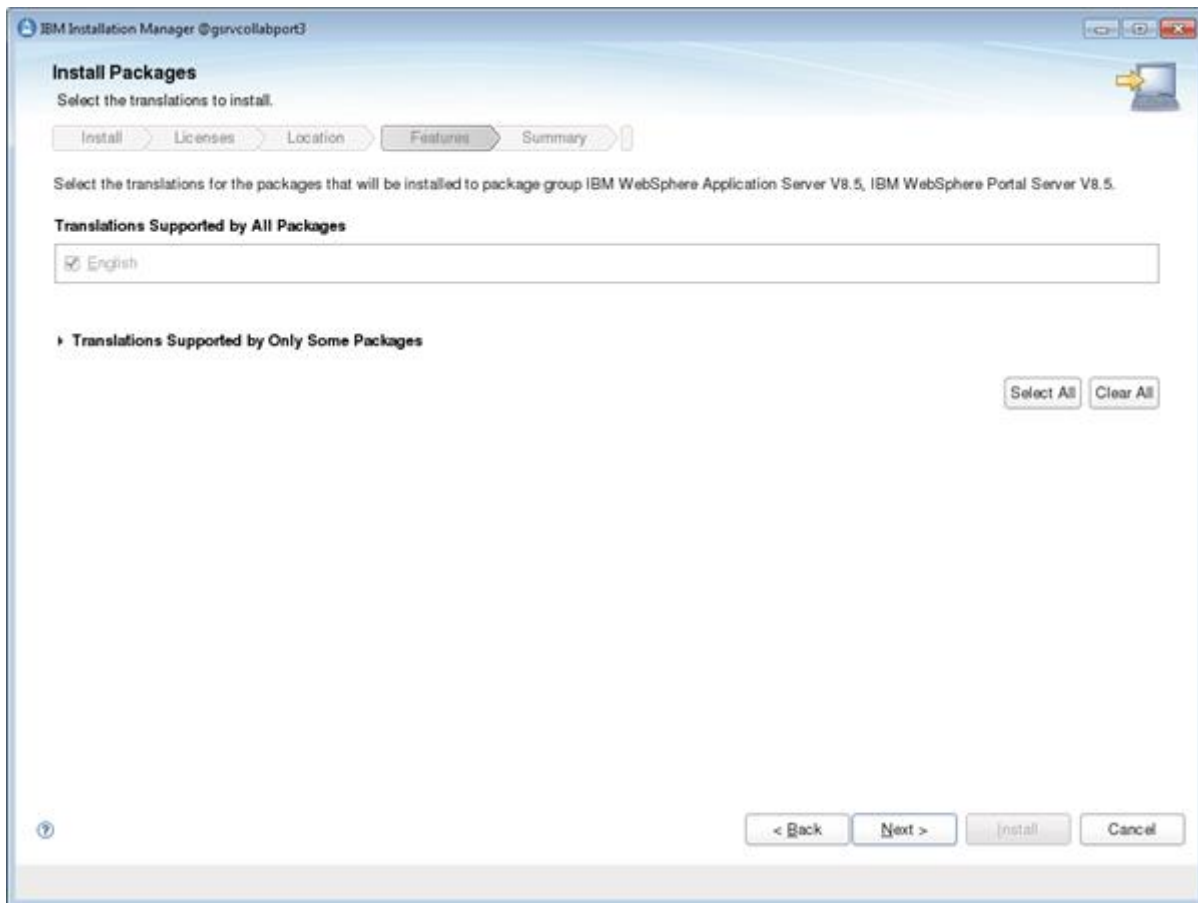


Choose your WebSphere Application Server install path, in my case  
/opt/ibm/WebSphere/AppServer

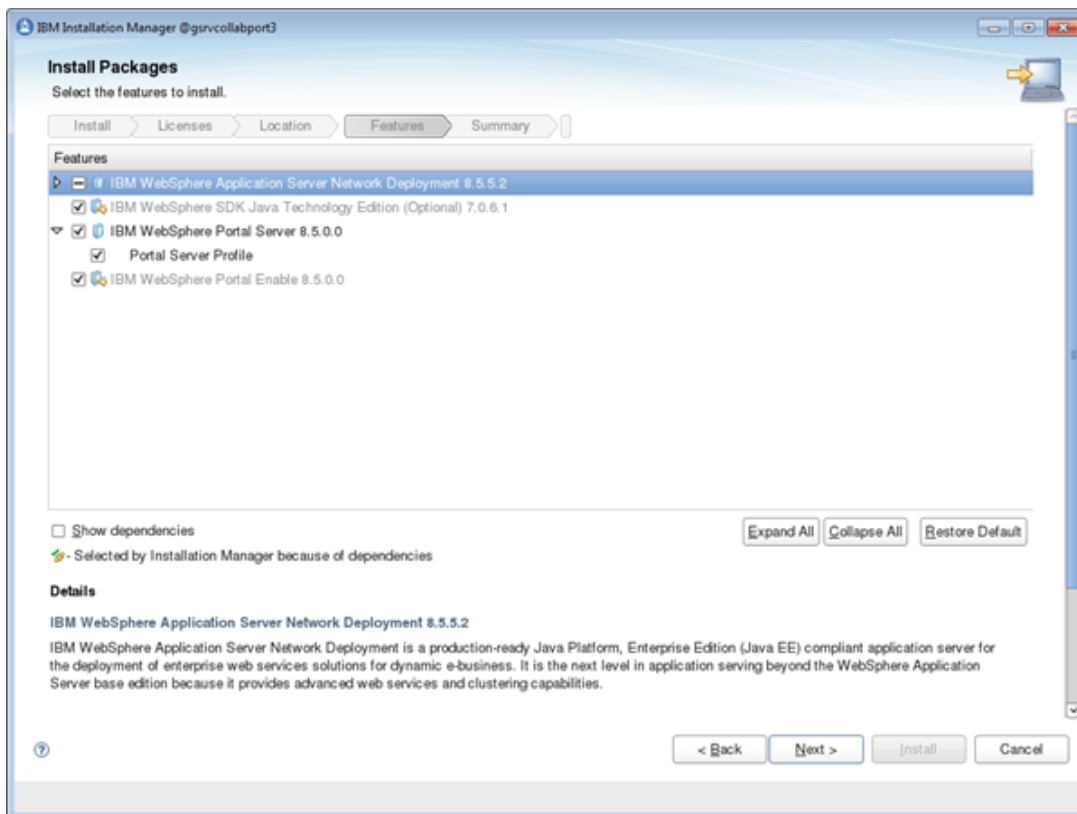


Choose your WebSphere Portal Server install path, in my case /opt/ibm/WebSphere/PortalServer  
and Next





If needed choose your language, otherwise Next



If summarize data is ok, 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

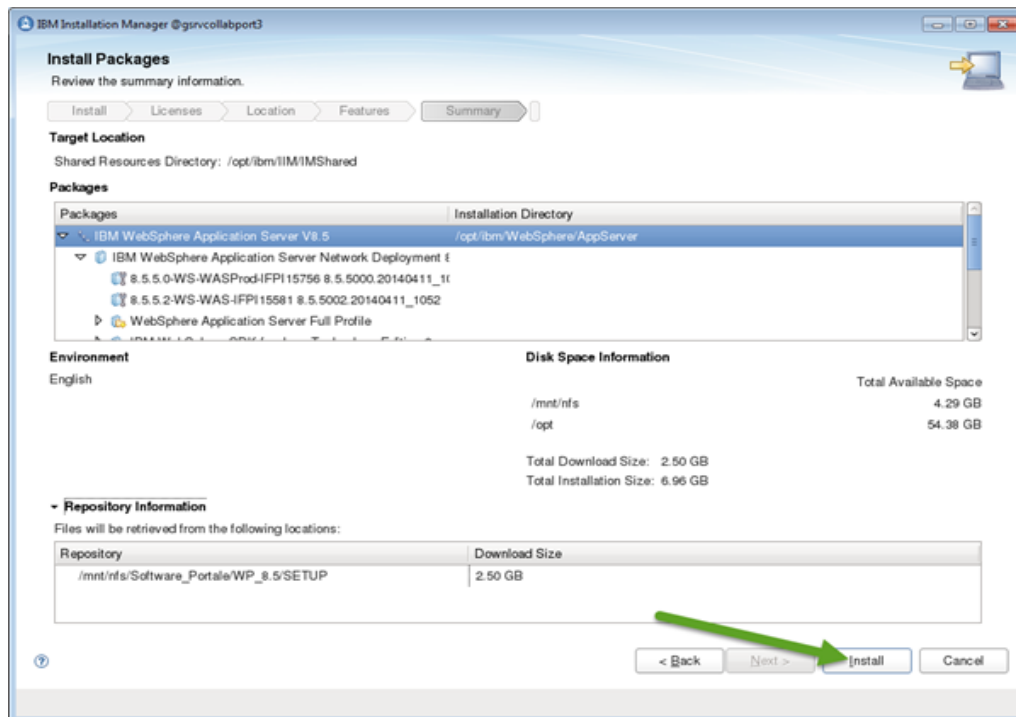
Details of the Standard configuration parameters

< Back Next > Install Cancel

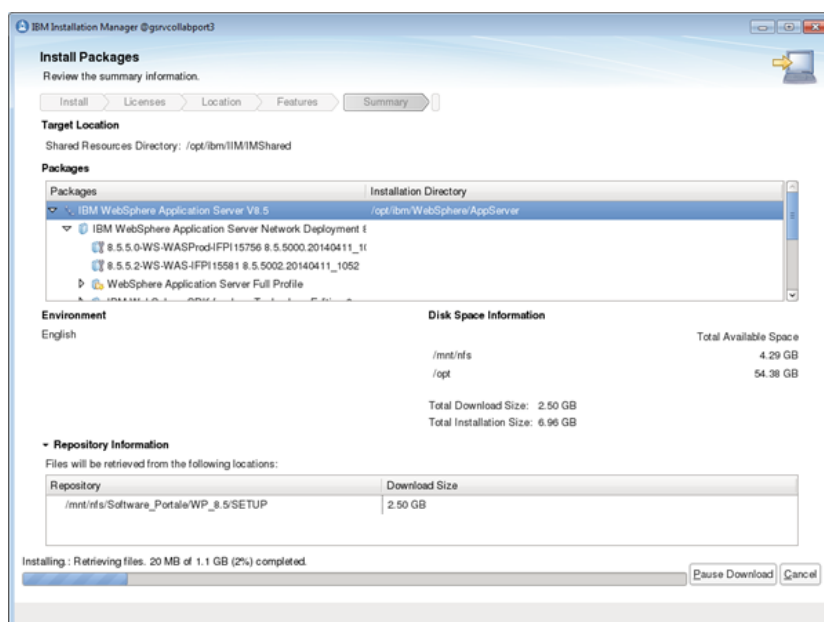
Set Hostname, this name will be solved during your digit. Set Node name and Cell Name, In my case I choose as Node name : WpNd01 and for Cell name WpCe01, this cell name will be updated when node will be federated to DMGR.

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.

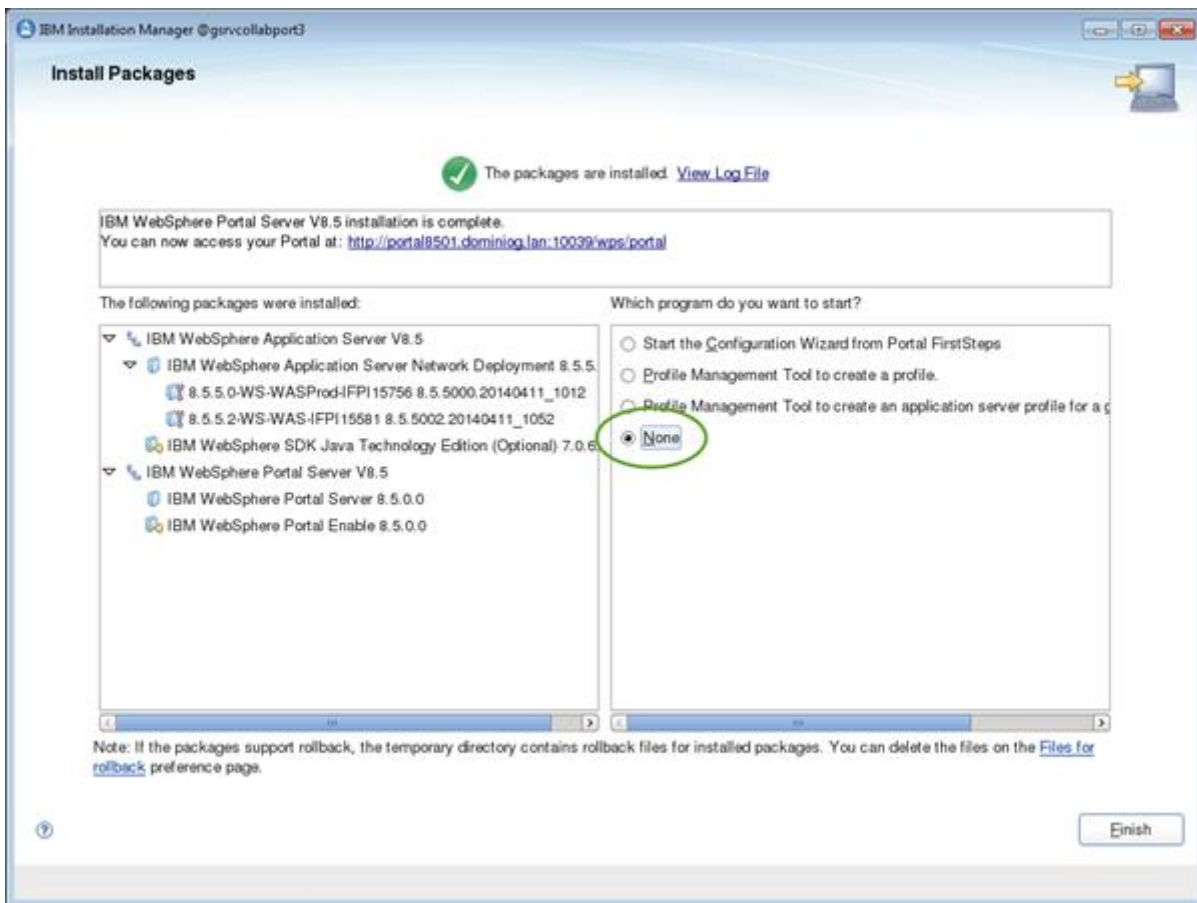


If all summarize data is OK, you can click Install



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

## Configuration WebSphere Portal

Now begin configuring WebSphere Portal with the Configuration Wizard, during this activities we configure Portal to use, DataBase Server and LDAP Server.

Start the configuration wizard to set up your clustered environment. First, transfer your database. Then, create the deployment manager and create a cluster node. Then, enable your federated LDAP user registry. Finally, create your additional cluster nodes.

In my case, I choose to prepare Database Server manually before Configure Portal.

## Prepare Database Server

Install DB2 on dedicated server.  
To install DB2 you can doing following step

Connect to server as administrator user

## Linux/UNIX environments only

Verify kernel parameter

To update kernel parameters on Red Hat, editing the /etc/sysctl.conf file. If this file does not exist, create it.

1. Run the `ipcs -l` command to list the current kernel parameter settings.

```
[db2inst1@gsrvcollabdb2 ibm]$ ipcs -l
----- Shared Memory Limits -----
max number of segments = 4096
max seg size (kbytes) = 67108864
max total shared memory (kbytes) = 17179869184
min seg size (bytes) = 1

----- Semaphore Limits -----
max number of arrays = 2048
max semaphores per array = 250
max semaphores system wide = 256000
max ops per semop call = 32
semaphore max value = 32767

----- Messages: Limits -----
max queues system wide = 15737
max size of message (bytes) = 65536
default max size of queue (bytes) = 65536
```

Callouts in the image:

- SHMNI (points to 'max number of segments')
- SHMMAX (points to 'max seg size')
- SHMALL (points to 'max total shared memory')
- SEMMNI (points to 'max number of arrays')
- SEMMSL (points to 'max semaphores per array')
- SEMMNS (points to 'max semaphores system wide')
- SEMOPM (points to 'max ops per semop call')
- MSGMNI (points to 'max queues system wide')
- MSGMAX (points to 'max size of message')
- MSGMNB (points to 'default max size of queue')

To calculate appropriate value following next table

Table 1. Kernel Parameter	
IPC kernel parameter	Enforced minimum setting
kernel.shmmni (SHMMNI)	$256 * \text{<size of RAM in GB>}$
kernel.shmmax (SHMMAX)	$\text{<size of RAM in bytes>}$
kernel.shmall (SHMALL)	$2 * \text{<size of RAM in the default system page size>}$
kernel.sem (SEMMSL)	250
kernel.sem (SEMMNS)	256 000
kernel.sem (SEMOPM)	32
kernel.sem (SEMMNI)	$256 * \text{<size of RAM in GB>}$
kernel.msgmni (MSGMNI)	$1\,024 * \text{<size of RAM in GB>}$
kernel.msgmax (MSGMAX)	65 536
kernel.msgmnb (MSGMNB)	65 536

Run `sysctl` with `-p` parameter to load in `sysctl` settings from the default file `/etc/sysctl.conf`

Creating group and user IDs for a DB2 database installation, The user and group names used in the following instructions are documented in the following table. You can specify your own user and group names if they adhere to system naming rules and DB2® naming rules.

Table 2. Default users and groups		
User	Example user name	Example group name
Instance owner	db2inst1	db2iadml
Fenced user	db2fenc1	db2fsdml
DB2 administration server user	dasusr1	dasadm1

- The instance owner home directory is where the DB2 instance will be created.
- The fenced user is used to run user defined functions (UDFs) and stored procedures outside of the address space used by the DB2 database.
- The user ID for the *DB2 administration server user* is used to run the DB2 administration server on your system.

Create group:

```
groupadd -g 999 db2iadml
groupadd -g 998 db2fsdml
groupadd -g 997 dasadm1
```

Create sser:

```
useradd -u 1004 -g db2iadml -m -d /opt/data/db2inst1 db2inst1
useradd -u 1003 -g db2fsdml -m -d /home/db2fenc1 db2fenc1
useradd -u 1002 -g dasadm1 -m -d /home/dasusr1 dasusr1
```

only for user “db2inst1” in my case I choose as him home root /opt/data instead the /home, because in this mode when I create the Instance all db will be create in /opt/data directory where I want have all data.

Set password:

```
passwd db2inst1
passwd db2fenc1
passwd dasusr1
```

## Install DB2

to Install DB2 move where have unpack the packages and execute :

```
./db2_install -b /opt/ibm/DB2/V10.5 -L en -f NOSTAMP -l /tmp/db2Install.log -t /tmp/db2trace.log
```

Where **-b** home where DB2 will be install, **-L** <preferred language>

Now after we installed DB2 we must configure it to working correctly.

Create Instance

```
/opt/ibm/DB2/V10.5/instance/db2icrt -a server -p 50001 -u db2fenc1 db2inst1
```

Configure Instance communication

Verify if your service is defined, other way you can define adding following line to /etc/services

```
db2c_db2inst1    50001/tcp      #DB2 Service
```

Verify if your instance is connected to TCP port, to execute this activities you must impersonate db2inst1 user

```
su - db2inst1
```

```
db2 get dbm cfg | grep SVCENAME
```

```
[root@[REDACTED]]# su - db2inst1
[db2inst1@gsrvcollabdb2 ~]$ db2 get dbm cfg | grep SVCENAME
TCP/IP Service name           (SVCENAME) = db2c_db2inst1
SSL service name              (SSL_SVCENAME) =
[db2inst1@[REDACTED]]$
```

If your SVCENAME do not equal your services name you can update it, using following command

```
Db2 update dbm cfg using SVCENAME db2c_db2inst1
```

And setting DB2COMM to use TCPIP

```
Db2set DB2COMM=TCPIP
```

Now you must restart DB2

```
db2stop
db2start
```

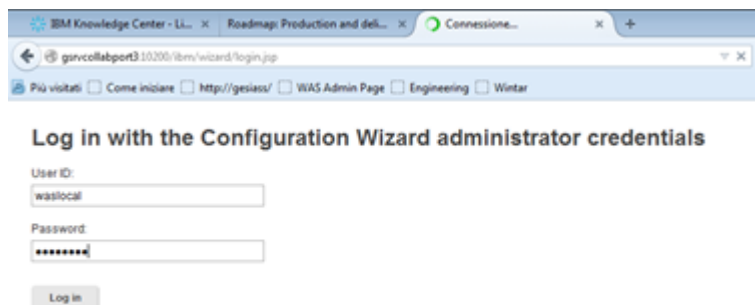
copy Jdbc drivers from Database server to Portal Server, in my case I put them into /opt/ibm/jdbc you must copy following file:

db2jcc4.jar and db2icc\_license\_cu.jar from <db2 home>/java.

## Transfer Database

Now we can move all installing data from Apache Derby to DB2 using Configuration Wizard.

Connect to <http://localhost:10200/ibm/wizard>



Authenticate using waslocal

## Configuration Wizard

Complete essential configuration tasks with less reading and time spent editing properties files. Repeat configuration 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 sites.

### Set Up a Cluster

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

## Choose Set Up a Cluster

[Home](#) > [Set Up a Cluster](#)

### Set Up a Cluster

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

### Database Transfer

Select this option to transfer data from Apache Derby to any of the database types that are supported by WebSphere Portal.

### Create a Deployment Manager

Create a deployment manager profile that is augmented with WebSphere Portal resources.

### Create a Cluster

## And Database Transfer

[Home](#) > [Set Up a Cluster](#) > [Database Transfer](#)

### Database Transfer

1 Answer Questions  
In progress

2 Customize Values

3 Configure

Answer questions about your environment so that the wizard can determine which fields you must complete. Then, you can run the configuration, save your settings, or download the instruction and script files to run later if you saved your settings from a previous session, you can upload the settings now. [Learn More](#)

[Upload Saved Selections](#)

System Information

Database Setup

Database Users

<

Target operating system:

Linux

Target portal profile name:

wp\_profile

Target portal profile home directory:

/opt/ibm/WebSphere/wp\_profile

>

## Identificate your environment

In my case

Target os: Linux

Target portal profile name : wp\_profile

Target portal profile name : /opt/ibm/WebSphere/wp\_profile

And click on right arrow (in green circle) to Next

1 Answer Questions  
In progress
2 Customize Values
3 Configure

Answer questions about your environment so that the wizard can determine which fields you must complete. Then, you can run the configuration, save your settings, or download the instruction and script files to run later. If you saved your settings from a previous session, you can upload the settings now. [Learn More](#)

Upload Saved Selections

System Information

Database Setup

Database Users

Database management software:

DB2

Do you want to transfer to one database or multiple databases:

☐ One database
☒ Multiple databases

Is the database hosted on the same server as the portal:

☒ Yes
☐ No

Do you want the wizard to create your databases:

☐ Yes, create my databases for me
☒ No, generate scripts that I can use to create the databases

Do you want the wizard to create users and assign them permission:

☐ Yes, create my users and assign them appropriate permission
☒ No, generate scripts that I can use to create the users and assign permissions

Do you need advanced database collation support:

☒ Yes, provide manual collation instructions
☐ No, advanced collation support is not needed

(For DB2 PureScale only) Do you want to enable workload balancing for DB2 pureScale:

☐ Yes
☒ No

Choose your RDBMS, in my case DB2  
Choose Multiple Database  
Choose Database Hosted on same server  
Choose Yes, create my database for me  
Choose No, generate scripts.....  
Choose Yes, provide manual collation....  
Choose No,  
And Next

Home > Set Up a Cluster > Database Transfer

Database Transfer

1 Answer Questions  
In progress
2 Customize Values
3 Configure

Answer questions about your environment so that the wizard can determine which fields you must complete. Then, you can run the configuration, save your settings, or download the instruction and script files to run later. If you saved your settings from a previous session, you can upload the settings now. [Learn More](#)

Upload Saved Selections

System Information

Database Setup

Database Users

Do portal database domains use the same user ID and passwords:

☒ Yes
☐ No

Do you need runtime database user ID for day-to-day operations:

☐ Yes
☒ No

Choose Yes portal domain database use same user ID  
Choose No, you need runtime....  
And next



## Database Transfer

1 Answer Questions Complete 2 Customize Values In progress 3 Configure

System Information Database Setup

WebSphere Application Server administrator ID:  ⓘ

WebSphere Application Server administrator password:

Re-enter the password:

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

Insert your WebSphere Administrator : waslocal

Insert him password

Insert your installation directory, in my case /opt/ibm/WebSphere/PortalServer

And Next

Database Setup

Configuration user ID:  ⓘ

Configuration password:  ⓘ

Re-enter the password:

Database administrator ID:  ⓘ

Database administrator password:  ⓘ

Re-enter the password:

Insert your DB2 Administrator User, in my case “db2inst1”

Now you must map all data source configuration parameter.

For each data source and db you must define jdbc url to connect my assumption is use alias name to reference Database Server, dbstore.ondemand.com

The url will be formed, following this schema

```
jdbc:db2://<dbserver Alias>:<port>/<dbname>;returnAlias=0;
```

For sample in my case

```
jdbc:db2://dbstore.ondemand.com:50001/WPREL;retrunAlias=0;
```

*Release database name:	WPREL Example: WPREL	?
*Release data source:	wpreldbDS	?
*Release database URL:	jdbc:db2://:50001/WPREL:returnAlias=0; Example: jdbc:db2://Your_Database_Server:50000/WPREL:returnAlias=0;	?
*Community database name:	WPCOMM Example: WPCOMM	?
*Community data source:	wpcommdbDS	?
*Community database URL:	jdbc:db2://:50001/WPCOMM:returnAlias=0; Example: jdbc:db2://Your_Database_Server:50000/WPCOMM:returnAlias=0;	?
*Customization database name:	WPCUST Example: WPCUST	?
*Customization data source:	wpcustdbDS	?
*Customization database URL:	jdbc:db2://:50001/WPCUST:returnAlias=0; Example: jdbc:db2://Your_Database_Server:50000/WPCUST:returnAlias=0;	?
*JCR database name:	WPJCR Example: WPJCR	?
*JCR data source:	wpjcrdbDS	?
*JCR database URL:	jdbc:db2://:50001/WPJCR:returnAlias=0; Example: jdbc:db2://Your_Database_Server:50000/WPJCR:returnAlias=0;	?
*Feedback database name:	WPFDBK Example: WPFDBK	?
*Feedback data source:	wpfdbkdbDS	?
*Feedback database URL:	jdbc:db2://:50001/WPFDBK:returnAlias=0; Example: jdbc:db2://@YourDatabaseServer@:50000/WPFDBK:returnAlias=0;	?
*Likeminds database name:	WPLM Example: WPLM	?
*Likeminds data source:	wplmdbDS	?
*Likeminds database URL:	jdbc:db2://:50001/WPLM:returnAlias=0; Example: jdbc:db2://YourDatabaseServer:50000/WPLM:returnAlias=0;	?
*IBM DB2 library:	/opt/ibm/jdbc/db2jcc4.jar:/opt/ibm/jdbc/db2jcc_license_cu.jar Example: /opt/ibm/db2/V10.5/java/db2jcc4.jar:/opt/ibm/db2/V10.5/java/db2jcc_license_cu.jar	?
*Temporary directory to be used for collation:	/opt/ibm/jcrtmpcd	?

Define where you copy JDBC drivers on Portal Machine,  
And your temporary directory.  
And Next

## Database Transfer

**1** Answer Questions  
✔ Complete

**2** Customize Values  
✔ Complete

### Optional

[Download Wizard Selections](#)

Download your selections in case you need to run the configuration wizard. [Learn More](#)

[Download Configuration Scripts](#)

If you plan to run scripts to set up the configuration instead of the wizard, download the scripts. [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/work

```
[root@... ~]# unzip ./WorkflowInstanceScriptsAll.zip -d ./work/
Archive:  ./WorkflowInstanceScriptsAll.zip
  inflating: ./work/TransferDatabase.wfi
  inflating: ./work/wfi-instance.xml
  creating: ./work/scripts/
  inflating: ./work/scripts/BackupPropertyFiles.sh
  inflating: ./work/scripts/ValidateDatabase.sh
  inflating: ./work/scripts/SetupDB2Database.sql
  inflating: ./work/scripts/ConfigureDb2ForLargeFileHandling.sh
  inflating: ./work/scripts/StopPortalServer.sh
  inflating: ./work/scripts/DatabaseTransfer.sh
  inflating: ./work/scripts/CreateDB2Database
  inflating: ./work/scripts/StartPortalServer.sh
  inflating: ./work/scripts/scripts.lst
  creating: ./work/properties/
  inflating: ./work/properties/StopPortalServer.properties
  inflating: ./work/properties/properties.lst
  inflating: ./work/properties/DatabaseTransfer.properties
  inflating: ./work/properties/StartPortalServer.properties
  inflating: ./work/properties/BackupPropertyFiles.properties
  inflating: ./work/properties/ValidateDatabase.properties
  inflating: ./work/properties/ConfigureDb2ForLargeFileHandling.properties
  inflating: ./work/TransferDatabase.html
```

And grant all permission to it and him son...

```
chmod -R 777 ./work
```

move to ./work/script

and execute ./ValidateDatabase.sh if ok (Build successful) execute ./DatabaseTransfer.sh

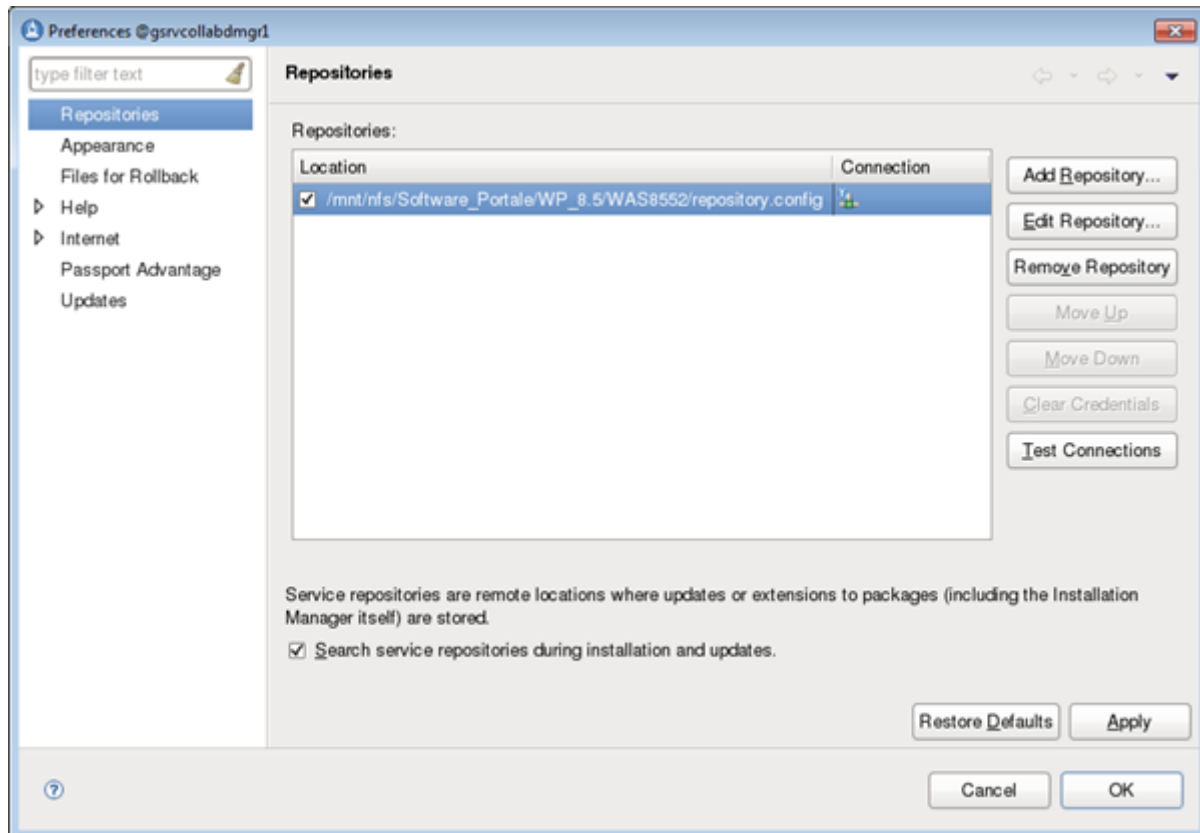
Restart your Portal Server.

## Install & Configure Deploy Manager

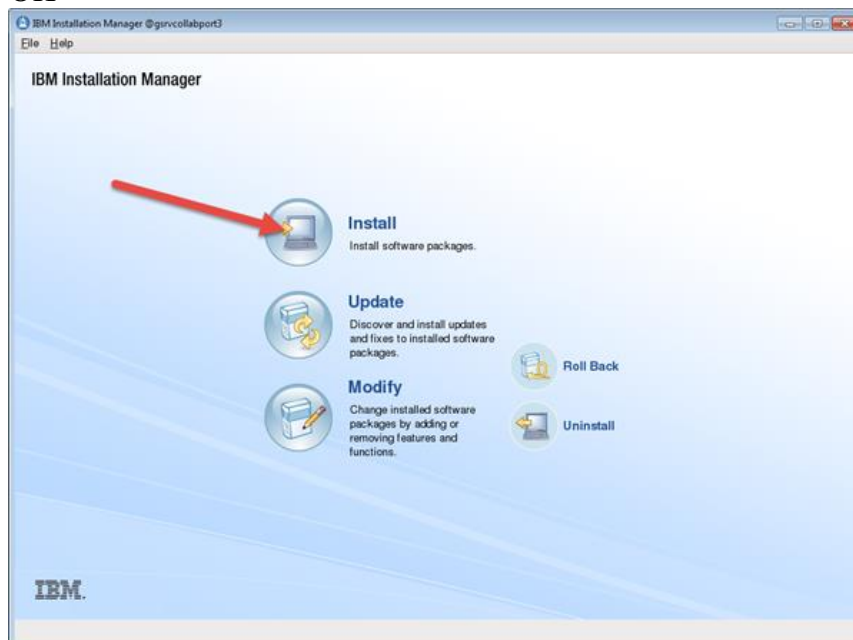
### Install DMGR

Move to DMGR machine, and install IBM Installation manager

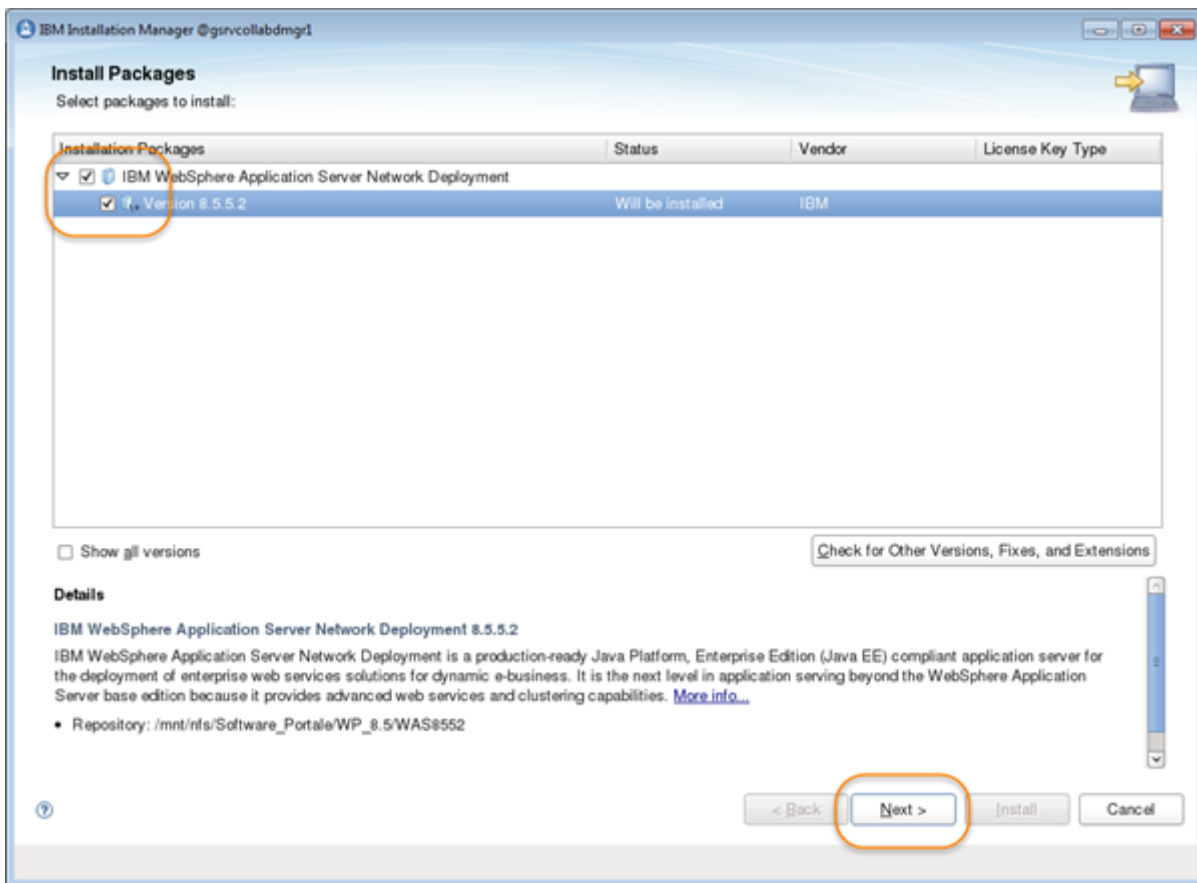
Restart IBM Installation Manager and add repository to install WebSphere Application Server as DMGR



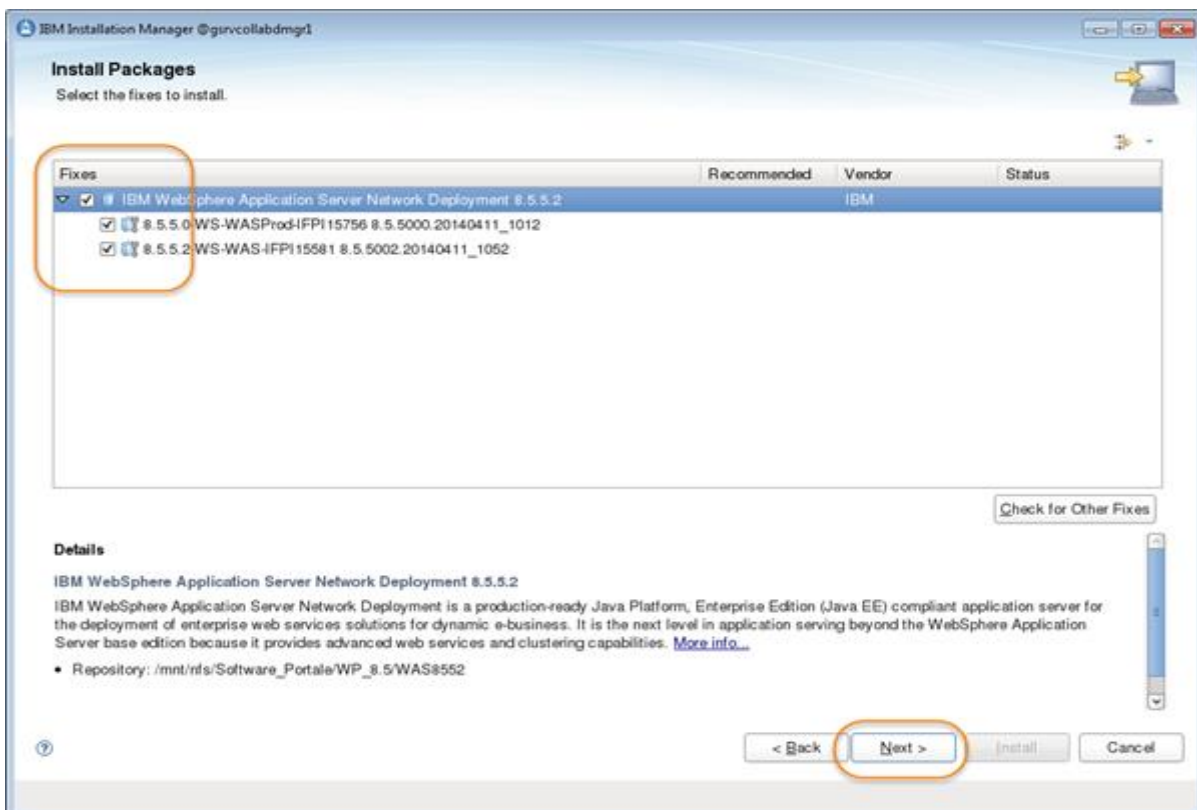
OK



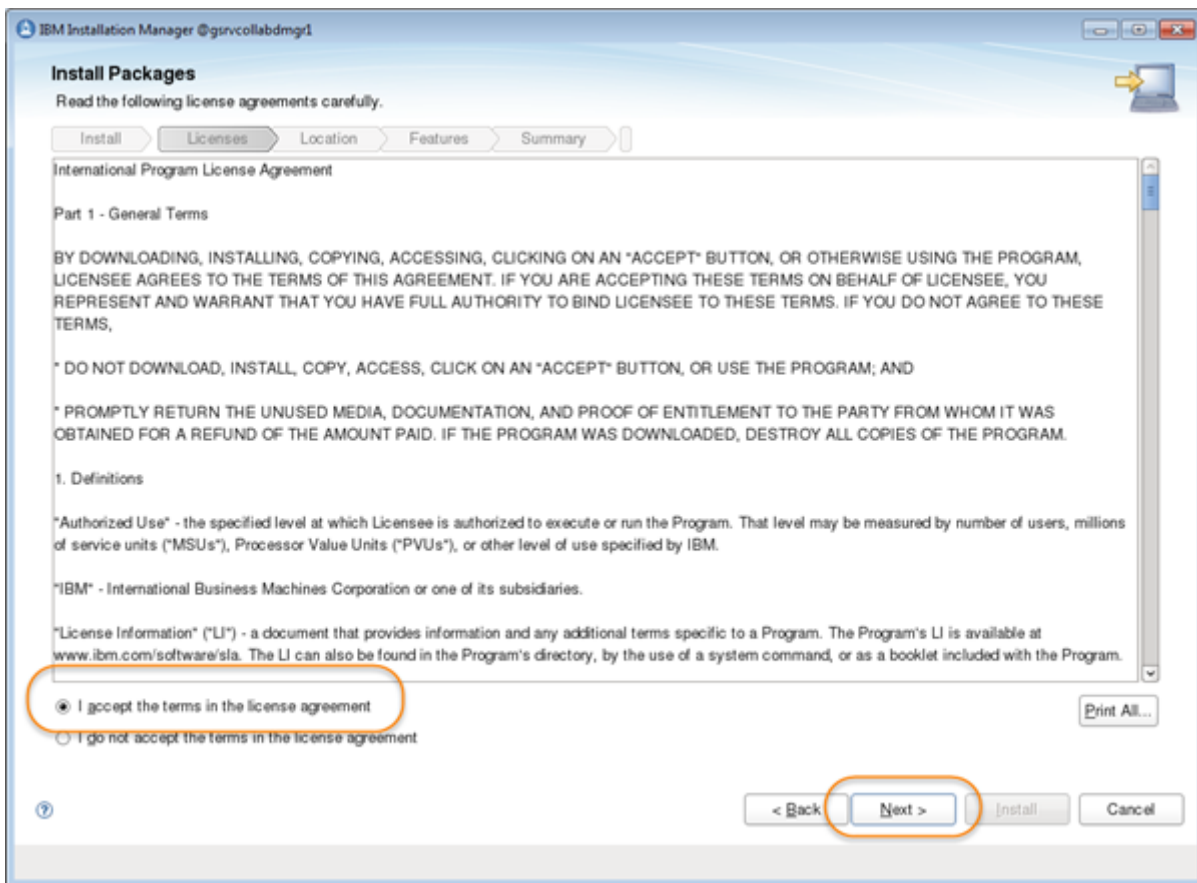
and Install



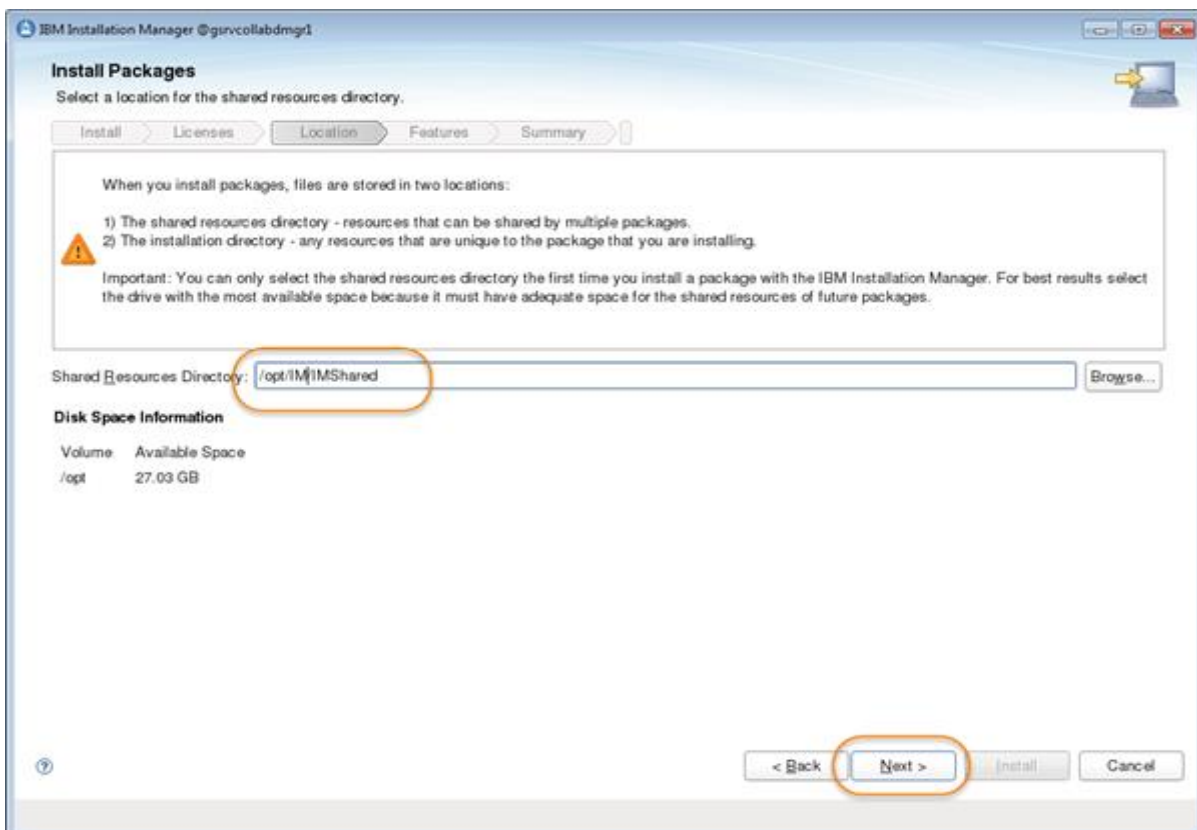
Select Packages and Next



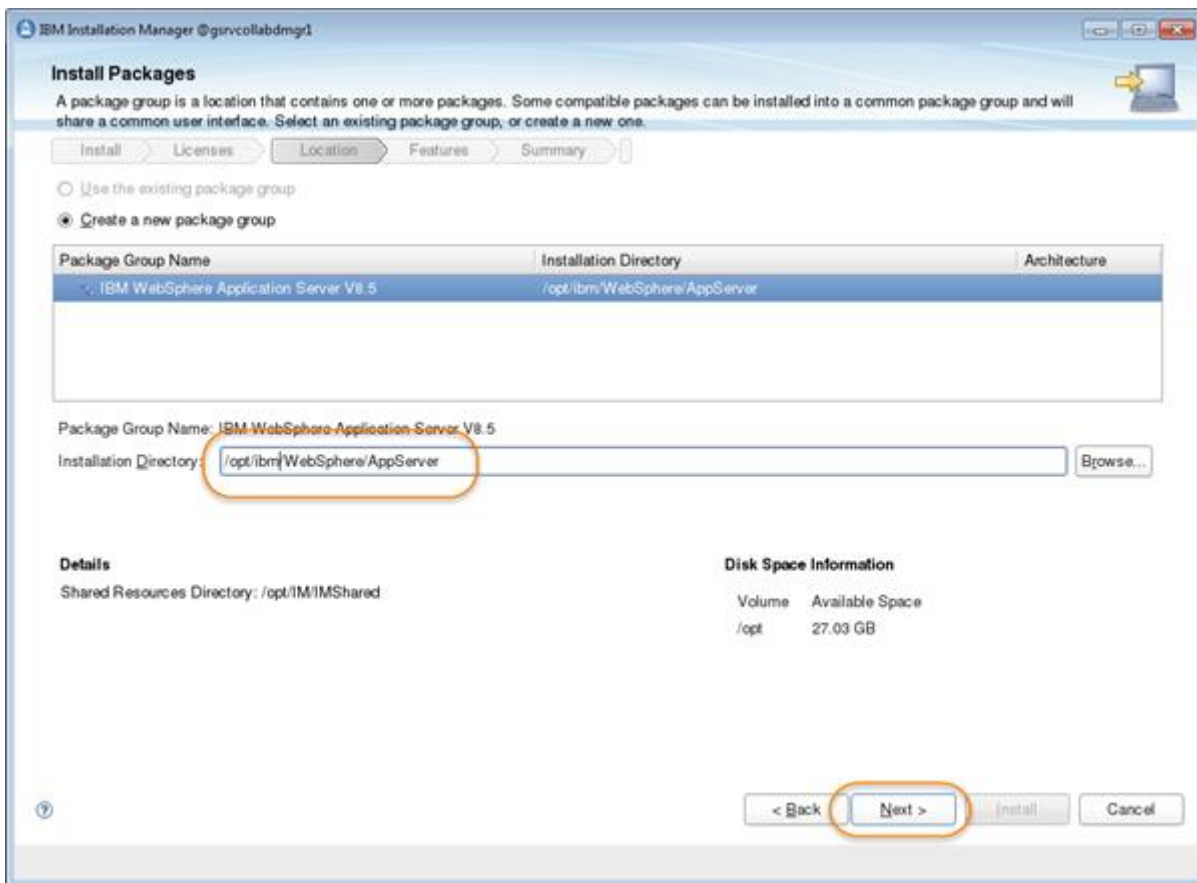
Select fix and Next



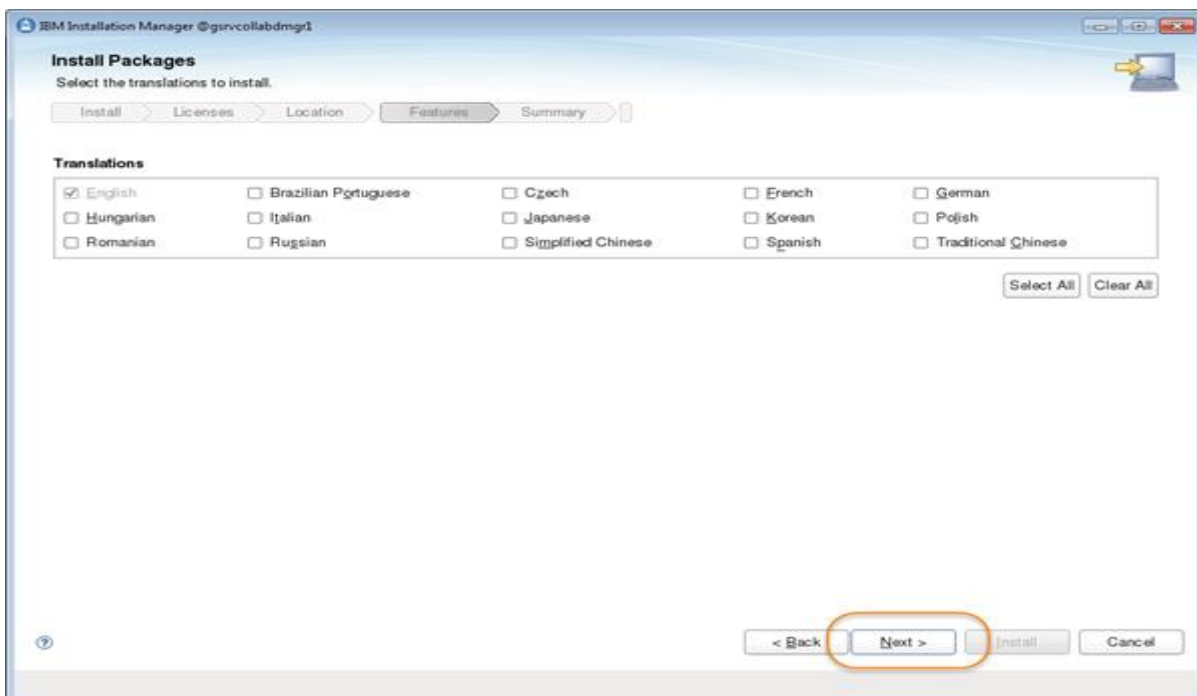
Accept License and Next



Choose IMShared Path, in my case /opt/IM/IMShared

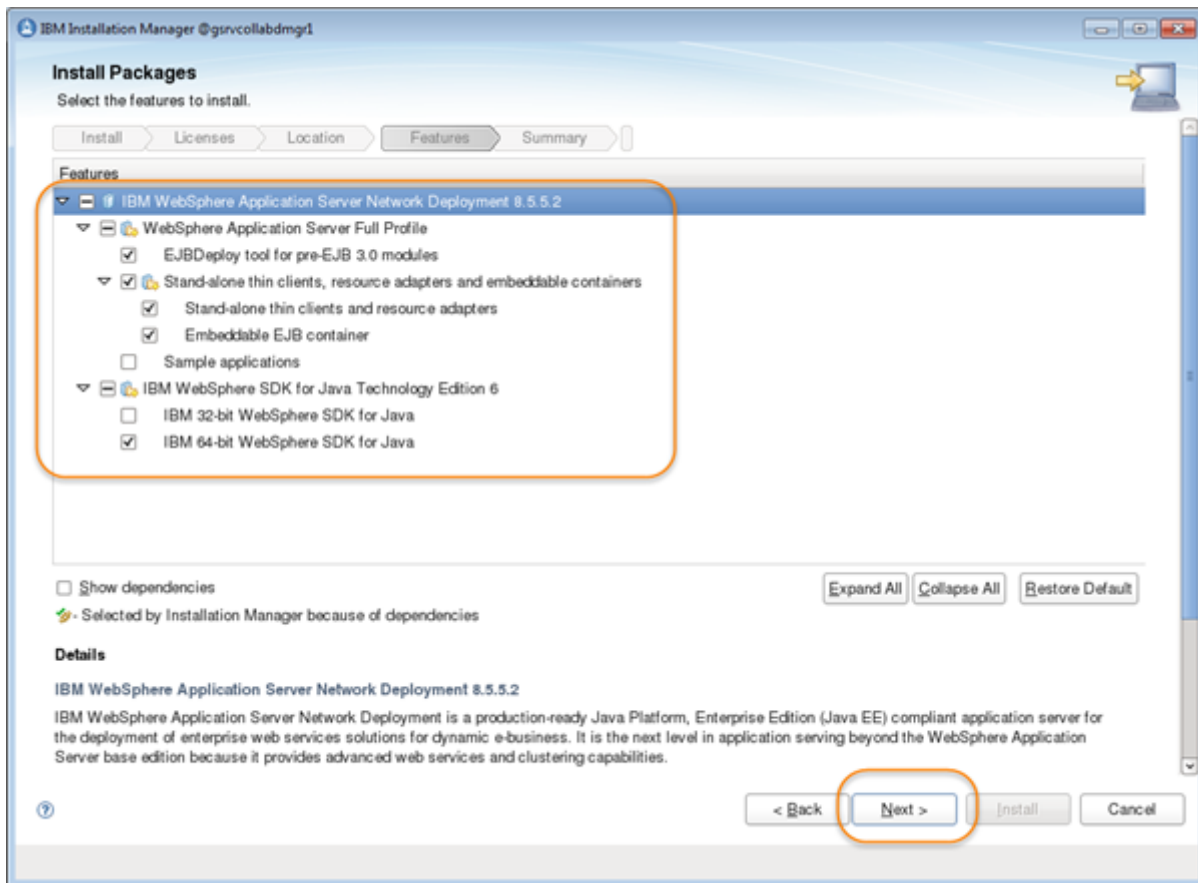


Chose installation Path, in my case /opt/ibm/WebSphere/AppServer and Next

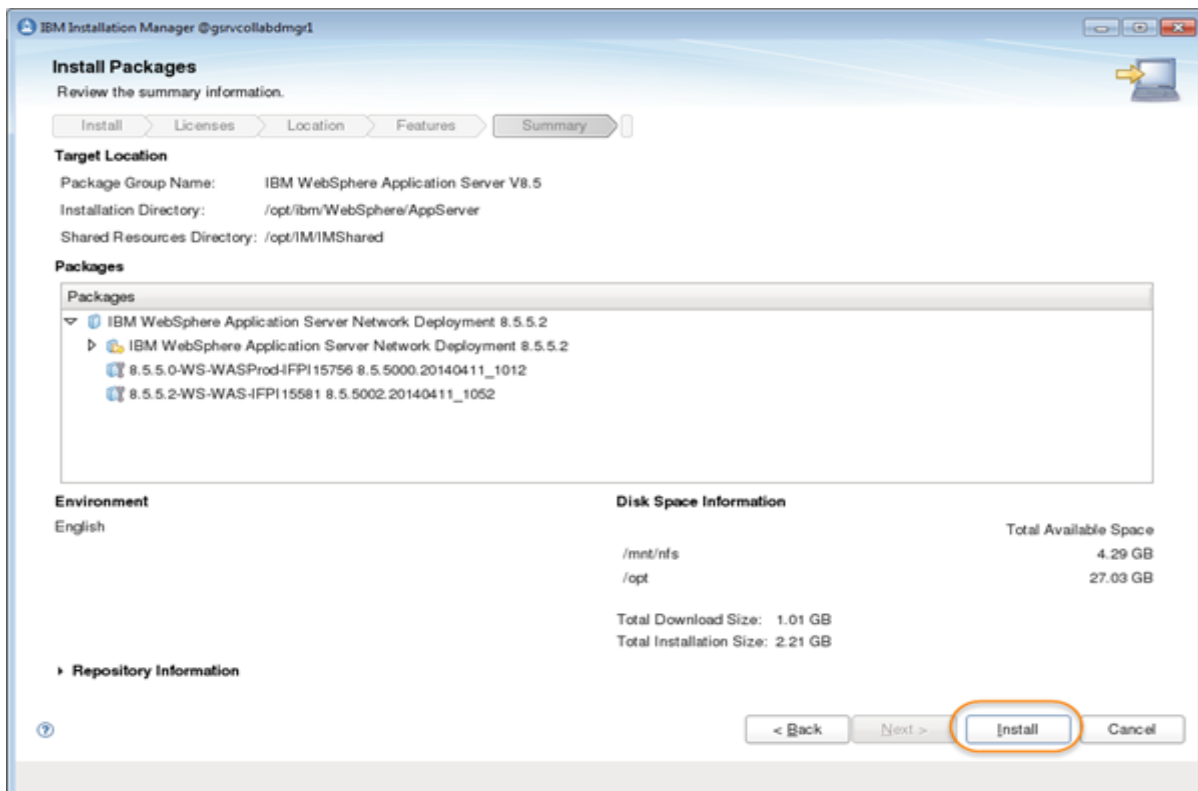


Next



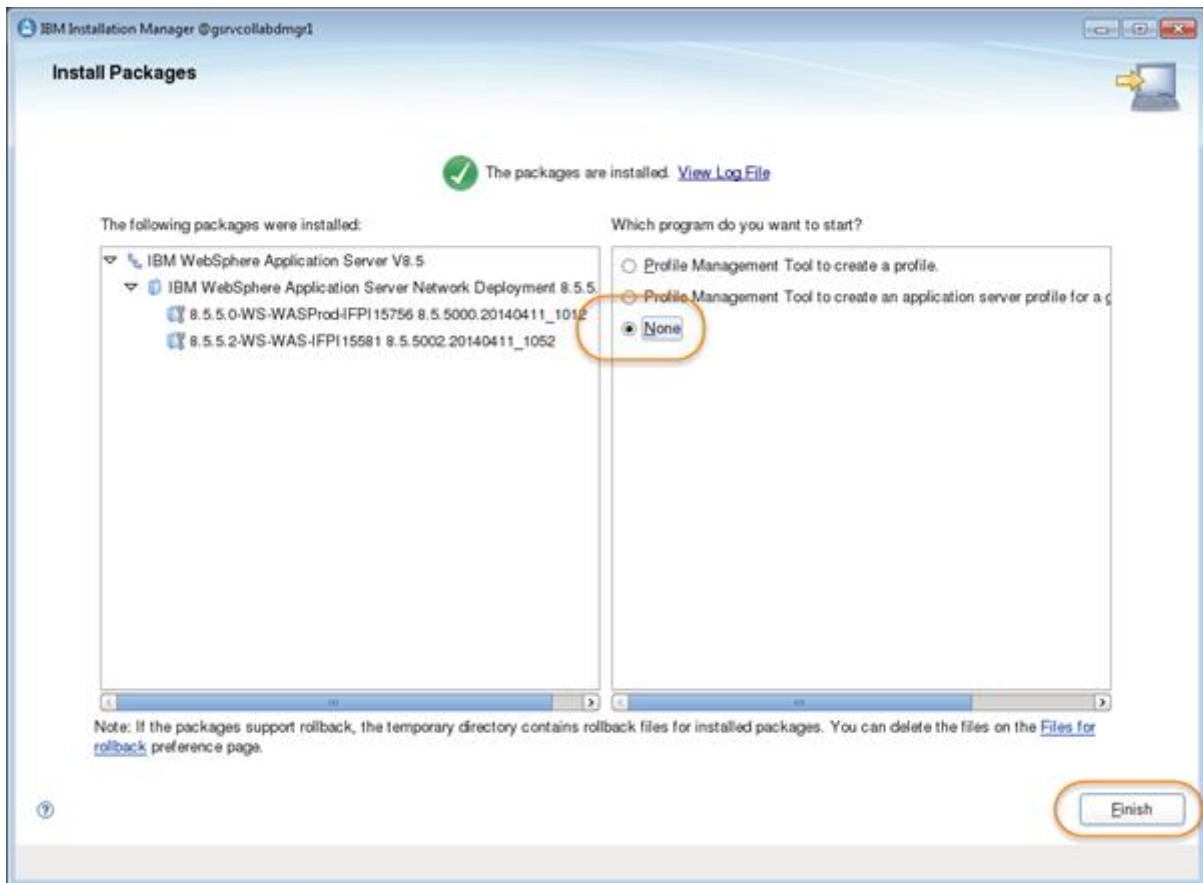


Verify summarize data is correct and Next



Install, and wait to end task





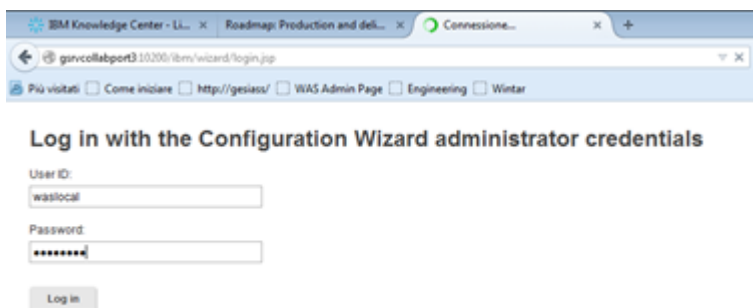
Chose "None" and Finish

## Configure DMGR

We have install a WebSphere Application Server, and now we must configure it to become a DMGR.

Open Configuration Wizards

Connect to <http://localhost:10200/ibm/wizard>



Authenticate using waslocal

## Configuration Wizard

Complete essential configuration tasks with less reading and time spent editing properties files. Repeat configuration 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 sites.

### Set Up a Cluster

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

## Choose Set Up a Cluster

Home > Set Up a Cluster

### Set Up a Cluster

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

[Resume Active Workflow](#)

#### Database Transfer

Select this option to transfer data from Apache Derby to any of the database types that are supported by WebSphere Portal.

#### Create a Deployment Manager

Create a deployment manager profile that is augmented with WebSphere Portal resources.

[Create a Cluster](#)

And choose “Create a Deploy Manager”

#### Deployment Manager Information

Where is the deployment manager:



On the same server as portal



On a remote server



Chose “on Remote server” and Next (blue arrow on right)

#### Deployment Manager Information

WebSphere Application Server host name:

dmgr.ondemand.com

Example: my\_host\_name.mydomain.com



Insert HostName, in my case dmgr.ondemand.com and Next

#### Deployment Manager Information

*Deployment manager host name:	<input type="text" value="portaldmgr.dominiojg.lan"/>	①
*New deployment manager profile name:	<input type="text" value="dmgr01"/>	②
*Deployment manager profile path:	<input type="text" value="/opt/IBM/WebSphere/AppServer/profiles/dmgr01"/> Example: /opt/IBM/WebSphere/AppServer/profiles/dmgr01	③
*Deployment manager cell name:	<input type="text" value="dmgrCell01"/> Example: dmgrCell01	④
*Deployment manager node name:	<input type="text" value="dmgrNode01"/> Example: dmgrNode01	⑤
*WebSphere Application Server installation directory:	<input type="text" value="/opt/IBM/WebSphere/AppServer"/> Example: /opt/IBM/WebSphere/AppServer	⑥
*WebSphere Application Server administrator ID:	<input type="text" value="waslocal"/>	⑦
*WebSphere Application Server administrator password:	<input type="password" value="*****"/>	
*Re-enter the password	<input type="password" value="*****"/>	



Insert appropriate data and password and Next

[Home](#) > [Set Up a Cluster](#) > Database Transfer

## Database Transfer

**1** Answer Questions  
✔ Complete

**2** Customize Values  
✔ Complete

### Optional

[Download Wizard Selections](#)

Download your selections in case you need to run the configuration wizard. [Learn More](#)

[Download Configuration Scripts](#)

If you plan to run scripts to set up the configuration instead of the wizard, download the configuration scripts. [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/work

```
[root@dominiojg ~]# unzip ./WF.zip
Archive:  ./WF.zip
  inflating: wfi-instance.xml
   creating: scripts/
  inflating: scripts/AugmentRemoteDeploymentManagerProfile
  inflating: scripts/scripts.lst
  inflating: scripts/CreateRemoteDeploymentManagerProfile
   creating: properties/
  inflating: CreateDeploymentManagerProfileWithPortal.wfi
  inflating: CreateDeploymentManagerProfileWithPortal.html
```

And grant all permission to it and him son....

```
chmod -R 777 ./work
```

move to ./work/script

rename all script in .sh

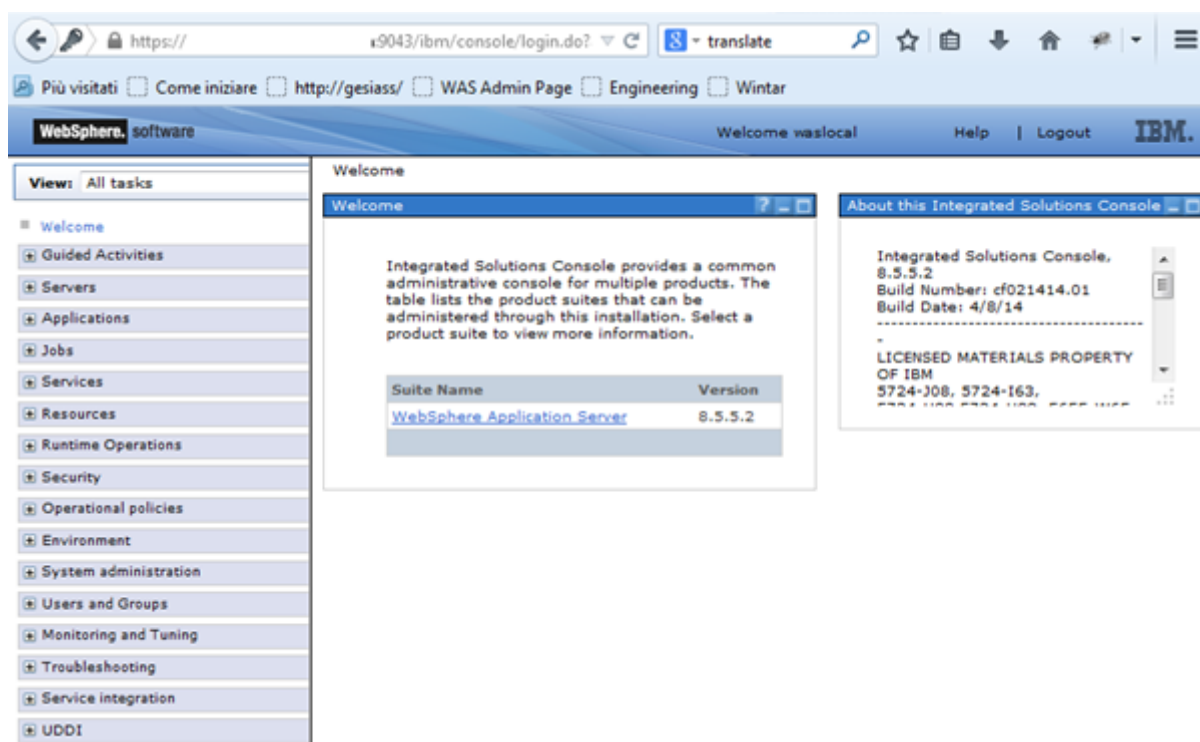
and run `./CreateRemoteDeploymentManagerProfile.sh`

and wait until profile will be created for you.

```
[root@scripts]# ./CreateRemoteDeploymentManagerProfile.sh
INSTCONFSUCCESS: Success: Profile dmgr01 now exists. Please consult /opt/ibm/WebSphere/AppServer/profiles/dmgr01/logs/AboutThisProfile.txt for more information about this profile.
```

Start DMGR to verify if you have a working

Move to profile/bin and run `./startManager.sh`



Now exit and stop deployment manager and collect files from the primary node, and copy them to the remote deployment manager:

An archive or compressed file is placed in the `<WP Home>/filesForDmgr` directory during installation. The file is called `filesForDmgr.zip`. Copy the `filesForDmgr.zip` file to the remote deployment manager server.

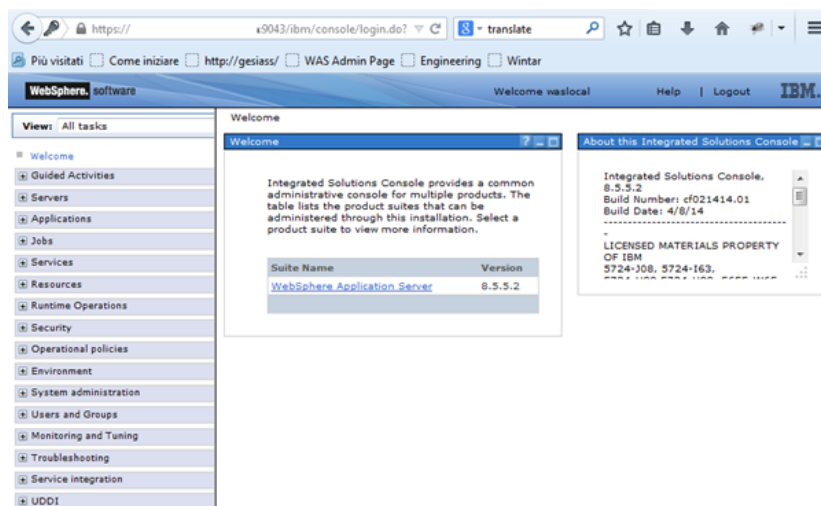
```
[root@AppServer]# scp root@ :/opt/ibm/WebSphere/PortalServer/filesForDmgr/filesForDmgr.zip ./
The authenticity of host ' (172.17.0.193)' can't be established.
RSA key fingerprint is 3c:f2:c9:8e:01:11:c5:14:0c:e2:0c:61:06:08:b3:fb.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added ' ',172.17.0.193' (RSA) to the list of known hosts.
root@'s password:
filesForDmgr.zip 100% 954KB 954.1KB/s 00:00
[root@gssrvcollabdmgr1 AppServer]#
```

Expand the filesForDmgr.zip file into the installation root directory of the deployment manager. For example, in the <WAS Home> directory.  
Unzip ./filesForDmgr.zip

```
root@AppServer]# unzip ./filesForDmgr.zip
Archive: ./filesForDmgr.zip
  creating: bin/ProfileManagement/plugins/
  creating: bin/ProfileManagement/plugins/com.ibm.wp.dmgr.pmt_7.0.5/
  creating: profileTemplates/management.portal.augment/
  creating: profileTemplates/management.portal.augment/actions/
  creating: profileTemplates/management.portal.augment/documents/
  creating: profileTemplates/management.portal.augment/documents/PortalServer/
  creating: profileTemplates/management.portal.augment/documents/config/
  creating: profileTemplates/management.portal.augment/documents/config/.repository/
  creating: profileTemplates/management.portal.augment/documents/config/cells/
  creating: profileTemplates/management.portal.augment/documents/config/cells/BaseApplicationServerCell/
  creating: profileTemplates/management.portal.augment/documents/config/cells/BaseApplicationServerCell/nodes/
  creating: profileTemplates/management.portal.augment/documents/config/cells/BaseApplicationServerCell/nodes/DefaultNode/
  creating: profileTemplates/management.portal.augment/documents/config/templates/
  creating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/
  creating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/APPLICATION_SERVER/
  creating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/APPLICATION_SERVER/servers/
  creating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/APPLICATION_SERVER/servers/PortalServerTemplate/
  creating: profileTemplates/management.portal.augment/lib/
  creating: profiles/Dmgr01/
  creating: profiles/Dmgr01/config/
  creating: profiles/Dmgr01/config/.repository/
  inflating: bin/ProfileManagement/plugins/com.ibm.wp.dmgr.pmt_7.0.5/plugin.xml
  inflating: lib/wkplc.comp.registry.jar
  inflating: lib/wp.base.jar
  inflating: lib/wp.wise.jar
  inflating: plugins/com.ibm.was.plugin.jar
  inflating: plugins/com.ibm.was.plugin.jar
  inflating: profileTemplates/management.portal.augment/actionRegistry.xml
  inflating: profileTemplates/management.portal.augment/actions/fixupPortalConfigOnDmgr.ant
  inflating: profileTemplates/management.portal.augment/actions/unzipPortalConfigToDmgr.ant
  inflating: profileTemplates/management.portal.augment/documents/config/.repository/metadata_wkplc.xml
  inflating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/APPLICATION_SERVER/serverindex-delta.xml
  inflating: profileTemplates/management.portal.augment/documents/config/templates/servicetypes/APPLICATION_SERVER/template-metadata-delta.xml
  inflating: profileTemplates/management.portal.augment/documents/properties/cachespec.xml
  inflating: profileTemplates/management.portal.augment/documents/properties/server.policy
  inflating: profileTemplates/management.portal.augment/lib/wp.profile.resources.jar
  inflating: profileTemplates/management.portal.augment/templateMetadata.xml
  inflating: profiles/Dmgr01/config/.repository/metadata_wkplc.xml
```

If the deployment manager profile was not created in the default <WAS Home>/profiles/Dmgr01 directory, then the metadata\_wkplc.xml file, which is in the <WAS Home>/profiles/Dmgr01/config/.repository directory in the compressed file, must be copied into the config/.repository subdirectory under the deployment manager profile directory.

Start the deployment manager, and to verify if you have a working.



Exit and stop DMGR.

Now we must augment the deployment manager with WebSphere Portal files.

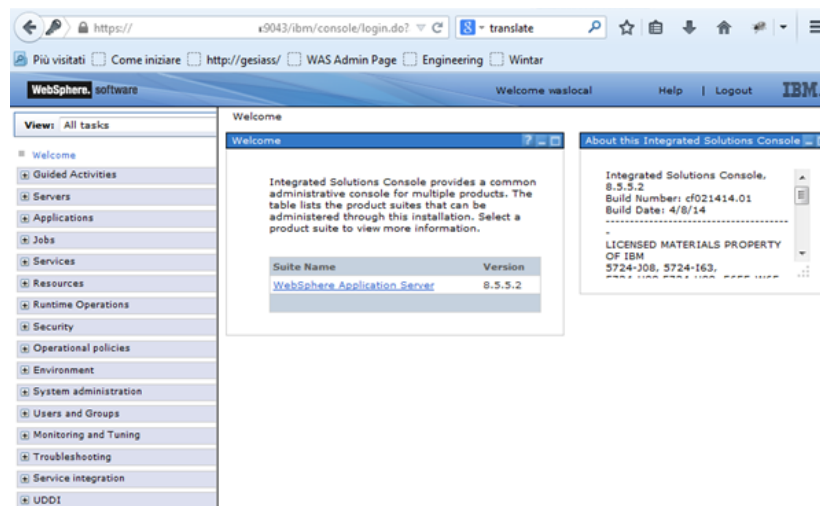
To doing it move on DMGR machine where you unzip Script and execute

```
./AugmentRemoteDeploymentManagerProfile.sh
```

```
[root@redhat scripts]# ./AugmentRemoteDeploymentManagerProfile.sh
ADMU0116I: Tool information is being logged in file
/opt/ibm/WebSphere/AppServer/profiles/dmgr01/logs/dmgr/startServer.log
ADMU0128I: Starting tool with the dmgr01 profile
ADMU3100I: Reading configuration for server: dmgr
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server dmgr open for e-business; process id is 7706
INSTCONFSUCCESS: Profile augmentation succeeded.
ADMU0116I: Tool information is being logged in file
/opt/ibm/WebSphere/AppServer/profiles/dmgr01/logs/dmgr/stopServer.log
ADMU0128I: Starting tool with the dmgr01 profile
ADMU3100I: Reading configuration for server: dmgr
ADMU3201I: Server stop request issued. Waiting for stop status.
ADMU4000I: Server dmgr stop completed.

ADMU0116I: Tool information is being logged in file
/opt/ibm/WebSphere/AppServer/profiles/dmgr01/logs/dmgr/startServer.log
ADMU0128I: Starting tool with the dmgr01 profile
ADMU3100I: Reading configuration for server: dmgr
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server dmgr open for e-business; process id is 8186
```

Wait until task complete and verify if you have a working



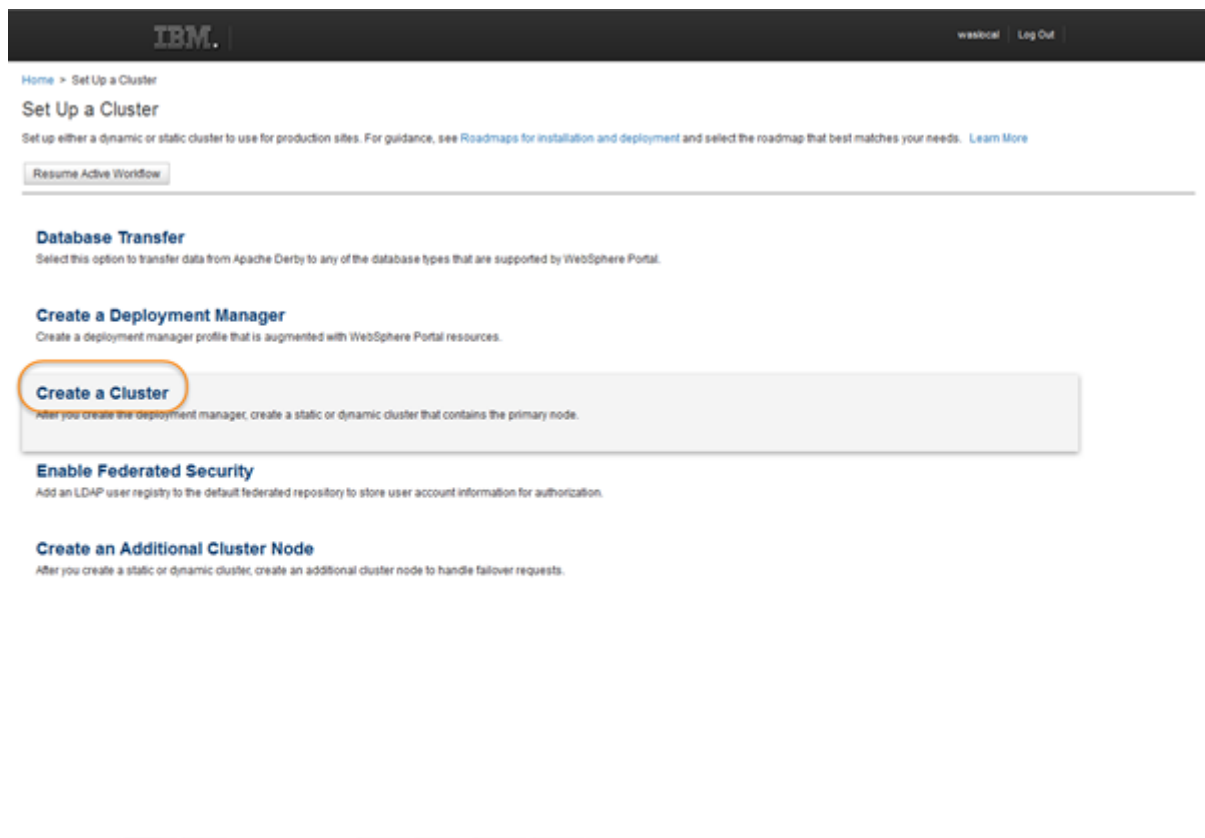
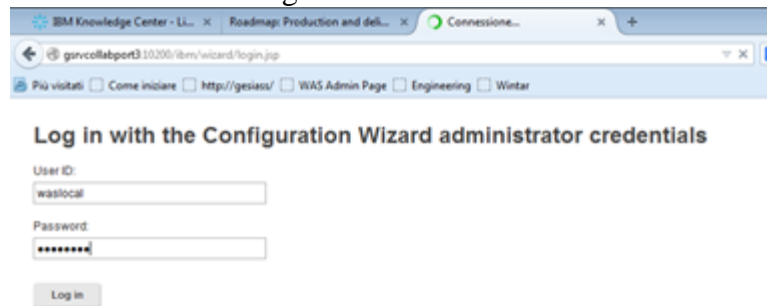
## Create Cluster

Now we can create a Cluster, to doing it, you must connect to Configuration Wizard

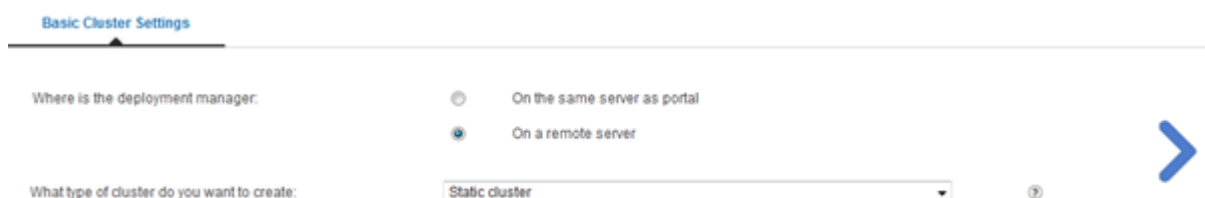
Connect to

<http://localhost:10200/ibm/wizard>

Authenticate using waslocal



Now use the Create a Cluster option to create a static or dynamic cluster.




Choose On remote server

And Static Cluster, you can choose Dynamic Cluster only if you have WebSphere Virtual Enterprise.  
And Next




Deployment Manager	Cluster Settings
*WebSphere Portal administrator ID:	<input type="text" value="waslocal"/> ⓘ
*WebSphere Portal administrator password:	<input type="password" value="*****"/> ⓘ
*Re-enter the password	<input type="password" value="*****"/>
*Release configuration user:	<input type="text" value="db2inst1"/> ⓘ
*Release configuration password:	<input type="password" value="*****"/> ⓘ
*Re-enter the password	<input type="password" value="*****"/>



Define your Administrator user, see the Release configuration user is user have grant on DB !  
And Next


Deployment Manager	Cluster Settings
*WebSphere Application Server administrator ID:	<input type="text" value="waslocal"/> ⓘ
*WebSphere Application Server administrator password:	<input type="password" value="*****"/> ⓘ
*Re-enter the password	<input type="password" value="*****"/>
*Deployment manager cell name:	<input type="text" value="dmgrCell01"/> ⓘ Example: dmgrCell01
*Deployment manager node name:	<input type="text" value="dmgrNode01"/> ⓘ Example: dmgrNode01
*Deployment manager profile path:	<input type="text" value="/opt/IBM/WebSphere/AppServer/profiles/dmgr01"/> ⓘ Example: /opt/IBM/WebSphere/AppServer/profiles/dmgr01
*Deployment manager host name:	<input type="text" value="dmgr.ondemand.com"/> ⓘ
*SOAP port:	<input type="text" value="10033"/> ⓘ



Define your WAS Administrator on DMGR, and other parameter for your DMGR, (soap port probably is 8879) and Next

2 Customize Values  
*in progress*
3 Configure

Deployment Manager	Cluster Settings
*Cluster name:	<input type="text" value="PortalCluster"/> ⓘ



Choose Cluster Name, default value is PortalCluster. And Next



## Database Transfer

**1** Answer Questions  
✔ Complete

**2** Customize Values  
✔ Complete

### Optional

[Download Wizard Selections](#)

Download your selections in case you need to run the configuration wizard. [Learn More](#)

[Download Configuration Scripts](#)

If you plan to run scripts to set up the configuration instead of the wizard, download the scripts. [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/work2

```
[root@ ~]# unzip ./WF.zip
Archive:  ./WF.zip
  inflating: wfi-instance.xsl
   creating: scripts/
  inflating: scripts/AugmentRemoteDeploymentManagerProfile
  inflating: scripts/scripts.lst
  inflating: scripts/CreateRemoteDeploymentManagerProfile
   creating: properties/
  inflating: CreateDeploymentManagerProfileWithPortal.wfi
  inflating: CreateDeploymentManagerProfileWithPortal.html
```

And grant all permission to it and him son....

```
chmod -R 777 ./work
```

### Federate the node.

**!!!! ATTENTION:** Verify 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. Before you run next task, verify if your DMGR and WebSphere Portal is running, and verify if your wkplc.properties and wkplc\_dbdomain.properties have all password set.

This node then becomes a managed node in the deployment manager cell.  
Run

```
./FederateNode.sh
```

And wait until task completed.

```

[(internal) propogate-properties-delete-task] Deleting: /opt/ibm/WebSphere/wp_profile/Conf
5347tmp
Successfully copied properties to /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties/wk
Storing WasSoapPort=8879
Storing WasRemoteHostName=portaldmgr.dominioog.lan
Storing WasUserId=waslocal
Storing PrimaryNode=true
[(internal) propogate-properties-copy-task] Copying 1 file to /opt/ibm/WebSphere/wp_profil
[(internal) propogate-properties-delete-task] Deleting: /opt/ibm/WebSphere/wp_profile/Conf
0524tmp
Successfully copied properties to /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties/wk
BUILD SUCCESSFUL
isIsSeries currently set to: null

update-registry-sync-property:
Mon Jun 09 17:50:53 CEST 2014
[echo] updated RegistrySynchronized in file wkplc.properties with value: true

```

Modify resources in the node's profile configuration to work in a clustered environment.

./post-federation

And wait until task completed.

```

Storing WasUserId=waslocal
Storing PortalAdminId=waslocal
Storing ClusterName=PortalCluster
Storing PrimaryNode=true
[(internal) propogate-properties-copy-task] Copying 1 file to /opt/ibm/WebSphere/wp_profile/ConfigEngine/
[(internal) propogate-properties-delete-task] Deleting: /opt/ibm/WebSphere/wp_profile/ConfigEngine/propert
1726tmp
Successfully copied properties to /opt/ibm/WebSphere/wp_profile/ConfigEngine/properties/wkplc.properties
BUILD SUCCESSFUL
isIsSeries currently set to: null

update-registry-sync-property:
Mon Jun 09 19:10:57 CEST 2014
[echo] updated RegistrySynchronized in file wkplc.properties with value: true

```

Now You have created a single node cluster.

One quick way to test your cluster is to log in and explore the site.

Next, configure Security using your LDAP server.

Will be describe in next article

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