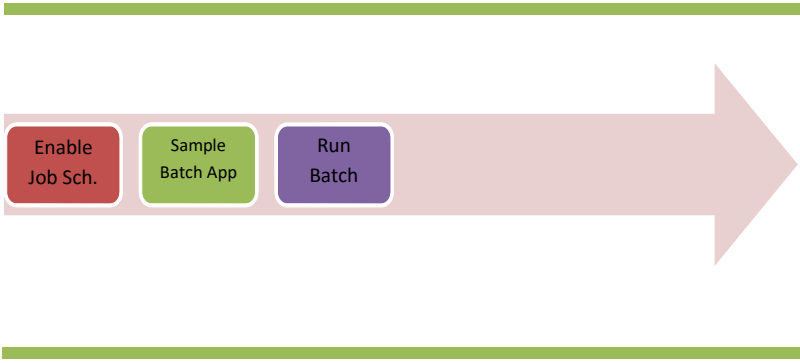
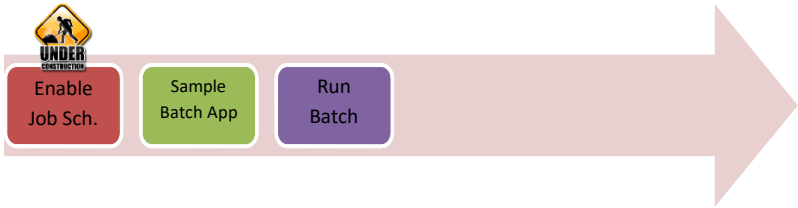
Lab Exercise 13: JOB MANAGEMENT

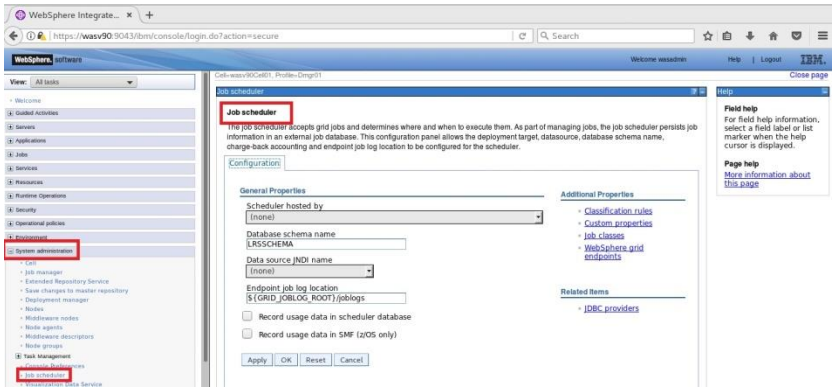


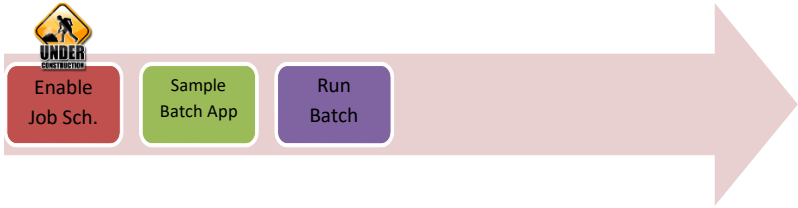
1. **Enable Job Scheduler**
2. **Install a sample batch application**
3. **Run a batch job**



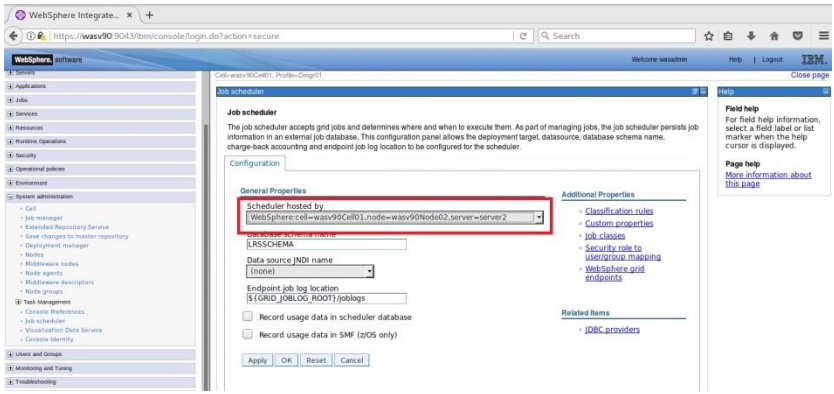
Task 1: Enable Job Scheduler

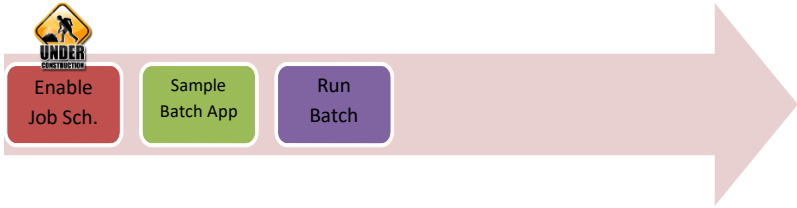
Step 1: Navigate to “System administration>Job scheduler”.



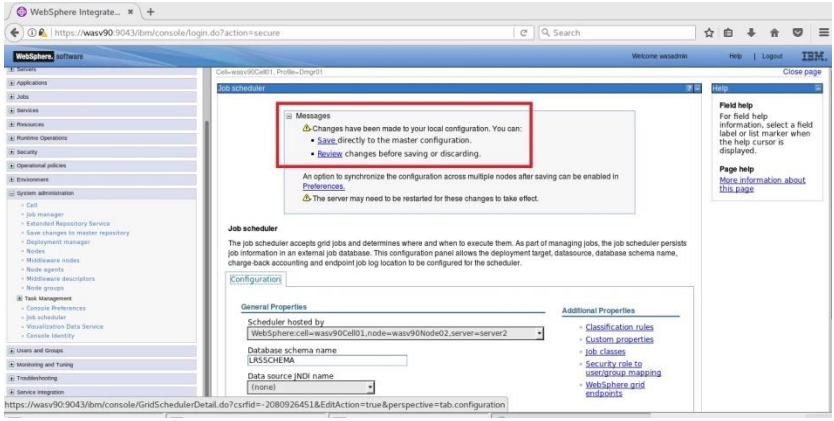


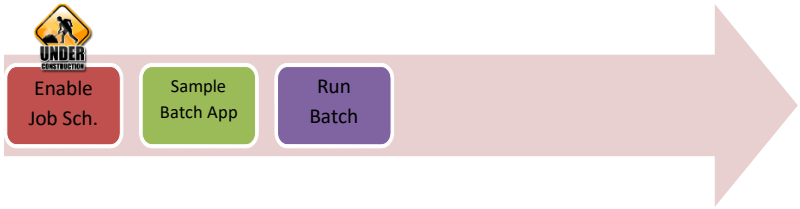
Step 2: Select the host to be used as scheduler and use “(none)” as JNDI name and click “OK”.



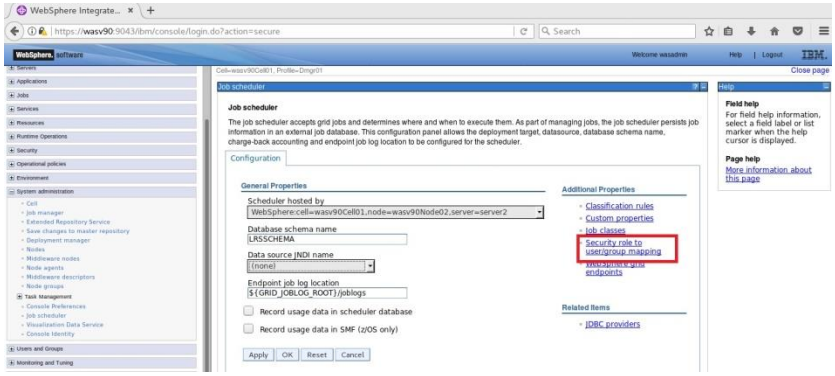


Step 3: Click “Save” to write changes. Please pay attention that “jdbc/lnsched” is created and selected automatically.

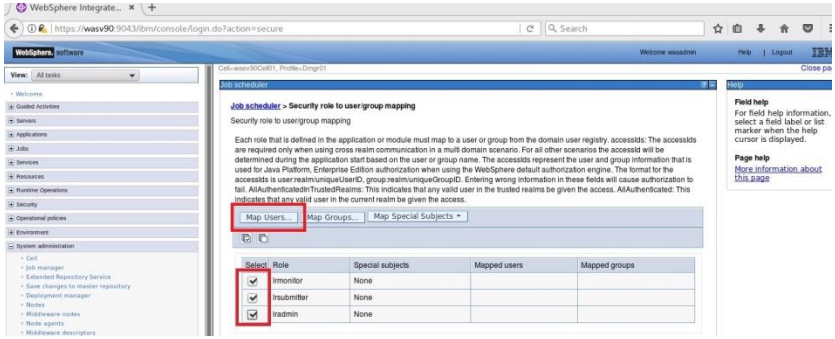


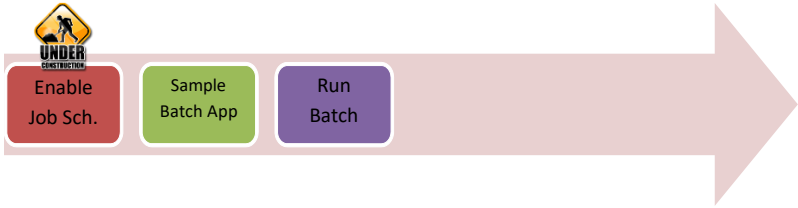


Step 4: Click on “Security role to user/group maping”.

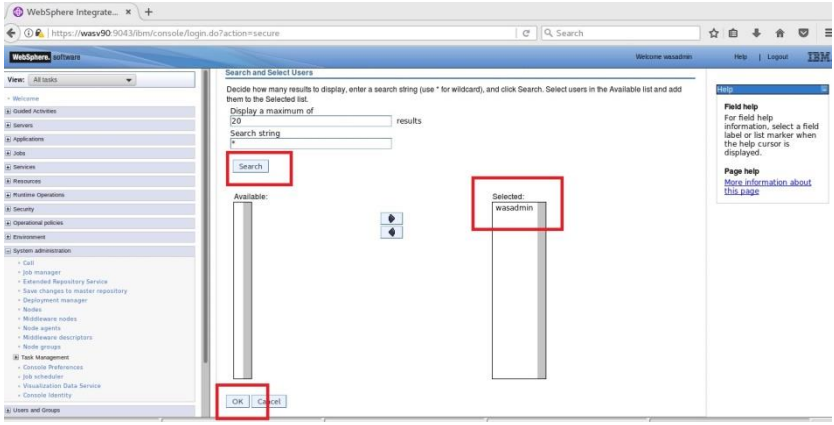


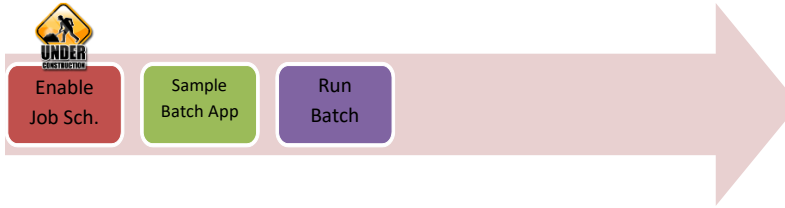
Step 5: Select all the roles and click “Map users”.



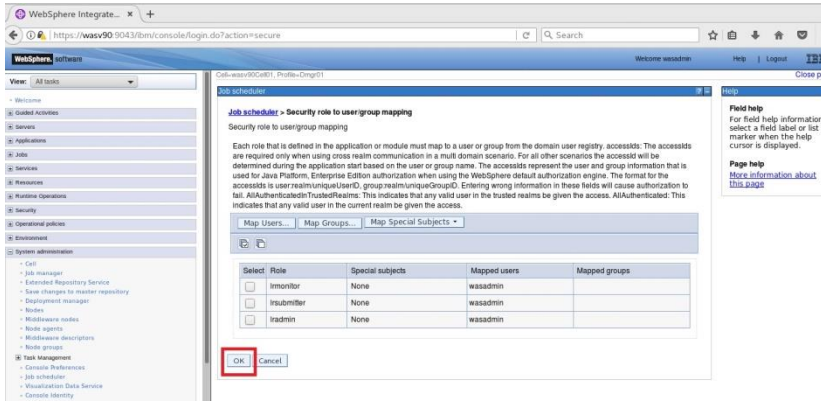


Step 6: Search the administrative user and using arrows add to the selected area and click “OK”.

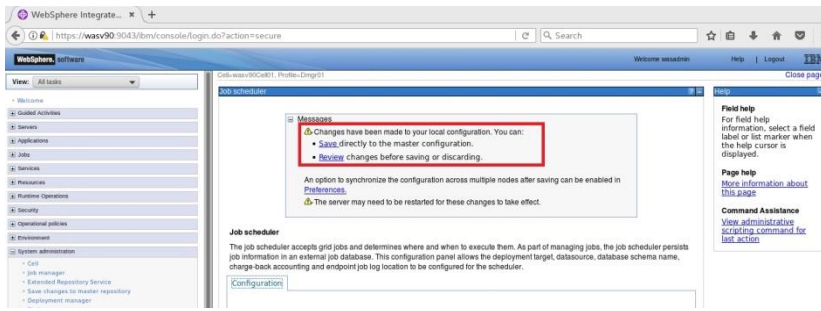


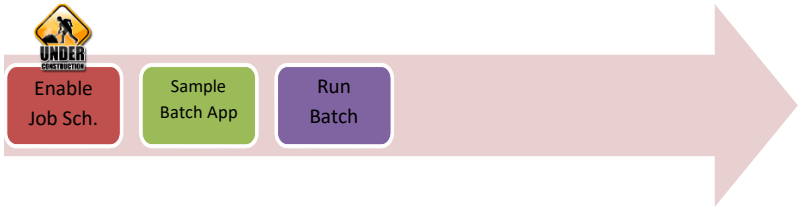


Step 7: Click “OK”.

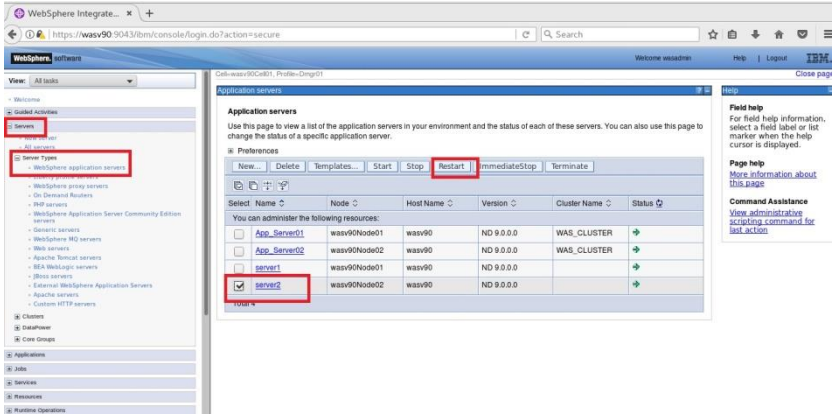


Step 8: Click “Save” to write changes.

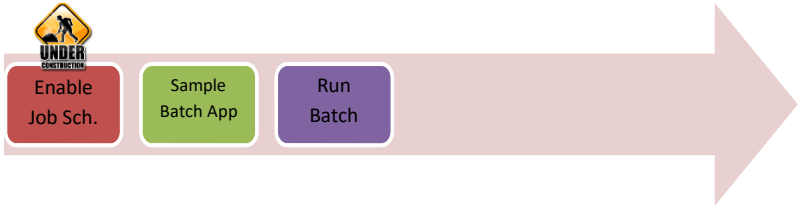




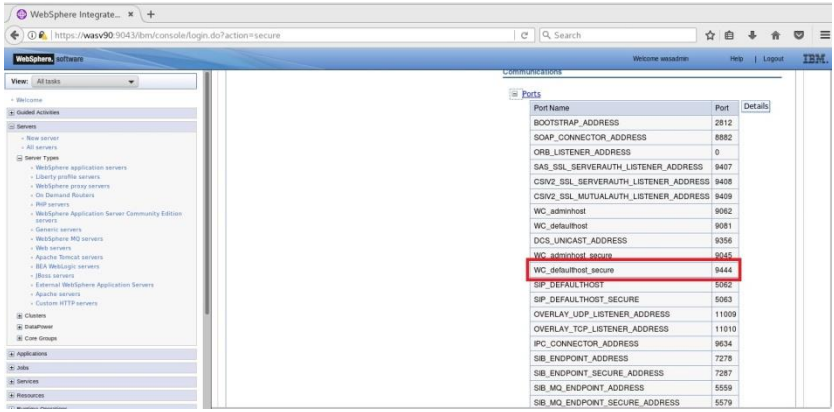
Step 9: Navigate to “Servers>Server Types>WebSphere application servers” and select the job scheduler host and click “Restart”.

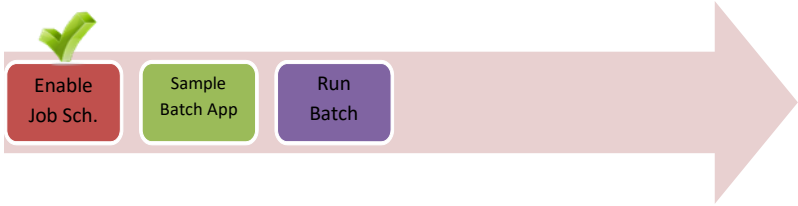


Application server must be restarted successfully.

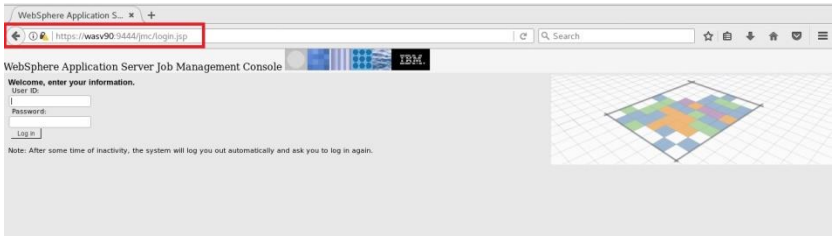


Step 10: Check “WC_defaulthost_secure” port under “Ports” for the job scheduler hosting application server.

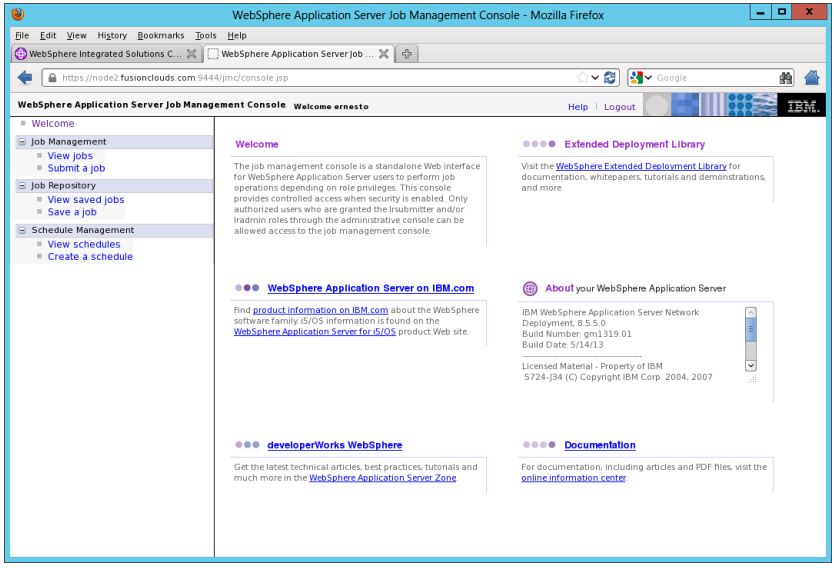




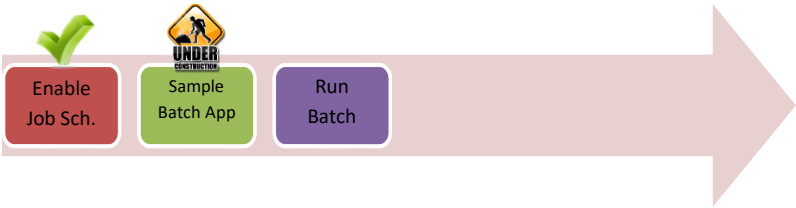
Step 11: Navigate to “https://wasv90:9444/jmc”.



You should be able to login using administrative username and password.

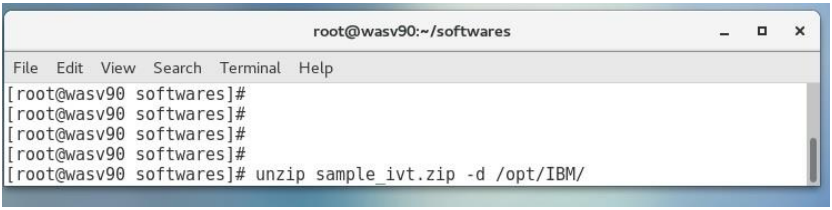


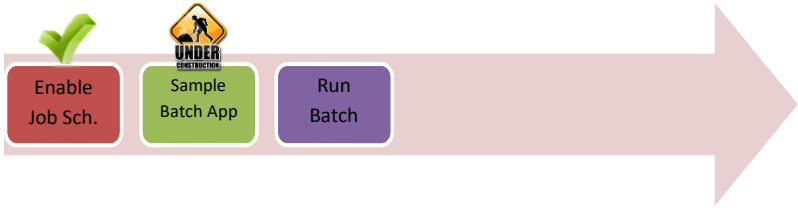
Task 1 is complete!



Task 2: Install a sample batch application

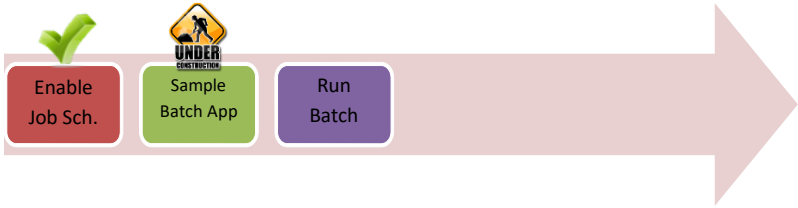
Step 1: Unzip the sample_ivt.zip to "/opt/IBM/".



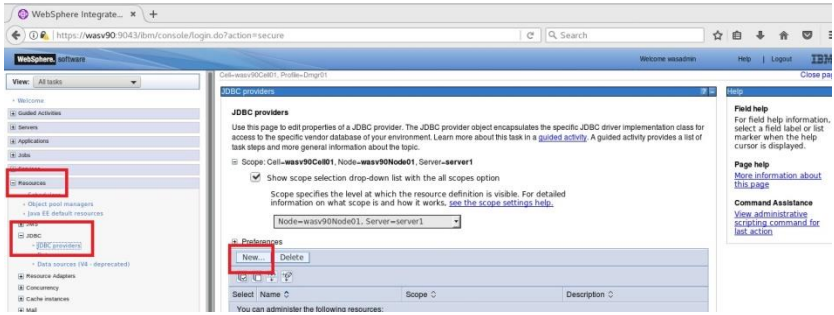


Step 2: Change directory to "/opt/IBM/WebSPhere/AppServer/derby/databases" and run "java –Djava.ext.dirs=/opt/IBM/WebSphere/AppServer/derby/lib –Dij.protocol=jdbc:derby: org.apache.derby.tools.ij /opt/IBM/IVT/scripts/CreateIVTTablesDerby.ddl".

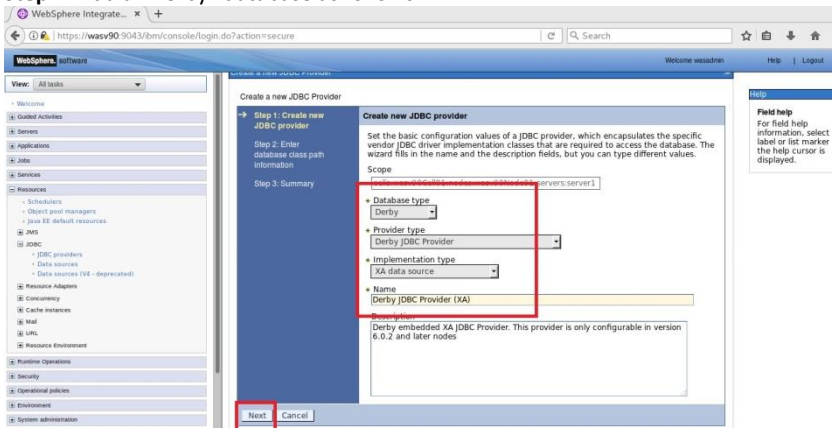
```
File  Edit  View  Search  Terminal  Help
[root@wasv90 databases]# java -Djava.ext.dirs=/opt/IBM/WebSphere/AppServer/derby/lib -Dij.protocol=jdbc:derby: org.apache.derby.tools.ij /opt/IBM/I
VT/scripts/CreateIVTTablesDerby.ddl
ij version 10.11
ij> -- Scriptfile to create a Derby database for the CGIVI test bucket application. This script
-- can be modified if needed to change the name of database or name of the Schema used. Default
-- database name is IVTDB and default schema name is IVTSCHEMA
-- The script will produce the IVTDB Derby database in the directory
-- from which it is invoked.
-- Process This script in the ij command line processor.
-- Example
--     java -Djava.ext.dirs=C:/WebSPhere/AppServer/derby/lib -Dij.protocol=jdbc:derby: org.apache.derby.tools.ij CreateIVTTablesDerby.ddl

CONNECT 'jdbc:derby:IVTDB;create=true';
ij> DROP TABLE "IVTSCHEMA"."IVTTABLE";
ERROR 42Y07: Schema 'IVTSCHEMA' does not exist
ij> CREATE TABLE "IVTSCHEMA"."IVTTABLE"  (
                "JOBID" VARCHAR(250) NOT NULL ,
                "COUNT" INTEGER  NOT NULL,
                "RECORD" VARCHAR(256) )
                ;
0 rows inserted/updated/deleted
ij> ALTER TABLE "IVTSCHEMA"."IVTTABLE"
       ADD CONSTRAINT "PK_ACCOUNT" PRIMARY KEY
                ("JOBID","COUNT");
0 rows inserted/updated/deleted
ij> COMMIT WORK;
ij> DISCONNECT;
[root@wasv90 databases]#
```

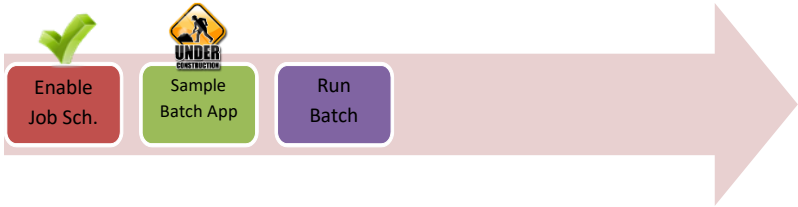


Step 3: Navigate to “Resources>JDBC>JDBC providers” and click “New”.

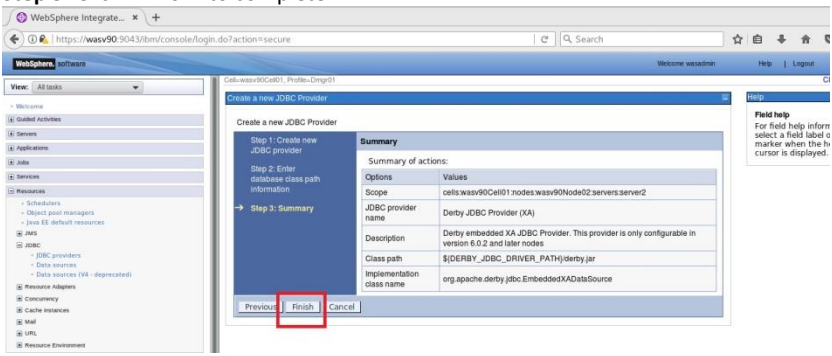


Step 4: Add a “Derby” database as follows.

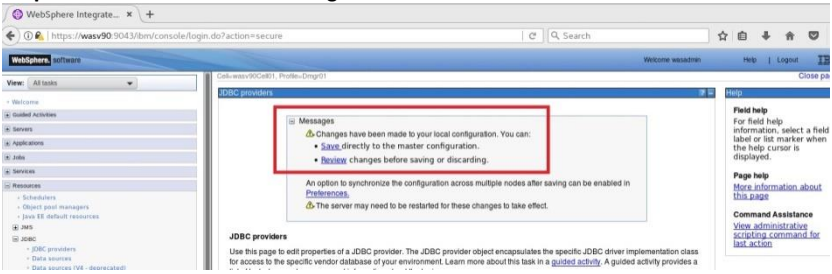


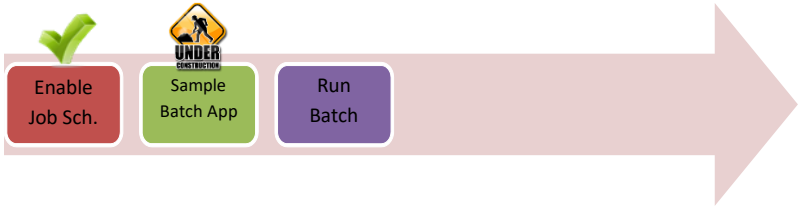


Step 5: Click “Finish” to complete.

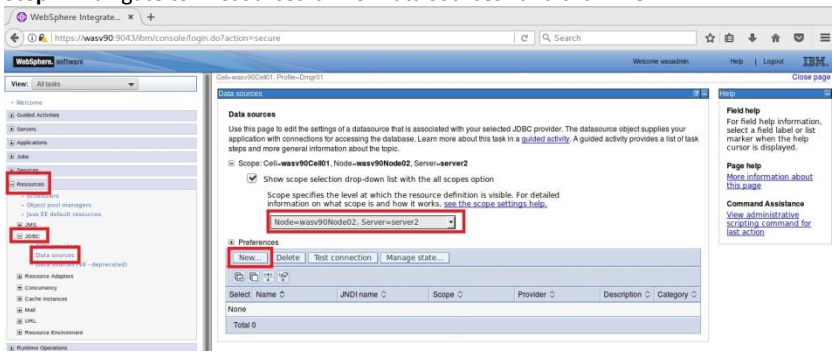


Step 6: Click “Save” to write changes.

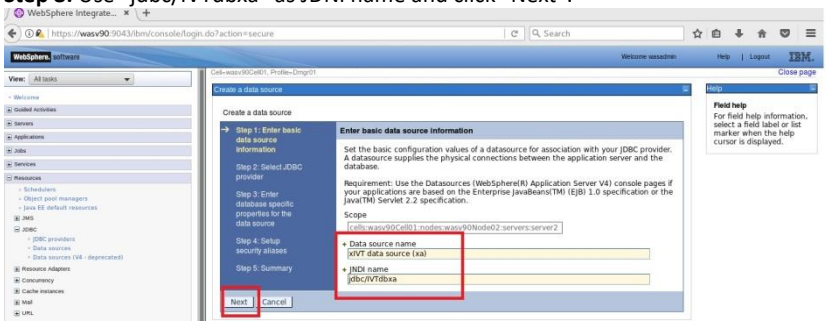


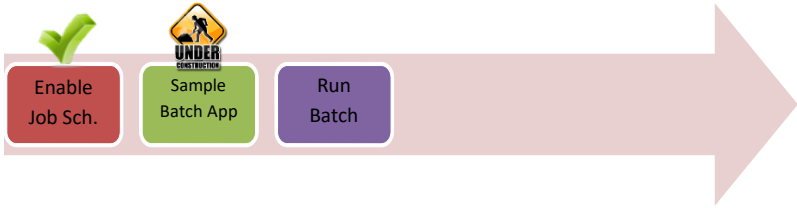


Step 7: Navigate to “Resources>JDBC>Data sources” and click “New”.

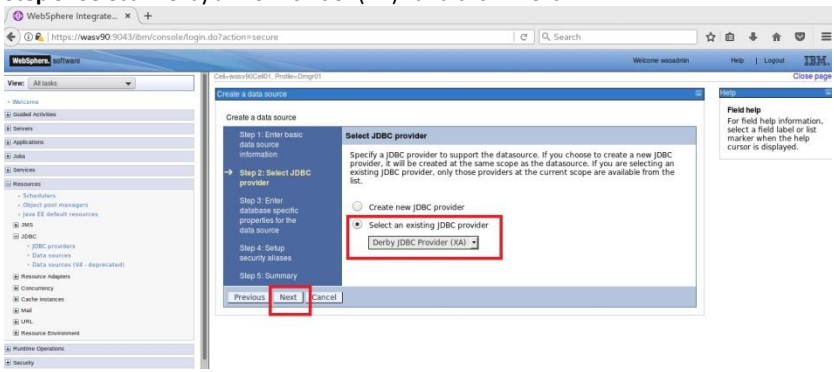


Step 8: Use “jdbc/IVTdbxa” as JDNI name and click “Next”.

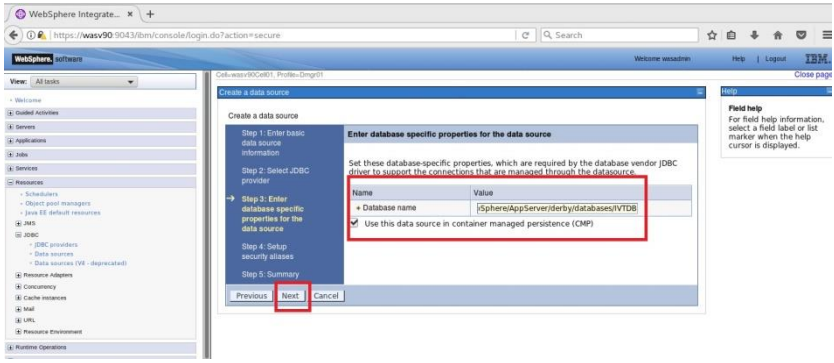


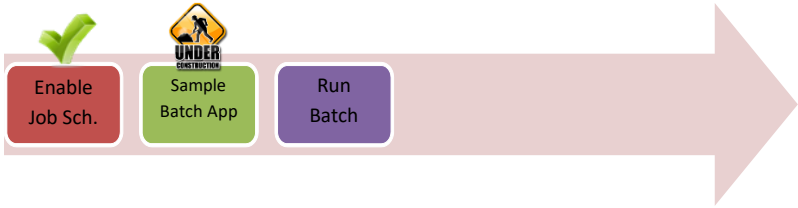


Step 9: Select “Derby JDBC Provider (XA)” and click “Next”.

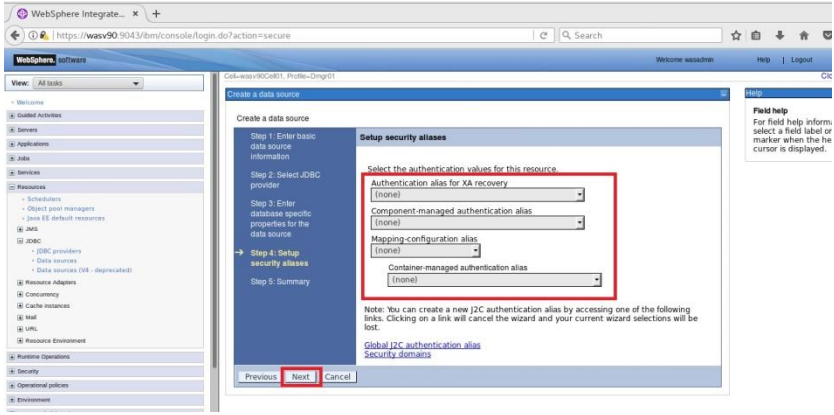


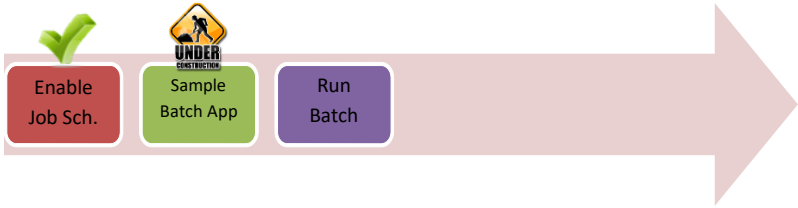
Step 10: Eneter “/opt/IBM/WebSPhere/AppServer/derby/databases/IVTDB” and click “Next”.



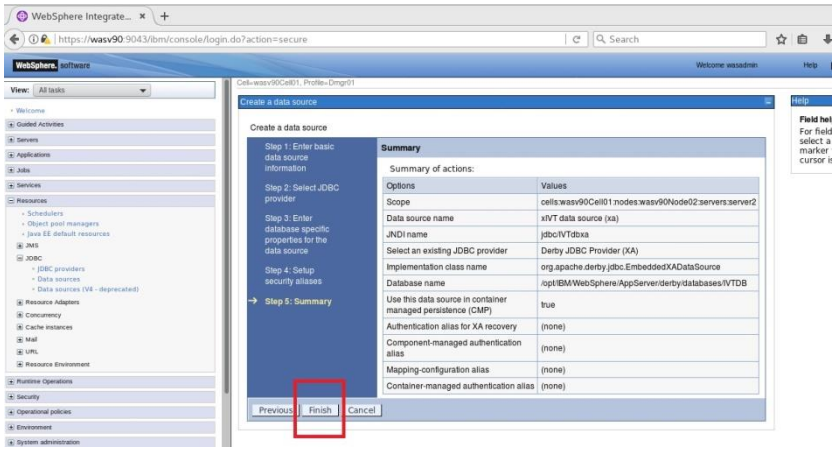


Step 11: Click “Next” to continue.



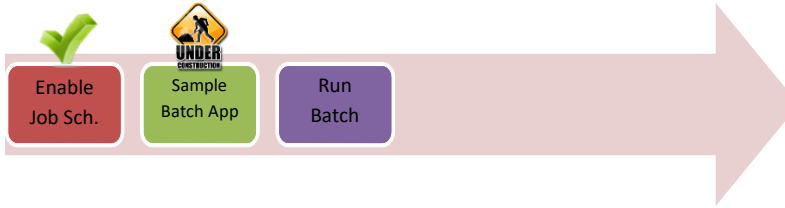


Step 12: Click “Finish” to complete.

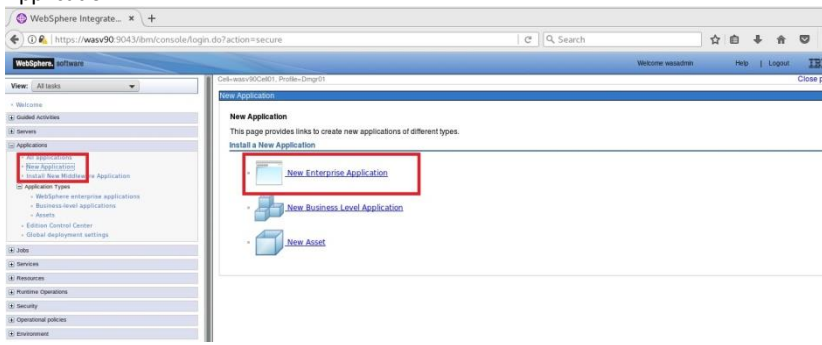


Select the new data source and click “Test connection” to verify the

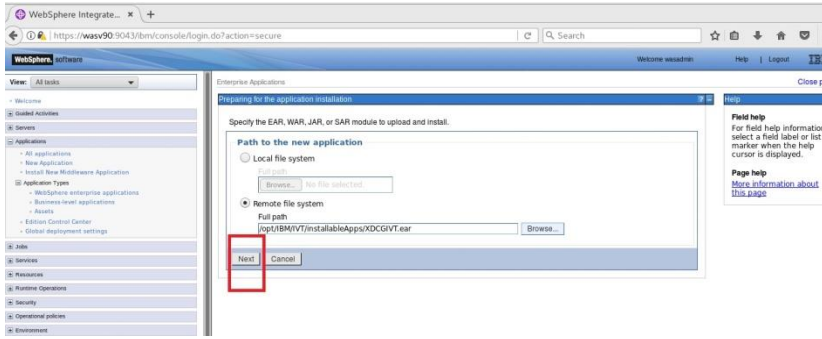
database conencitvity.

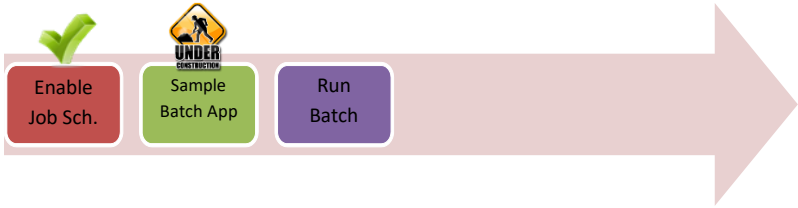


Step 14: Navigate to “Applications>New Application” and click “New Enterprise Application”.

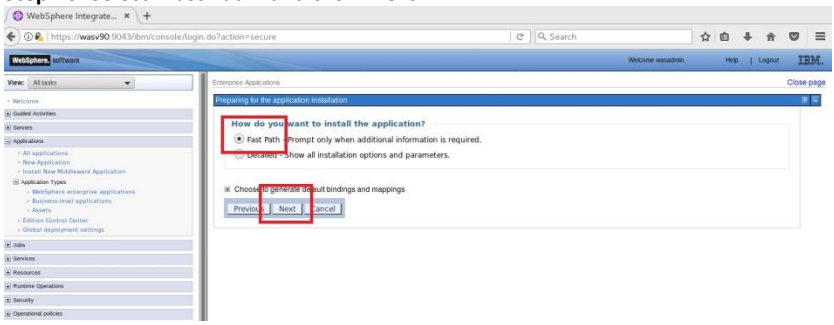


Step 15: Browse “/opt/IBM/sample_ivt/sample_ivt/IVT/installableApps/XDCGIVT.ear” and click “Next”.

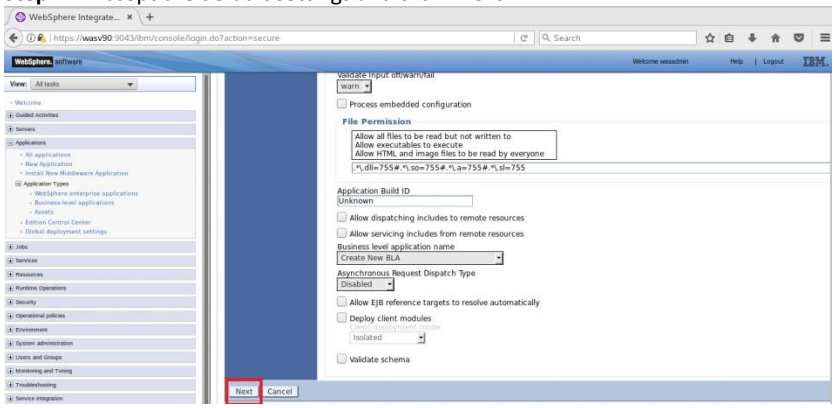


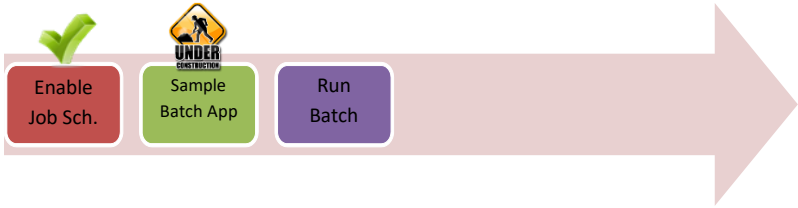


Step 16: Select “Fast Path” and click “Next”.

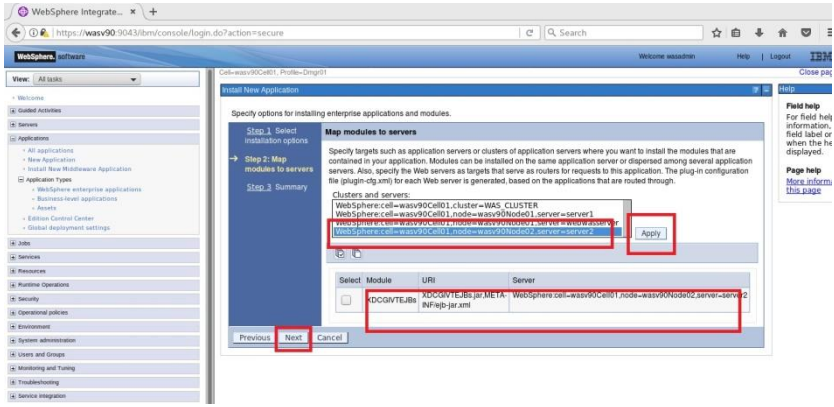


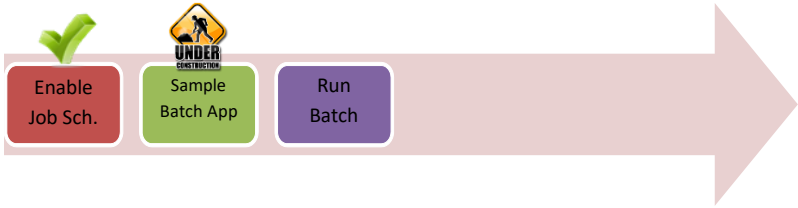
Step 17: Accept the default settings and click “Next”.



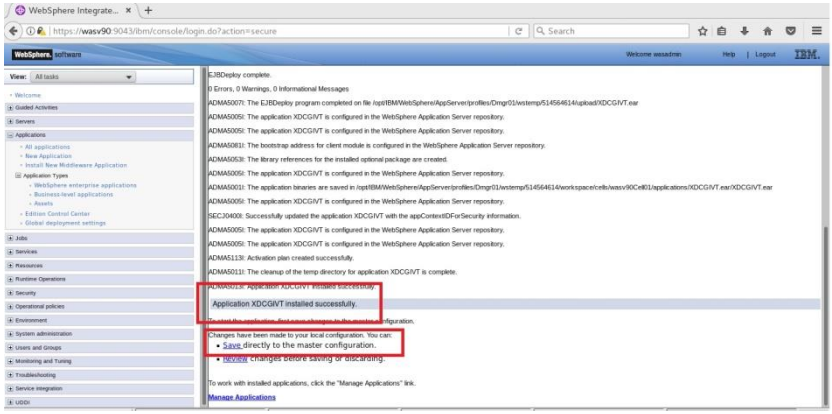


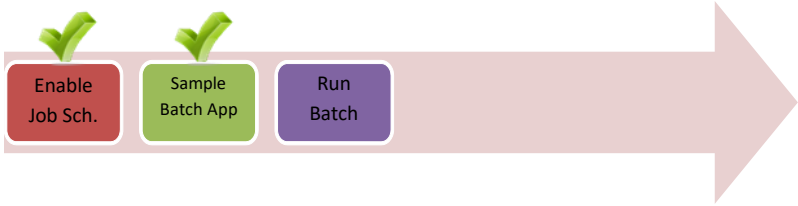
Step 18: Map the application to the application server selected as host of the job scheduler and click “Next”.



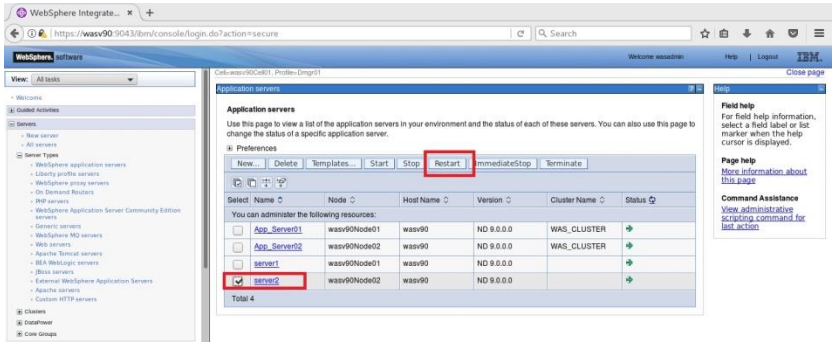


Step 19: Click “Finish”. You should see the success message then click “Save”.



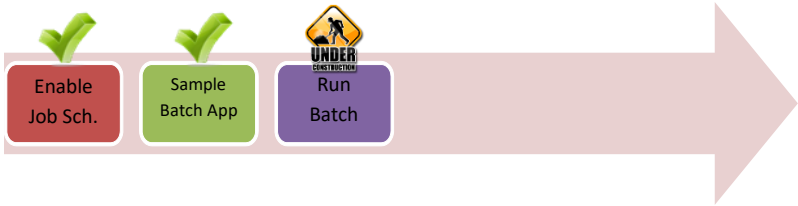


Step 21: Restart the application servers.



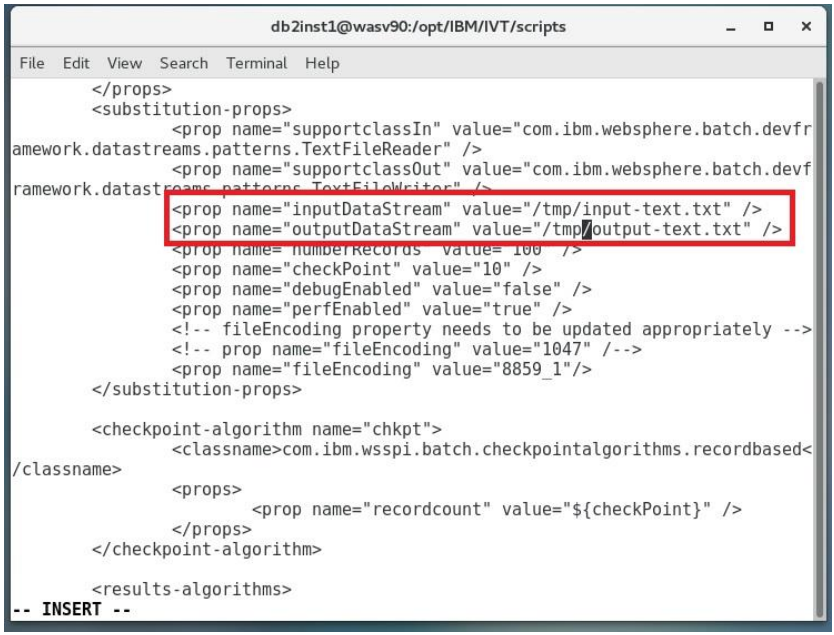
Make sure that restart is successful.

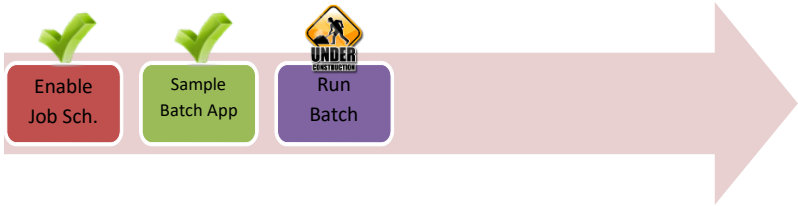
Task 2 is complete!



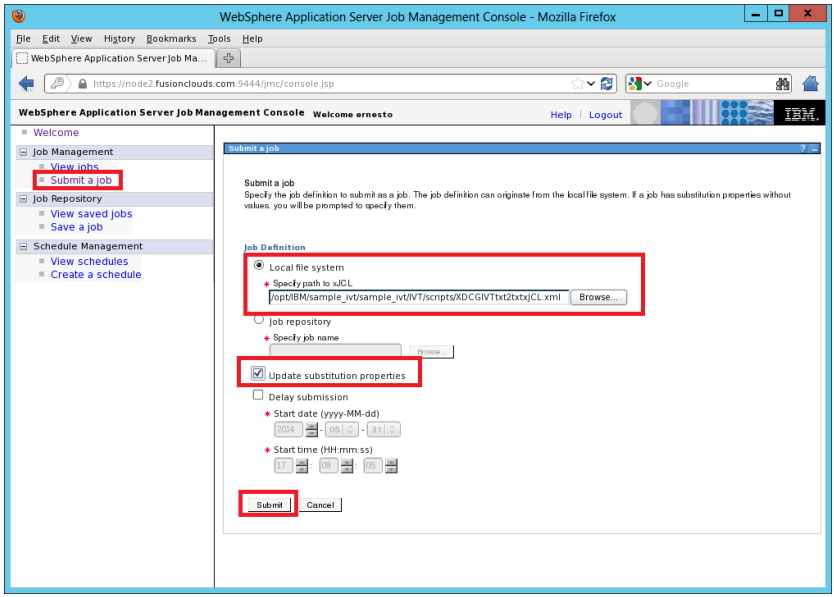
Task 3: Run a batch job

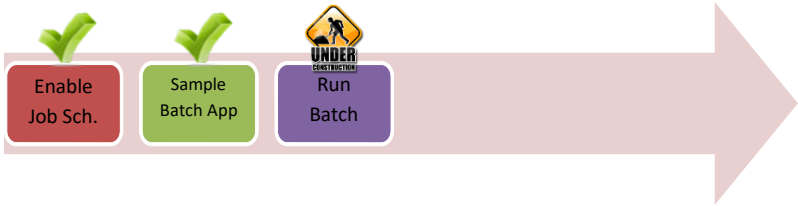
Step 1: Change "inputDataStream" and “outputDataStream” values according to your environment for the “XDCGIVTtxt2txtxJCL.xml”, “XDCGIVTbyte2bytexJCL.xml” and “XDCGIVTtxt2db2txtxJCL.xml” files under “scripts” folder.



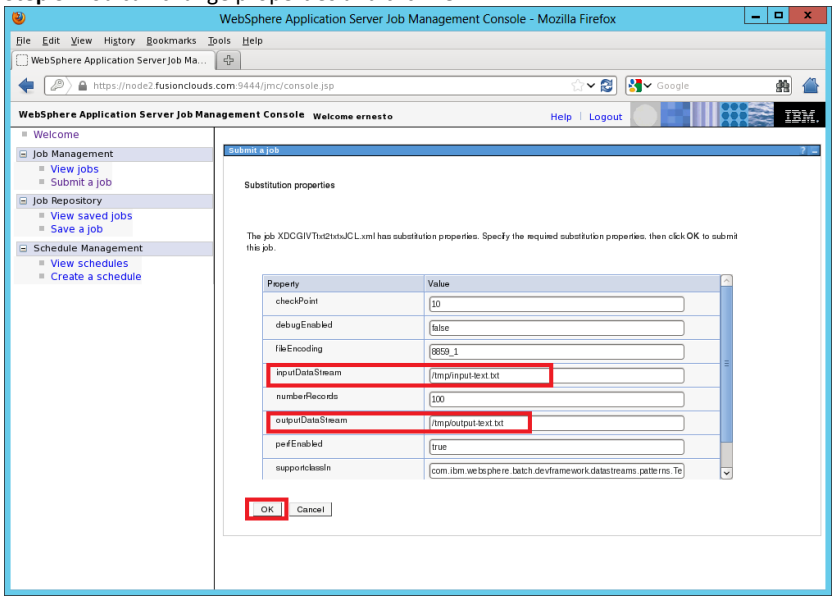


Step 2: Login to “Job Management Console” and click on “Submit a job”. Browse “XDCGIVTtxt2txtxJCL.xml” file in “Local file system” and select “Update substitution properties” and click “Submit”.

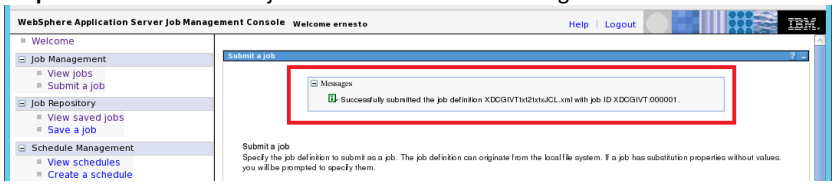


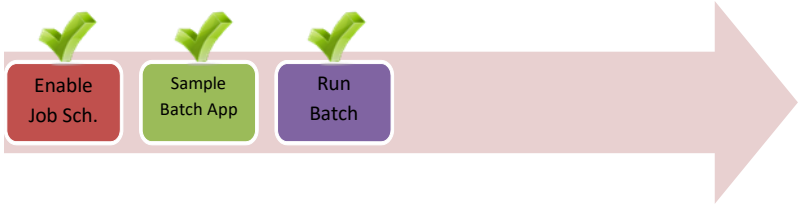


Step 3: You can change properties and click “OK”.

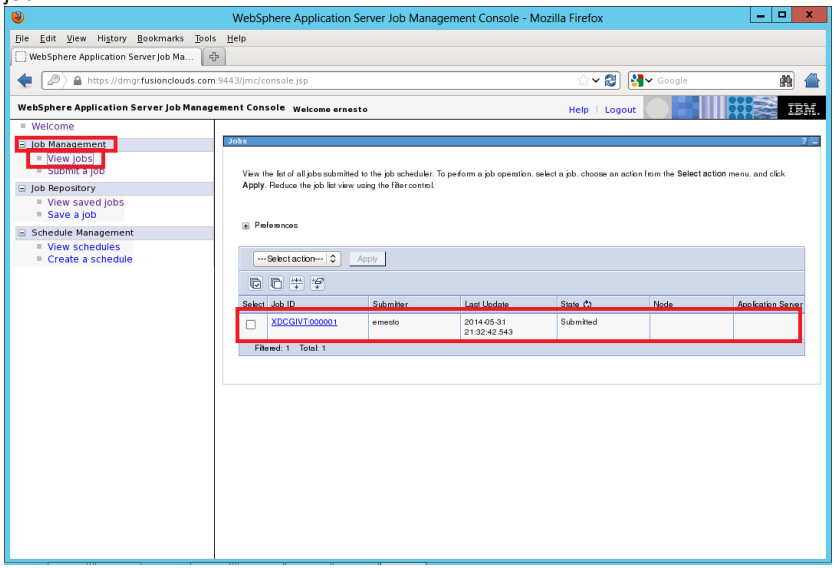


Step 4: You should see the job submission success message as follows.





Step 5: You can take actions under “Job Management>View jobs” for the specific job.



Task 3 is complete!

SUMMARY

Batch applications are used to run complex and long tasks that contain typically transactional and multi-step processes. WebSphere Application Server uses an XML based language, xJCL, to provide consistent architecture that is optimized for Java and long running batch applications. A batch job contains directives to run one or more batch applications. Batch applications are Java EE applications that are designed to run in a non-interactive mode to complete business critical jobs.

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