



**Instant Chime for IBM Sametime
For IBM Websphere and IBM DB2
Installation Guide**

Fall 2014

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Contents

System Requirements	4
Server Preparation	4
Required accounts:	5
Overview	6
Installation Overview for IBM WebSphere Deployment	7
Chime.war	7
ITFramework.war	7
Create Database using DB2 Command line Processor (Windows)	8
Create Database using DB2 Command line Processor (Linux).....	13
Creating Database Schema using IBM Data Studio.....	16
Verifying WebSphere Cluster Setup.....	21
WebSphere Application Servers	21
Web Servers	21
Verifying IBM WebSphere Server Heap Size	22
Installing Chime.war.....	24
Installing ITFramework.war	31
Specifying Database Connection Details.....	32
ITFramework Application	32
Chime Application	33
Specifying LDAP Details.....	34
Starting Applications using WebSphere Console	37
Accessing Chime Web Application	38
Disabling default credentials.....	39
Revision History	40

System Requirements

- 64-bit Windows Server 2008R2® –or– Windows Server 2012® - or Linux machine

Application should not be installed on the same server hosting IBM Sametime.

- Chime may be installed on virtual machines, such as Oracle Virtual Box or VMWare
- Write access to Chime database (built during installation)

The application supports both SQL and Windows server authentication options.

- Read Access to Windows Active Directory or LDAP
- Oracle JRE 7.0 +
- Create Read/Write access to enterprise SQL environment
 - IBM DB2 9.7 and above or
 - Microsoft SQL Express or
 - Microsoft SQL Server
- IBM Sametime 8.0 and above
 - Chime for Sametime will access IBM Sametime using port 1533 as a Java application
- Java application server:
 - IBM Websphere 8.5 and above or
 - Apache Tomcat 7.0 and above

Server Preparation

Chime requires some role services to be enabled before the application can be installed.

Chime requires:

Required accounts:

The following accounts will be need for the installation and/or operation of Chime.

Active Directory query account

This account will be used by Chime to query Active Directory for users

AD Username: _____

Password: _____

Chime SQL Account

This account will be used by Chime to read and write information to the Chime database. The configuration wizard will grant the necessary access to the database once it has been created.

Username: _____

Password: _____

Admin SQL Account

This account is used to create/update the Chime database during installation or upgrade. This account requires admin privileges on the SQL server.

This account information is not stored, and is only utilized during creation or updating.

Username: _____

Password: _____

Web Seeker account - *This account will be used by Chime to connect request from the web chat to Lync experts. This account needs to be Lync enabled and not used anywhere else.*

AD Username: _____

Password: _____

Dispatcher account - *This account will be used by Chime to connect request from a seeker to Sametime experts. This account needs to be Sametime enabled. Each queue will need a separate dispatcher.*

Overview

Instant Chime for IBM Sametime is an enterprise service desk application that enables service desk enablement, and 'click to chat' functionality, using IBM Sametime as the IM routing and presence platform.

Typically, Chime is deployed as part of either an Apache Tomcat\Microsoft SQL Express installation or an IBM WebSphere\IBM DB2 deployment. Your installation and configuration preferences are generally based on enterprise preferences and internal licensing.

At a high level, Chime will be deployed as a Java Spring application under an enterprise application server - either Apache Tomcat or IBM WebSphere. Chime provides a rich set of user interface elements which are accessed via a web browser. Chime will leverage enterprise standard SQL engines, such as either Microsoft SQL Express, Microsoft SQL Server, or IBM DB2.

Standard installation and deployment scenarios:

1. Apache Tomcat and Microsoft SQL Express
2. IBM WebSphere and IBM DB2

Chime provides a client based IBM Sametime plugin that extends the agent's Sametime experience and provides functionality such as an 'in place' context window, the ability to transfer and route inbound requests, and additional agent level functionality.

Chime leverages the IBM Sametime platform for agent awareness and agent IM routing – and this IBM Sametime functionality may be accessed via an on-premise installation or via the IBM Sametime service provided the IBM cloud functionality (IBM Smarter Cloud)

Installation Overview for IBM WebSphere Deployment

Chime Application consists of following two WAR (Web Archive files) files which are deployed under IBM WebSphere Server 8.5:

1. Chime.war
2. ITFramework.war

Chime.war

Chime Web Application is the frontend which allows administrators to:

1. Configure/monitor Queues.
2. Access reporting module.
3. Add/Edit agents and monitor them.

Agents can also access the application to:

1. Track their Queue activity
2. View Chat Conversations
3. Monitor vital Queue statistics like ASA (Average Speed to Answer)

ITFramework.war

ITFramework application is the Queue routing engine. It is responsible for running Queues, locating agents for incoming seeker requests and logging of chat conversations. It exposes a set of APIs which allows Chime Web Application to monitor it.

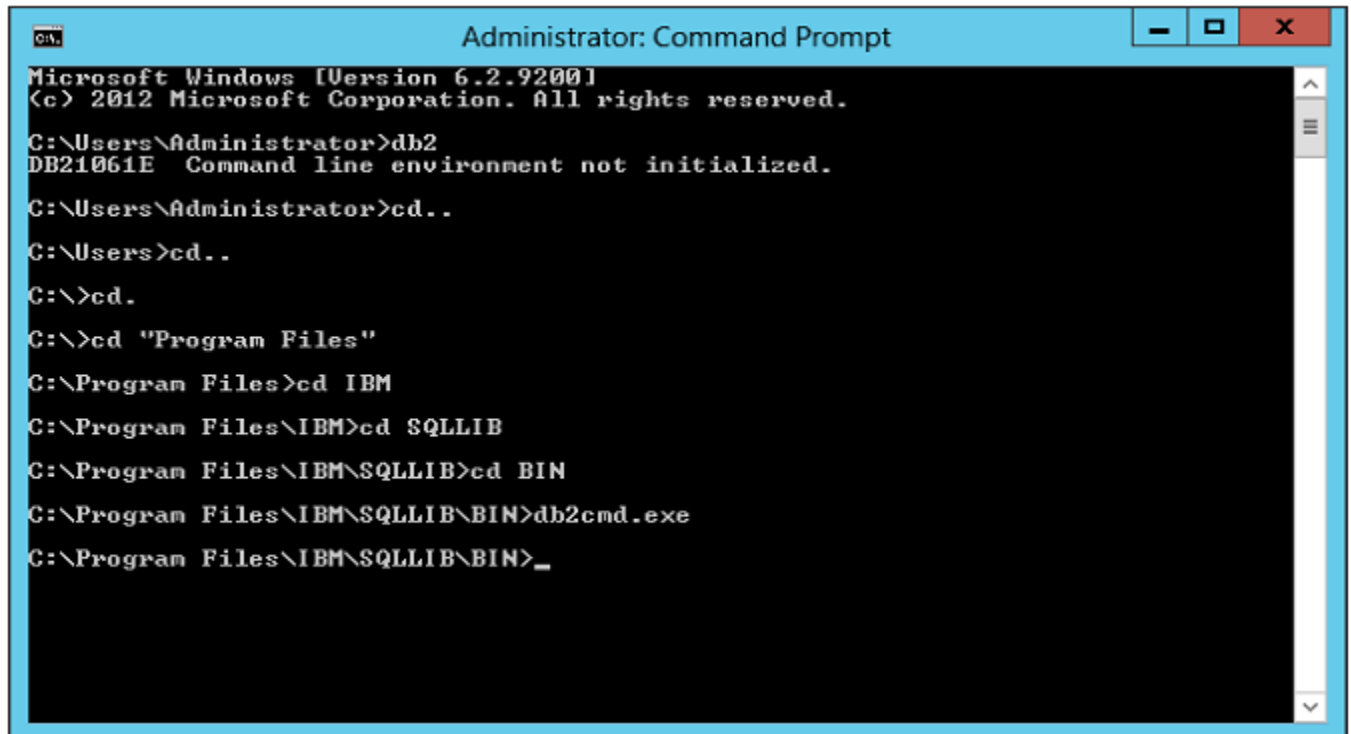
This installation guide outlines the steps required to deploy the application.

Create Database using DB2 Command line Processor (Windows)

Database schema can also be created using DB2 command line processor.

Steps for creating the database and tables using command line processor are as follows:

1. Navigate to the IBM DB2 install folder.
2. Issue the command **db2cmd.exe**

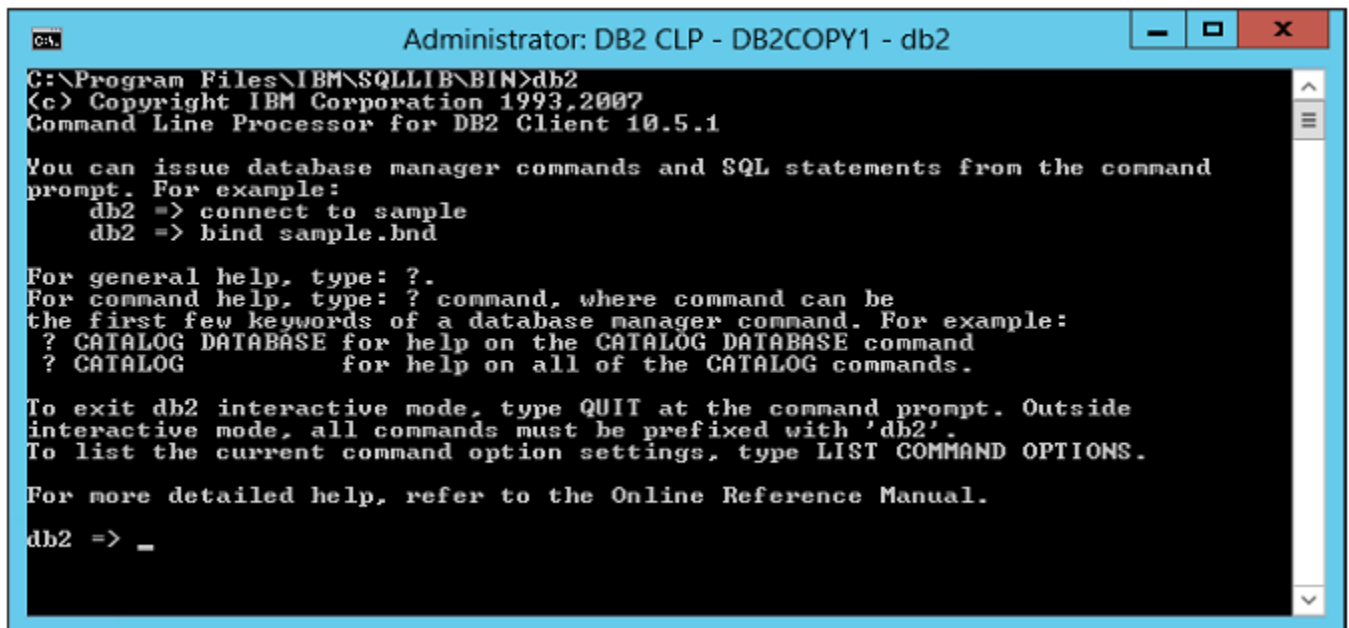


```
Administrator: Command Prompt
Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>db2
DB21061E  Command line environment not initialized.

C:\Users\Administrator>cd..
C:\Users>cd..
C:\>cd.
C:\>cd "Program Files"
C:\Program Files>cd IBM
C:\Program Files\IBM>cd SSQLLIB
C:\Program Files\IBM\SSQLLIB>cd BIN
C:\Program Files\IBM\SSQLLIB\BIN>db2cmd.exe
C:\Program Files\IBM\SSQLLIB\BIN>_
```


3. This will then launch the command line processor.



```
C:\Program Files\IBM\SQLLIB\BIN>db2
(c) Copyright IBM Corporation 1993,2007
Command Line Processor for DB2 Client 10.5.1

You can issue database manager commands and SQL statements from the command
prompt. For example:
    db2 => connect to sample
    db2 => bind sample.bnd

For general help, type: ?.
For command help, type: ? command, where command can be
the first few keywords of a database manager command. For example:
    ? CATALOG DATABASE for help on the CATALOG DATABASE command
    ? CATALOG           for help on all of the CATALOG commands.

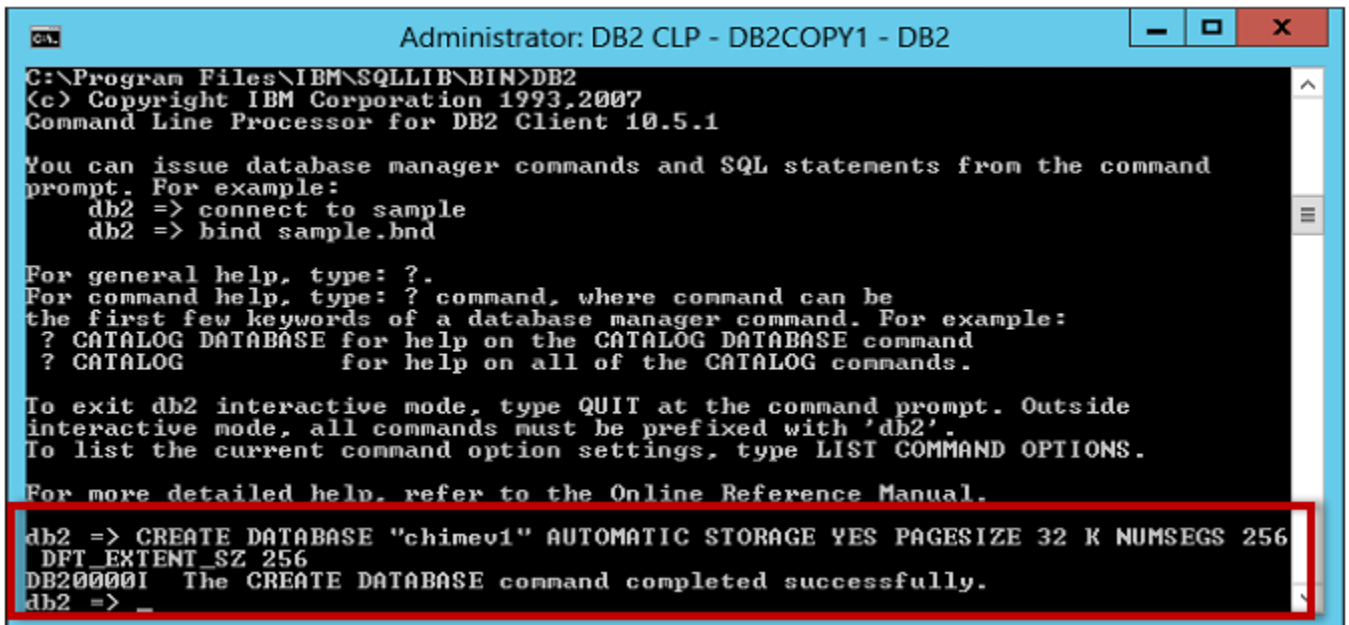
To exit db2 interactive mode, type QUIT at the command prompt. Outside
interactive mode, all commands must be prefixed with 'db2'.
To list the current command option settings, type LIST COMMAND OPTIONS.

For more detailed help, refer to the Online Reference Manual.

db2 => _
```

4. Next issue the following command to create a blank database:

CREATE DATABASE "chime" AUTOMATIC STORAGE YES PAGESIZE 32 K NUMSEGS 256 DFT_EXTENT_SZ 256



```
Administrator: DB2 CLP - DB2COPY1 - DB2
C:\Program Files\IBM\SQLLIB\BIN>DB2
(c) Copyright IBM Corporation 1993,2007
Command Line Processor for DB2 Client 10.5.1

You can issue database manager commands and SQL statements from the command
prompt. For example:
    db2 => connect to sample
    db2 => bind sample.bnd

For general help, type: ?.
For command help, type: ? command, where command can be
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    ? CATALOG DATABASE for help on the CATALOG DATABASE command
    ? CATALOG           for help on all of the CATALOG commands.

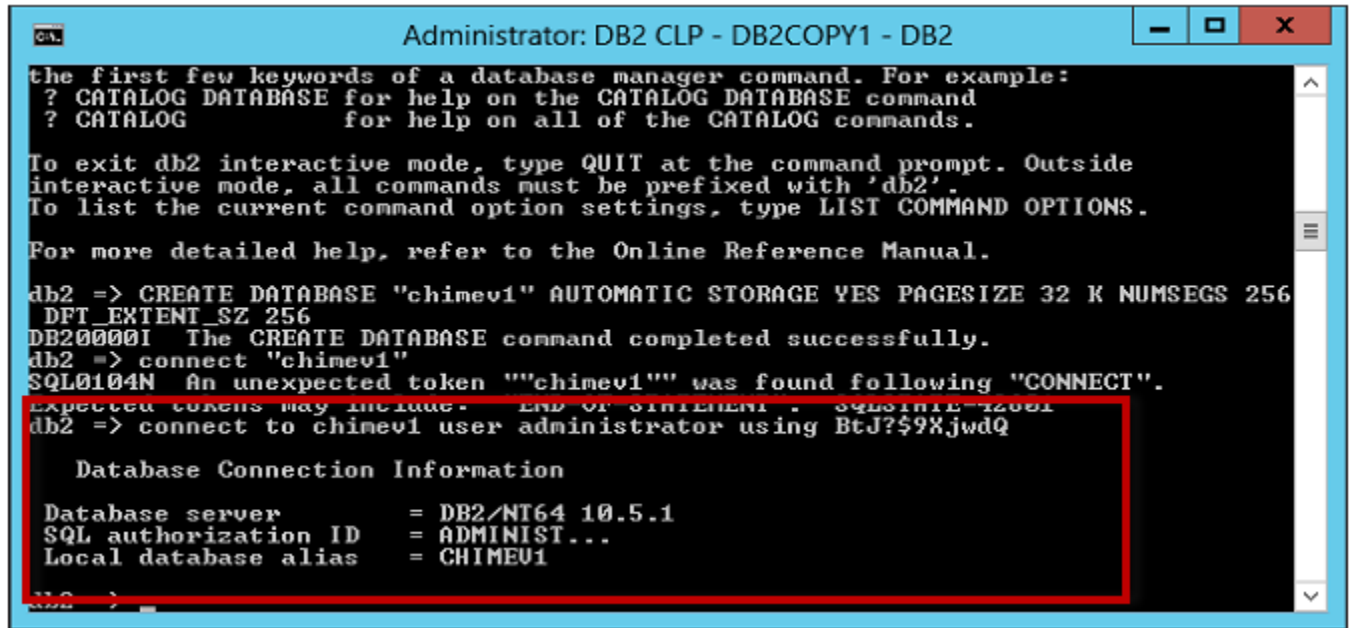
To exit db2 interactive mode, type QUIT at the command prompt. Outside
interactive mode, all commands must be prefixed with 'db2'.
To list the current command option settings, type LIST COMMAND OPTIONS.

For more detailed help, refer to the Online Reference Manual.

db2 => CREATE DATABASE "chimev1" AUTOMATIC STORAGE YES PAGESIZE 32 K NUMSEGS 256
DFT_EXTENT_SZ 256
DB20000I The CREATE DATABASE command completed successfully.
db2 => _
```

- After the command is processed you should see the command status as successfully executed.
- Next, connect with the newly created database using the command:

connect to <databaseName> user <DB2_userName> using <DB2_userPassword>



```
Administrator: DB2 CLP - DB2COPY1 - DB2
the first few keywords of a database manager command. For example:
? CATALOG DATABASE for help on the CATALOG DATABASE command
? CATALOG          for help on all of the CATALOG commands.

To exit db2 interactive mode, type QUIT at the command prompt. Outside
interactive mode, all commands must be prefixed with 'db2'.
To list the current command option settings, type LIST COMMAND OPTIONS.

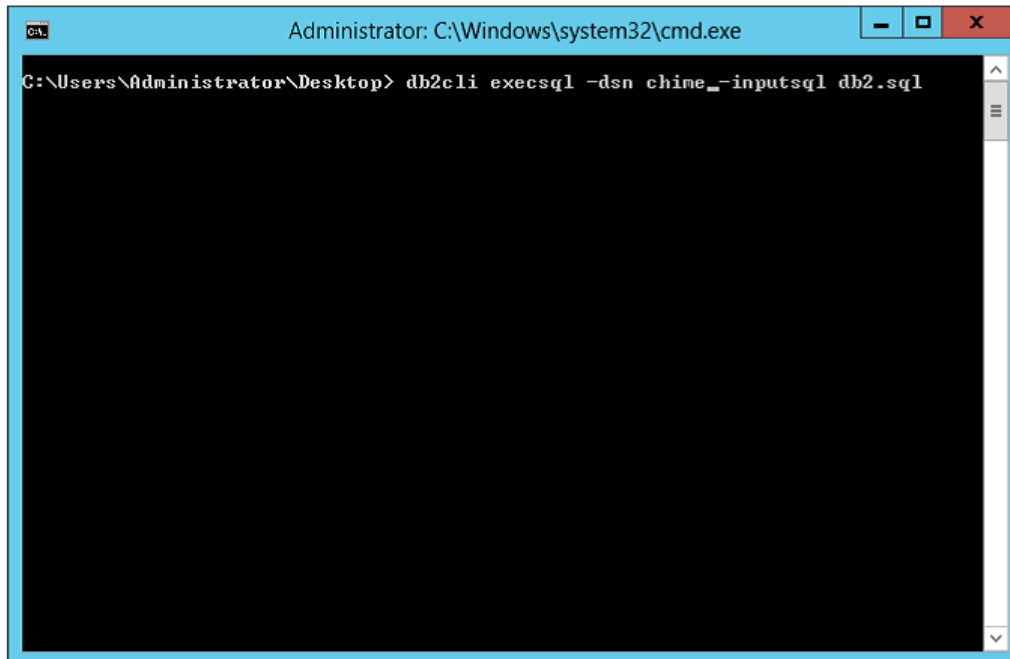
For more detailed help, refer to the Online Reference Manual.

db2 => CREATE DATABASE "chimev1" AUTOMATIC STORAGE YES PAGESIZE 32 K NUMSEGS 256
DFT_EXTENT_SZ 256
DB20000I The CREATE DATABASE command completed successfully.
db2 => connect "chimev1"
SQL0104N An unexpected token ""chimev1"" was found following "CONNECT".
Expected tokens may include:  END OF STATEMENT,  SQLSTATE=42001
db2 => connect to chimev1 user administrator using BtJ?59XjwdQ

Database Connection Information
Database server      = DB2/NT64 10.5.1
SQL authorization ID = ADMINIST...
Local database alias = CHIMEV1
```

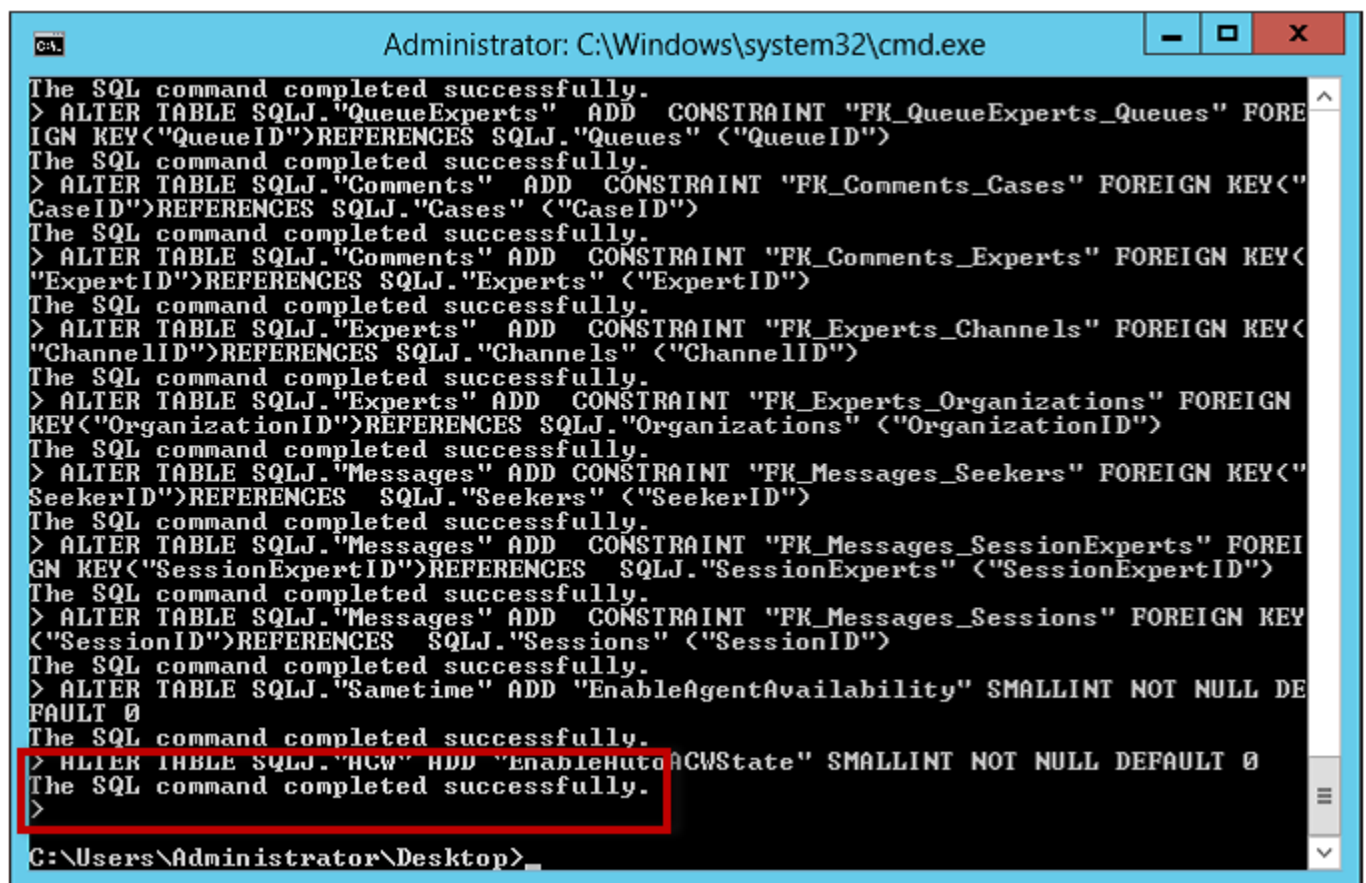
- Next, issue the following command to create the necessary tables:

db2cli execsql -dsn <databaseName> -inputsq1 <path to sql file>



```
C:\Users\Administrator\Desktop> db2cli execsql -dsn chime_-inputsq1 db2.sql
```

8. As the DDL SQL script is executed, tables will get created and you should see following messages on console.



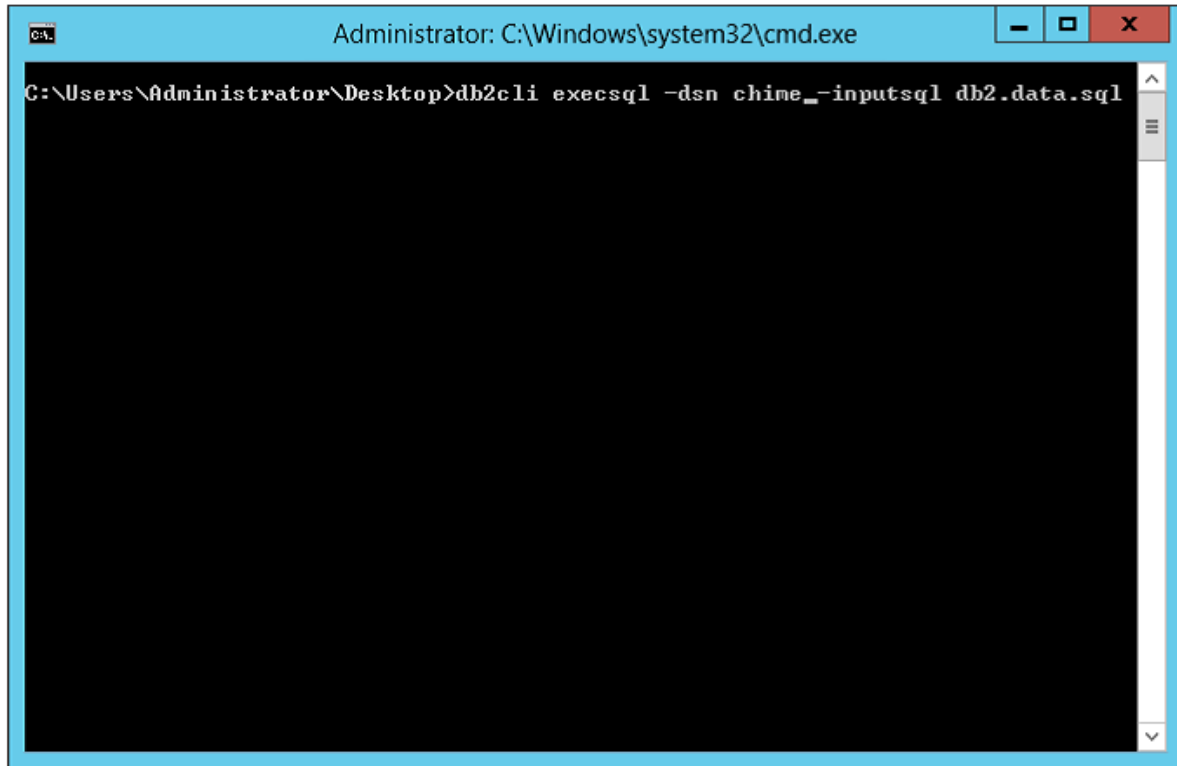
```
Administrator: C:\Windows\system32\cmd.exe

The SQL command completed successfully.
> ALTER TABLE SQLJ."QueueExperts" ADD CONSTRAINT "FK_QueueExperts_Queues" FOREIGN KEY("QueueID") REFERENCES SQLJ."Queues" ("QueueID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Comments" ADD CONSTRAINT "FK_Comments_Cases" FOREIGN KEY("CaseID") REFERENCES SQLJ."Cases" ("CaseID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Comments" ADD CONSTRAINT "FK_Comments_Experts" FOREIGN KEY("ExpertID") REFERENCES SQLJ."Experts" ("ExpertID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Experts" ADD CONSTRAINT "FK_Experts_Channels" FOREIGN KEY("ChannelID") REFERENCES SQLJ."Channels" ("ChannelID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Experts" ADD CONSTRAINT "FK_Experts_Organizations" FOREIGN KEY("OrganizationID") REFERENCES SQLJ."Organizations" ("OrganizationID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Messages" ADD CONSTRAINT "FK_Messages_Seekers" FOREIGN KEY("SeekerID") REFERENCES SQLJ."Seekers" ("SeekerID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Messages" ADD CONSTRAINT "FK_Messages_SessionExperts" FOREIGN KEY("SessionExpertID") REFERENCES SQLJ."SessionExperts" ("SessionExpertID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Messages" ADD CONSTRAINT "FK_Messages_Sessions" FOREIGN KEY("SessionID") REFERENCES SQLJ."Sessions" ("SessionID")
The SQL command completed successfully.
> ALTER TABLE SQLJ."Sametime" ADD "EnableAgentAvailability" SMALLINT NOT NULL DEFAULT 0
The SQL command completed successfully.
> ALTER TABLE SQLJ."HCW" ADD "EnableAutoACWState" SMALLINT NOT NULL DEFAULT 0
The SQL command completed successfully.
>

C:\Users\Administrator\Desktop>
```

9. Next, we again execute a DDL Script file to populate tables with default values as required by the application.

db2cli execsql -dsn <databaseName> -inputsql <path to sql file>



```
Administrator: C:\Windows\system32\cmd.exe
n expert for you.', 'This Queue is currently under maintenance, please try again
later.', 'Please state your request while I locate an expert for you.', 'Please
wait, while I locate an expert for you. Thank you for your patience.', 'Unfortu
nately, there are no experts available at this time. Please come back at another
time.', 'Expert has closed their chat session.', 'You have just been transferred
to another Queue.', 'There is an incoming request in the Queue. Their question i
s $seekerquestion. \n Press y to accept this request.', 'You are now connected w
ith seeker. \nCustomer Question: $seekerquestion', 'The incoming request has bee
n accepted by an expert.', 'Following operator commands are supported by Broadcas
t Queues: Note:These commands aren't supported anymore.', 'You are a member of t
he queue. Use any of the following commands: \n1. View a list of all experts \n2
. View a list of all available experts \n3. View a list of ongoing chats \n4. Up
date my state (Enabled/Disabled)', 'Customer has closed their chat session.', 'The
connection has been broken.', 'Expert has accepted your request.')
The SQL command completed successfully.
> INSERT INTO SQLJ."Sametime" ("WebServerURL", "ReplaceSlash", "EnableStdReply",
"FlashExpertWindowIdle", "FlashExpertWindowIdleTime", "XMLOutputI
D", "EnableAgentAvailability", "AgentLoggingInterval", "SametimeServer"
, "SametimeClientId", "SametimeUsername", "SametimePassword") VALUES('
http://<SeverIPAddress>/ITFramework/ITApplicationManagerPort?wsdl',
0,
0,
'__',
30,
'__',
180,
1,
'__',
)
The SQL command completed successfully.
> INSERT INTO SQLJ."ACW" ("ACWActivate", "ACWTimeout", "ACWTimeoutWarning",
"ACWChangeState", "ACWWarningMessage", "ACWTimer", "EnableAutoACWState")
VALUES(0,
120,
60,
1,
'Message: Please change your ACW mode.',
30,
)
The SQL command completed successfully.
>
C:\Users\Administrator\Desktop>
```

Database is now ready.

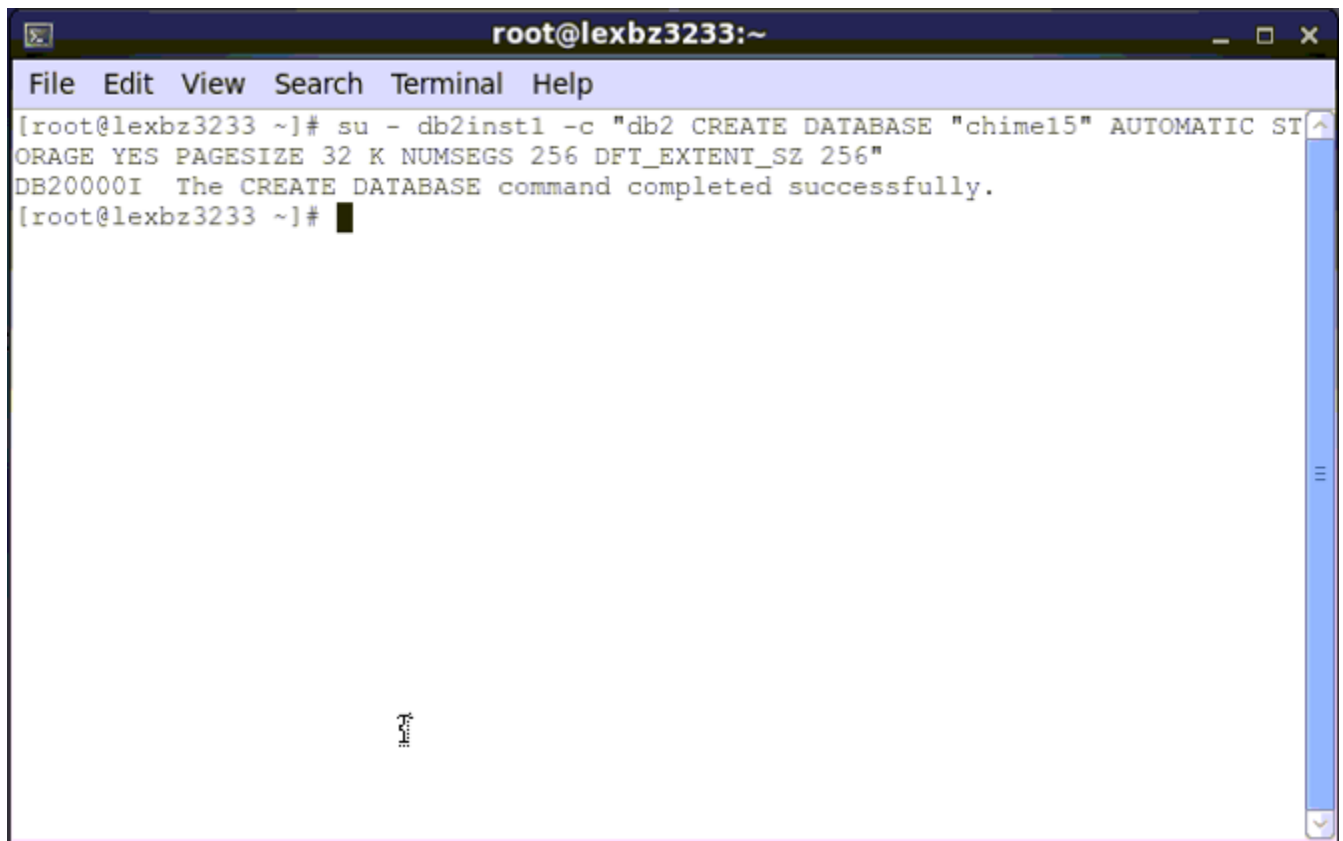
You can skip the next section “**Creating Database Schema using IBM Data Studio**” if you plan on creating the database using DB2 command line processor.

Create Database using DB2 Command line Processor (Linux)

Steps for creating the database and tables using command line processor are as follows:

1. Issue the command under DB2 user instance to create the database.

```
su - db2inst1 -c "db2 CREATE DATABASE "<DB_NAME>" AUTOMATIC STORAGE YES PAGESIZE 32 K NUMSEGS
256 DFT_EXTENT_SZ 256"
```

A screenshot of a terminal window titled 'root@lexbz3233:~'. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal content shows a command being executed: '[root@lexbz3233 ~]# su - db2inst1 -c "db2 CREATE DATABASE "chime15" AUTOMATIC STORAGE YES PAGESIZE 32 K NUMSEGS 256 DFT_EXTENT_SZ 256"'. The output is 'DB20000I The CREATE DATABASE command completed successfully.' followed by a new prompt '[root@lexbz3233 ~]#'.

```
root@lexbz3233:~
File Edit View Search Terminal Help
[root@lexbz3233 ~]# su - db2inst1 -c "db2 CREATE DATABASE "chime15" AUTOMATIC ST
ORAGE YES PAGESIZE 32 K NUMSEGS 256 DFT_EXTENT_SZ 256"
DB20000I The CREATE DATABASE command completed successfully.
[root@lexbz3233 ~]#
```

After the command has been issued, you should see a success status as in above screen shot.

2. Next, issue the following two commands to create the database schema and add default values to the database.

```
db2cli execsql -dsn <DB_NAME> -inputsql "./chime.sql"
db2cli execsql -dsn <DB_NAME> -inputsql "./chime_data.sql"
```



A terminal window titled "db2inst1@lexbz3233:~/db2dir" with a menu bar (File, Edit, View, Search, Terminal, Help). The command prompt shows the execution of `db2cli execsql -dsn chime15 -inputsq1 "./chime.sql"`. The output is a large, faint, and mostly illegible text block, likely representing the results of a SQL script execution.



A terminal window titled "db2inst1@lexbz3233:~/db2dir" with a menu bar (File, Edit, View, Search, Terminal, Help). The output shows the results of several SQL commands. It starts with a message about a chat session and a connection being broken, followed by an SQL error: `SQLState = S0002, fNativeError = -204, szErrorMsg = [IBM][CLI Driver][DB2/6000] SQL0204N "SQLJ.TextResource" is an undefined name. SQLSTATE=42704`. Then, a command to insert data into the `SQLJ.Sametime` table is executed successfully. This is followed by another successful insert into the `SQLJ.ACW` table. Finally, three successful insert commands are shown for the `SQLJ.StandardReplyTypes` table, with the last one (inserting 'Video') highlighted by a red box. The messages for the first three inserts are partially cut off at the bottom of the terminal.

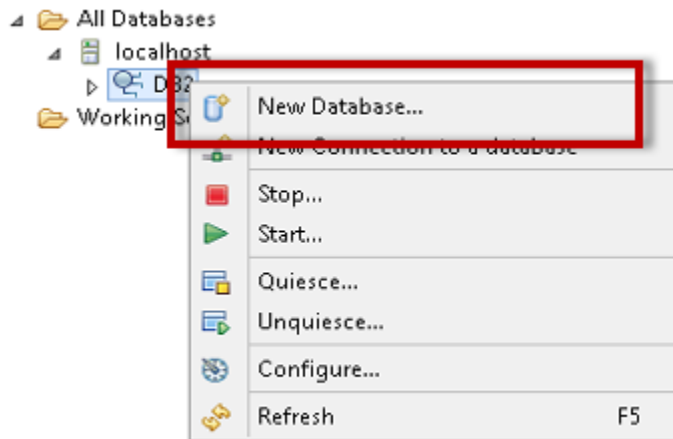
After the commands have been issued you should see a success message as in above screen shot.

Creating Database Schema using IBM Data Studio

Before both the WAR files are deployed under WebSphere server, you will need to execute the SQL Script using IBM Data Studio (or any other SQL Editor) which will create the necessary tables required by the Chime application.

Steps for executing the SQL Script are as follows:

1. Start IBM Studio 4.1.x
2. Create a new database



3. When creating the database, specify “**Default buffer pool and table space page size**” as **32 KB**

Settings
Specify any additional settings to use. Click Run when you are done.
[Preview Command](#) [Run](#)

1. Details
2. Storage
3. Locale

Specify the information for the new database

Enter the name for the database and tailor the database to your requirements. For Windows: If DB2_CREATE_DB_ON_PATH is not set or set to NO, the database location can only be a letter drive.

Database name:

Database location: [Browse...](#)

Alias:

Comment:

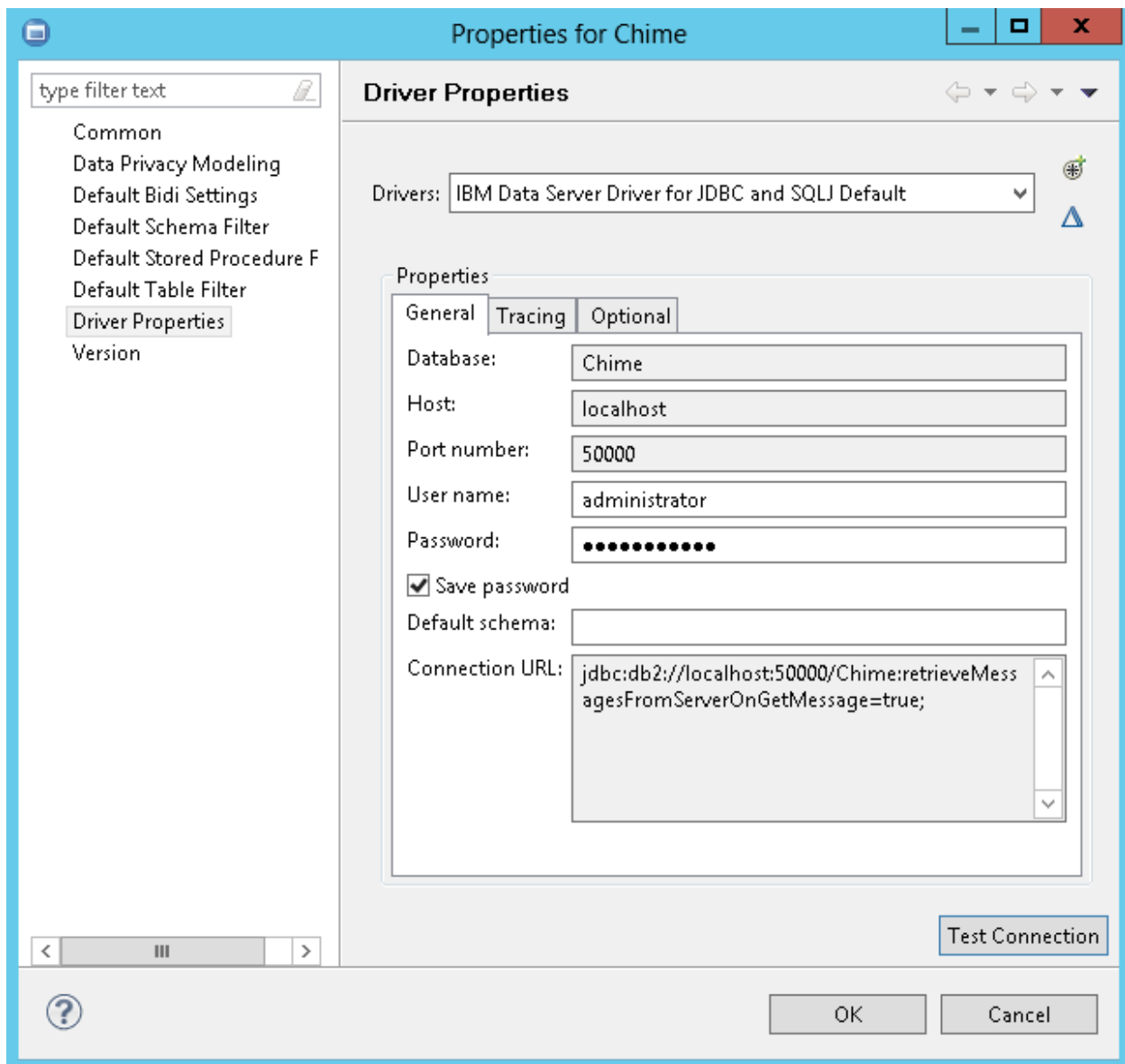
☐ Restrict access to system catalogs

Default buffer pool and table space page size:

Default extent size (1-256):

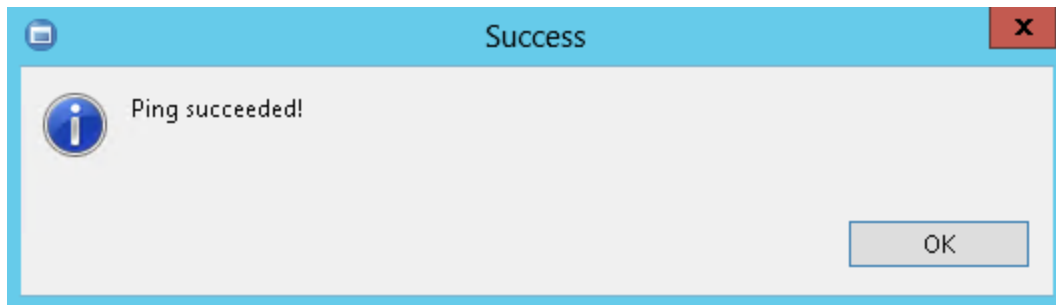
Number of segments in default table spaces (1-256):

4. After creating database, connect to it by specifying driver properties.

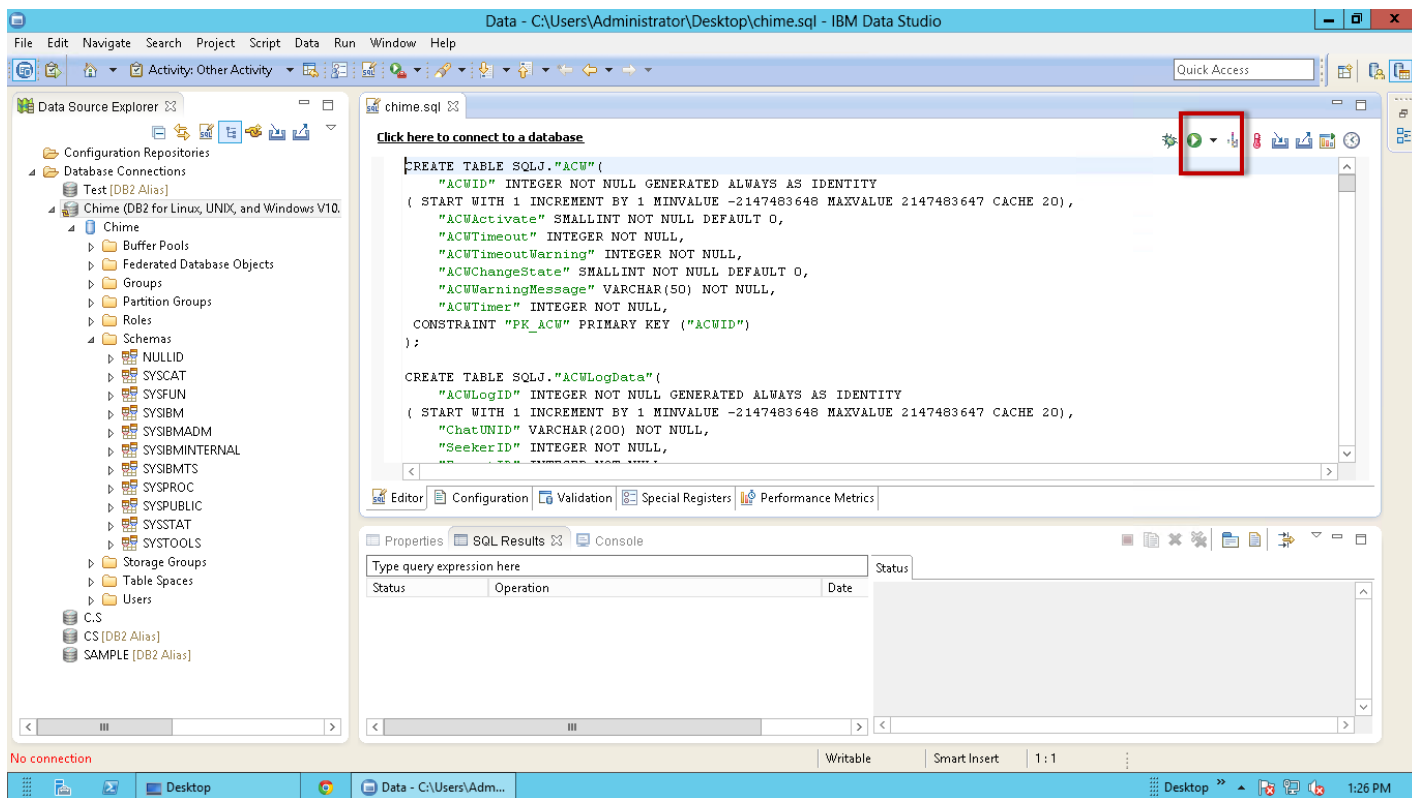


On the connection dialog specify Database name, DB2 Server host & Port number and database credentials.

5. Next, test the connection. If the connection is successfully established you should see the following message:

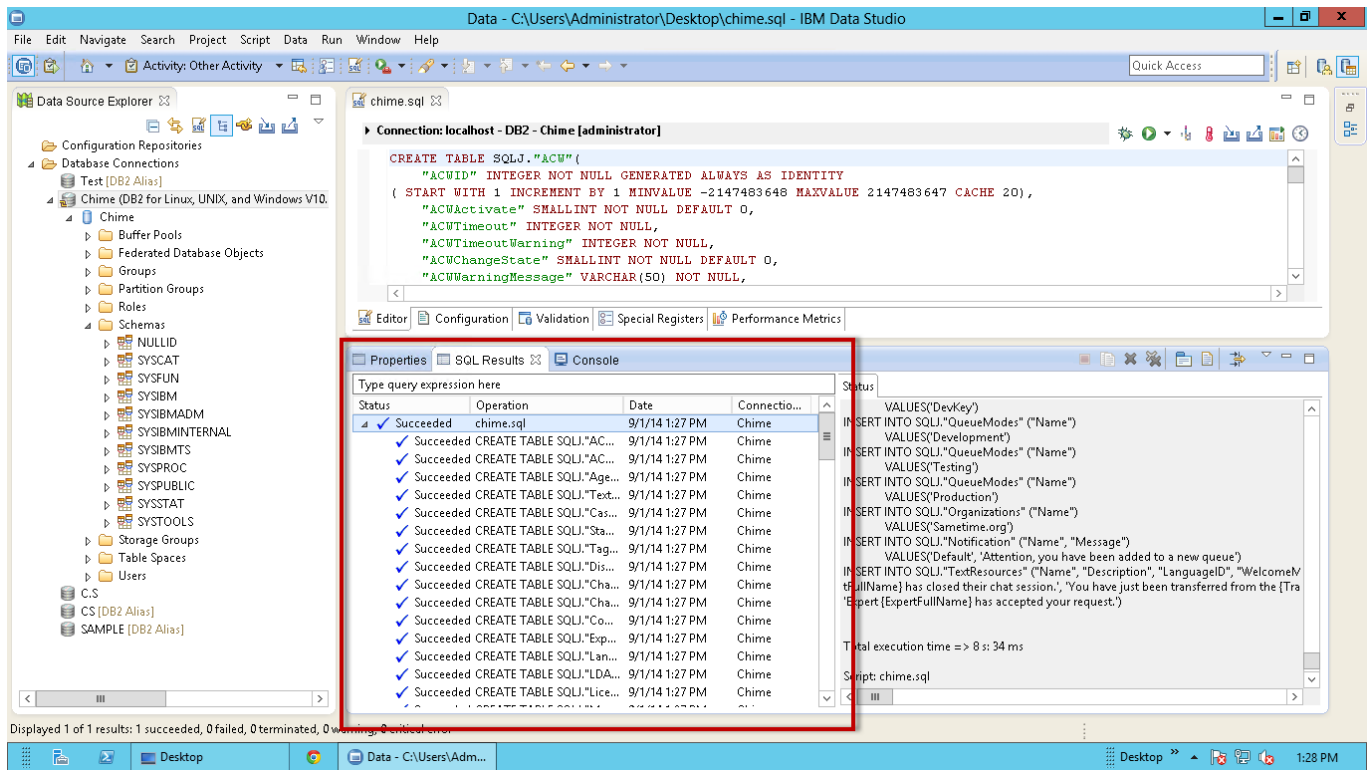


6. Next, open up the **chime.sql** script file as in following screen shot:



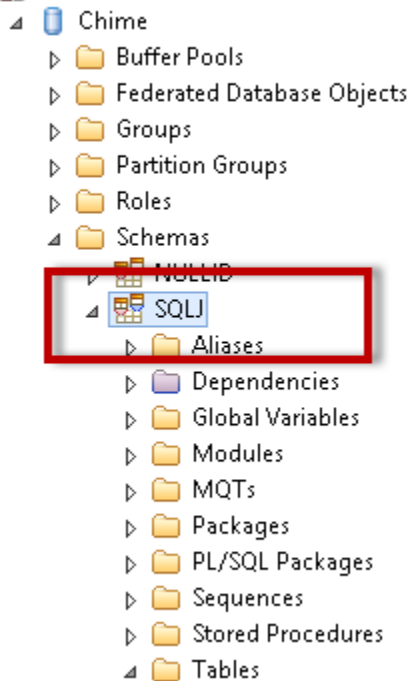
7. Hit the **execute** button to run the script.

8. After the script file has successfully executed you should see status under **SQL Results** tab

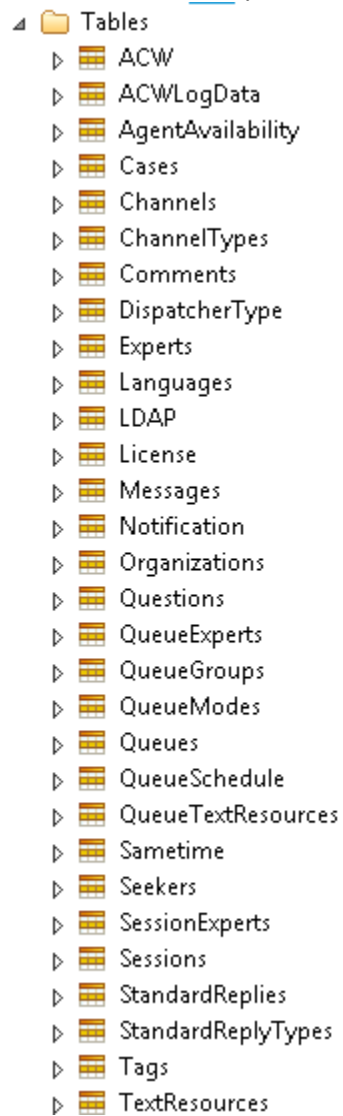


9. Next up under **Database Schemas** node you should see the **SQLJ** schema

Chime (DB2 for Linux, UNIX, and Windows V10.5)



10. Under **SQL** schema you should see the list of tables created by the SQL Script.



After the tables have been successfully created, the application WAR files can now be installed under WebSphere Server.

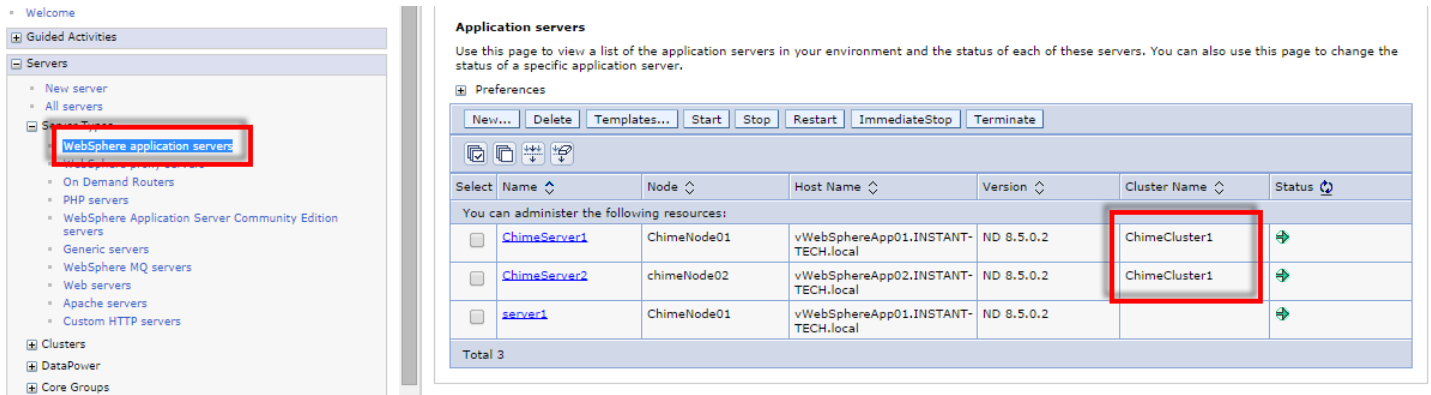
Verifying WebSphere Cluster Setup

Prior to application installation you would want to make sure that both **application server nodes** are setup in a cluster and that **IHS Server** is configured for each application server.

WebSphere Application Servers

To view list of application servers navigate to **Servers, WebSphere application servers**

In the list you should see two application servers which are part of a cluster.



Application servers

Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server.

Preferences

New... Delete Templates... Start Stop Restart ImmediateStop Terminate

Select	Name	Node	Host Name	Version	Cluster Name	Status
<input type="checkbox"/>	ChimeServer1	ChimeNode01	vWebSphereApp01.INSTANT-TECH.local	ND 8.5.0.2	ChimeCluster1	+
<input type="checkbox"/>	ChimeServer2	chimeNode02	vWebSphereApp02.INSTANT-TECH.local	ND 8.5.0.2	ChimeCluster1	+
<input type="checkbox"/>	server1	ChimeNode01	vWebSphereApp01.INSTANT-TECH.local	ND 8.5.0.2		+

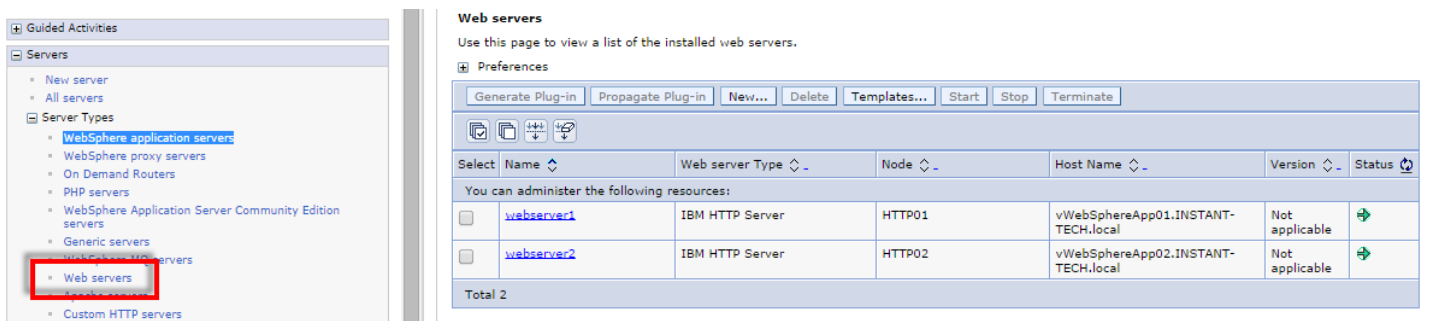
Total 3

Application Server names and Cluster name will differ from your setup.

Web Servers

To view list of IHS servers navigate to **Servers, Web Servers**

In the list you should see two IHS servers i.e. one for each application server node.



Web servers

Use this page to view a list of the installed web servers.

Preferences

Generate Plug-in Propagate Plug-in New... Delete Templates... Start Stop Terminate

Select	Name	Web server Type	Node	Host Name	Version	Status
<input type="checkbox"/>	webserver1	IBM HTTP Server	HTTP01	vWebSphereApp01.INSTANT-TECH.local	Not applicable	+
<input type="checkbox"/>	webserver2	IBM HTTP Server	HTTP02	vWebSphereApp02.INSTANT-TECH.local	Not applicable	+

Total 2

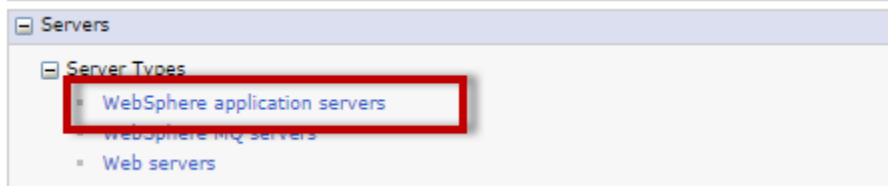
Web Server names will differ from your setup.

WebSphere Cluster and IHS Setup allows Chime application to switch servers at runtime to support manual failover. At any point of time only one WebSphere Application Server Node should be running.

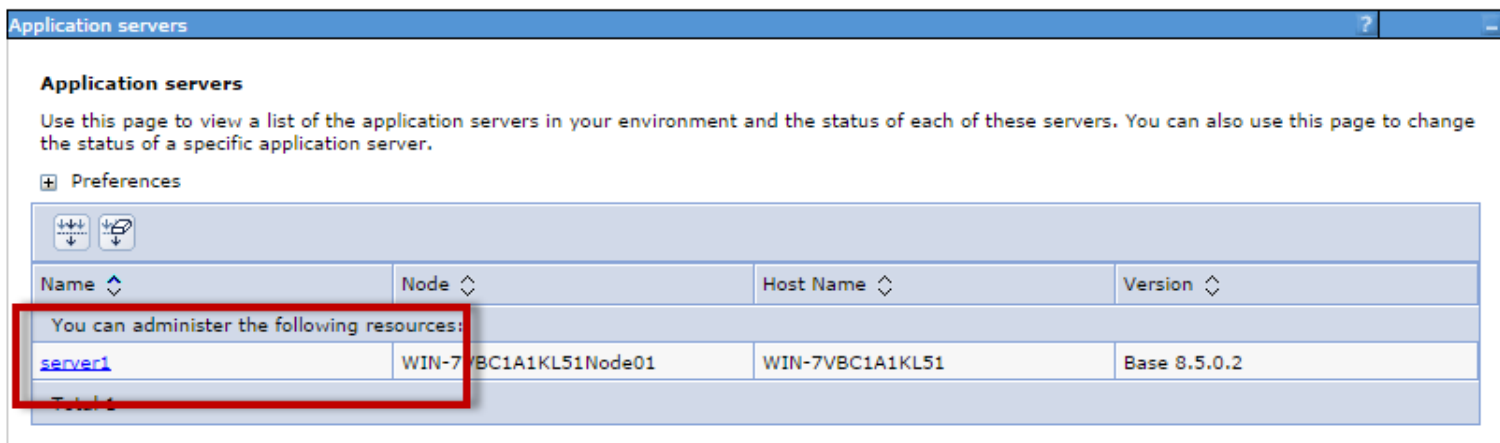
Verifying IBM WebSphere Server Heap Size

Before we proceed with the application deployment you would want to make sure that the **application server** heap size is set to a minimum of 1024 MB

To edit server properties navigate to **Servers, Web Application Servers**



From the list select the application server



Under **Runtime** tab, current heap size is displayed

Application servers

Application servers > server1

Use this page to configure an application server. An application server is a server that provides services required to run enterprise applications.

Runtime

Configuration

General Properties

Process ID

8716

Cell name

WIN-7VBC1A1KL51Node01Cell

Node name

WIN-7VBC1A1KL51Node01

State

Started

Current heap size

1105 MB

Maximum heap size

1536 MB

Back

Server messaging

» [Messaging engines](#)

Troubleshooting

⊕ Diagnostic Provider service

Additional Properties

» [Transaction service](#)

» [Performance Monitoring Infrastructure \(PMI\)](#)

» [Product Information](#)

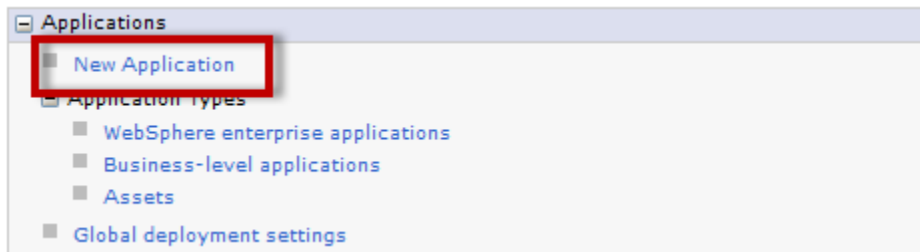
Page 23

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PM Sept 26_2014
Rev 4

Installing Chime.war

To install the Chime Web Application take following steps:

1. Log into IBM WebSphere server console (<https://serverfqdn:9043/ibm/console>)
2. Next navigate to **Applications** and select the option **New Application**

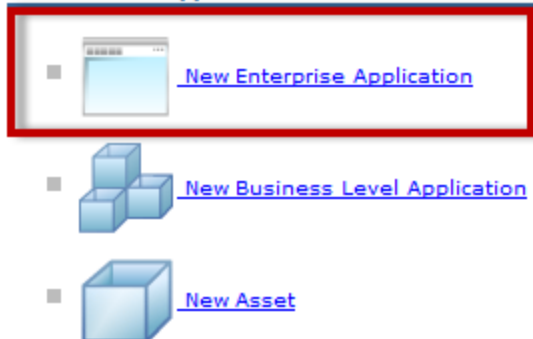


3. Next select the option **New Enterprise Application**

New Application

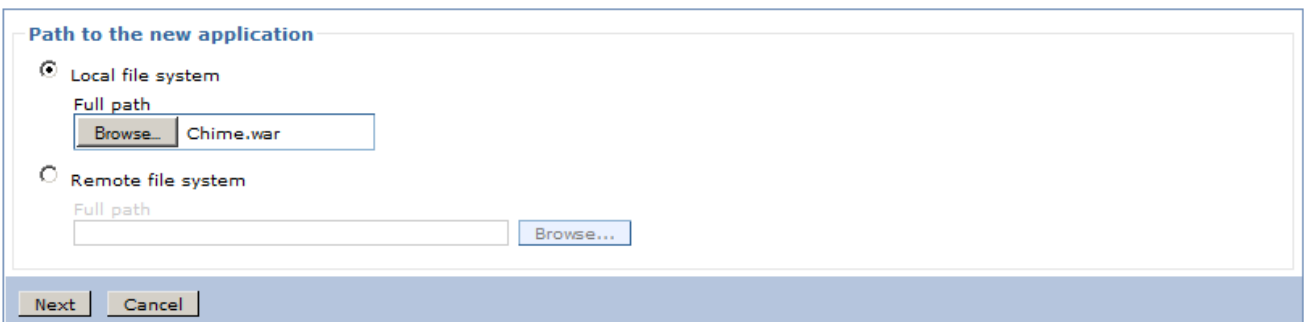
This page provides links to create new applications of different types.

Install a New Application



4. Next we need to upload the WAR file

Specify the EAR, WAR, JAR, or SAR module to upload and install.

A screenshot of the 'Path to the new application' form. The 'Local file system' radio button is selected. The 'Full path' field contains 'Chime.war' and has a 'Browse...' button next to it. The 'Remote file system' option is unselected. At the bottom are 'Next' and 'Cancel' buttons.

5. On the next screen we specify Application name as “Chime_app” and click on **next**.

Step 1: Select installation options

Step 2 Map modules to servers

Step 3 Map virtual hosts for Web modules

Step 4 Map context roots for Web modules

Step 5 Metadata for modules

Step 6 Summary

Select installation options

Specify the various options that are available for your application.

☐ Precompile JavaServer Pages files

Directory to install application
Chime_app

☒ Distribute application

☐ Use Binary Configuration

☐ Deploy enterprise beans

Application name
Chime_war

☒ Create MBeans for resources

☐ Override class reloading settings for Web and EJB modules

Reload interval in seconds
[Empty field]

☐ Deploy Web services

Validate Input off/warn/fail
warn

☐ Process embedded configuration

File Permission

Allow all files to be read but not written to
Allow executables to execute
Allow HTML and image files to be read by everyone

.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755

Application Build ID
Unknown

☐ Allow dispatching includes to remote resources

☐ Allow servicing includes from remote resources

Business level application name
Create New BLA

Asynchronous Request Dispatch Type
Disabled

☐ Allow EJB reference targets to resolve automatically

☐ Deploy client modules
Client deployment mode
Isolated

☐ Validate schema

Next **Cancel**

6. On the next screen, accept the default values and click on **next**.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

→ **Step 2: Map modules to servers**

★ **Step 3** Map virtual hosts for Web modules

★ **Step 4** Map context roots for Web modules

★ **Step 5** Metadata for modules

Step 6 Summary

Map modules to servers

Specify targets such as application servers or clusters of application servers where you want to install the modules that are contained in your application. Modules can be installed on the same application server or dispersed among several application servers. Also, specify the Web servers as targets that serve as routers for requests to this application. The plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the applications that are routed through.

Clusters and servers:

WebSphere:cell=lexbz3189Node01Cell,node=lexbz3189Node01,server=server1

☒ ☐

Select	Module	URI	Server
<input type="checkbox"/>	chime	Chime.war,WEB-INF/web.xml	WebSphere:cell=lexbz3189Node01Cell,node=lexbz3189Node01,server=server1

7. On the next screen, accept the default values and click on **next**.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

→ **Step 3: Map virtual hosts for Web modules**

★ **Step 4** Map context roots for Web modules

★ **Step 5** Metadata for modules

Step 6 Summary

Map virtual hosts for Web modules

Specify the virtual host for the Web modules that are contained in your application. You can install Web modules on the same virtual host or disperse them among several hosts.

☒ Apply Multiple Mappings

☒ ☐

Select	Web module	Virtual host
<input type="checkbox"/>	chime	default_host ▼

8. On the next screen specify **Context Root** as **"/chime"** and click on next.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Map virtual hosts for Web modules

→ Step 4: Map context roots for Web modules

★ Step 5 Metadata for modules

Step 6 Summary

Map context roots for Web modules

Configure values for context roots in web modules.

Web module	URI	Context Root
chime	Chime.war,WEB-INF/web.xml	/chime

Previous Next Cancel

9. On the next screen, accept the default values and click on **next**.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Map virtual hosts for Web modules

Step 4 Map context roots for Web modules

→ Step 5: Metadata for modules

Step 6 Summary

Metadata for modules

The metadata-complete attribute defines whether the deployment descriptor for this module is complete. Set the metadata-complete attribute to "true" to merge and persist annotation-based metadata with existing XML-based deployment descriptor metadata to avoid scanning of annotation-based metadata each time the module is read. If the attribute remains "false", then the annotation-based metadata is scanned each time the module is read and can impact performance.

☒ ☐

Module	URI	metadata-complete attribute
chime	Chime.war,WEB-INF/web.xml	<input type="checkbox"/>

Previous Next Cancel

10. Next you should see a summary of specified settings. Click on **Finish** to complete the process.

Specify options for installing enterprise applications and modules.

Summary

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	Chime_app
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	No
Application name	Chime_war
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Business level application name	
Asynchronous Request Dispatch Type	Disabled
Allow EJB reference targets to resolve automatically	No
Deploy client modules	No
Client deployment mode	Isolated
Validate schema	No
Cell/Node/Server	Click here

Previous **Finish** Cancel

11. Now WebSphere will deploy the application. After the application is deployed you should see the following screen. Click on **Save** to complete the deployment.

"

Installing...

If there are enterprise beans in the application, the EJB deployment process can take several minutes. Do not save the configuration until the process completes.

Check the SystemOut.log on the deployment manager or server where the application is deployed for specific information about the EJB deployment process as it occurs.

ADMA5016: Installation of Chime_war started.

ADMA5067: Resource validation for application Chime_war completed successfully.

ADMA5058: Application and module versions are validated with versions of deployment targets.

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

ADMA5081: The bootstrap address for client module is configured in the WebSphere Application Server repository.

ADMA5053: The library references for the installed optional package are created.

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

ADMA5001: The application binaries are saved in /opt/IBM/WebSphere/AppServer/profiles/AppSrv01/wstemp/514564614/workspace/cells/lebxz3189Node01Cell/applications/Chime_war.ear/Chime_war.ear

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

SECJ0400: Successfully updated the application Chime_war with the appContextIDForSecurity information.

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

ADMA5005: The application Chime_war is configured in the WebSphere Application Server repository.

ADMA5113: Activation plan created successfully.

ADMA5011: The cleanup of the temp directory for application Chime_war is complete.

ADMA5013: Application Chime_war installed successfully.

Application Chime_war installed successfully.

To start the application, first save changes to the master configuration.

Changes have been made to your local configuration. You can:

- [Save](#) directly to the master configuration.

- [Review](#) changes before saving or discarding.

To work with installed applications, click the "Manage Applications" link.

[Manage Applications](#)

12. Now Chime will appear under the Application list.

The screenshot shows the 'Enterprise Applications' management page. At the top, there's a title bar and a header section with the title 'Enterprise Applications' and a brief description: 'Use this page to manage installed applications. A single application can be deployed onto multiple servers.' Below this is a 'Preferences' section with a plus icon. A row of action buttons is visible: Start, Stop, Install, Uninstall, Update, Rollout Update, Remove File, Export, Export DDL, and Export File. Below the buttons are icons for file operations. The main part of the page is a table with columns 'Select', 'Name', and 'Application Status'. The table contains four rows: 'Chime_war' (checked, status icon is a red X), 'DefaultApplication' (unchecked, status icon is a green checkmark), 'ivtApp' (unchecked, status icon is a green checkmark), and 'query' (unchecked, status icon is a green checkmark). A red rectangle highlights the first row, 'Chime_war'. At the bottom of the table, it says 'Total 4'.

Select	Name	Application Status
<input checked="" type="checkbox"/>	Chime_war	
<input type="checkbox"/>	DefaultApplication	
<input type="checkbox"/>	ivtApp	
<input type="checkbox"/>	query	

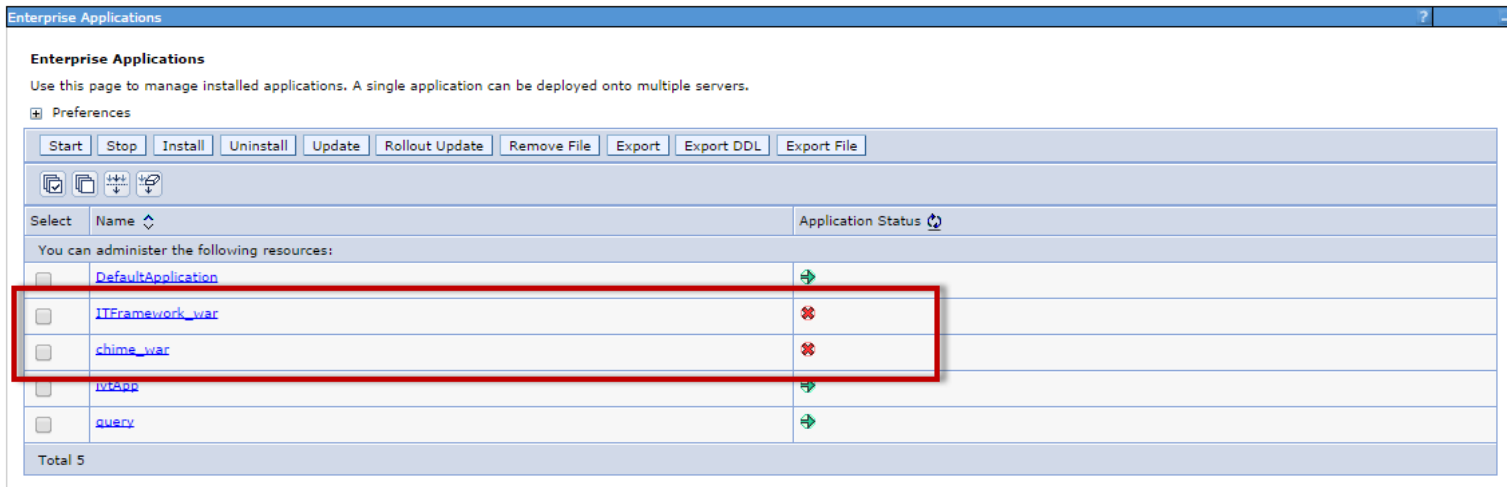
Total 4

We won't start the Chime application at this stage. Next up we will need to deploy **ITFramework** Application.

Installing ITFramework.war

Installation steps for **ITFramework.war** are same as Chime.war. However during the install sequence you will want to specify **Application Name** as “**ITFramework_app**” and **context root** as “**/ITFramework**”.

After installation sequence it will appear under the Application list.



We won't start the application at this stage.

Next up we will specify database connection settings for both ITFramework & Chime Application.

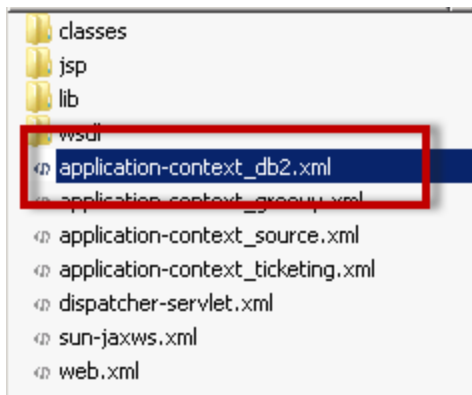
Specifying Database Connection Details

Database connection settings will need to be specified for both Chime and ITFramework application.

ITFramework Application

To specify database settings for ITFramework application take following steps:

1. Navigate to the folder **<WebSphere_Application_Profile>/ITFramework_app/ITFramework_war.ear/ITFramework.war/WEB-INF**



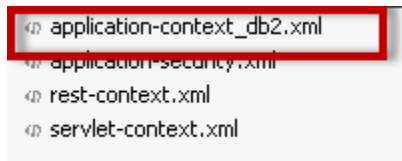
2. In the folder you will need to modify **application-context_db2.xml**
3. Open the file using any text editor
4. In the file locate the bean named **databasePropertyMap**
5. Bean will look like the following snippet:

```
<bean id="databasePropertyMap" class="java.util.HashMap">
  <constructor-arg>
    <map key-type="java.lang.String" value-type="java.lang.String">
      <entry key="server" value="jdbc:db2://DB2ServerFQDN:DB2ServerPort" />
      <entry key="databaseName" value="xxxxxx" />
      <entry key="user" value="xxxxxx" />
      <entry key="password" value="xxxxxx" />
    </map>
  </constructor-arg>
</bean>
```
6. In the bean tags you will need to specify DB2 host, server port, database name and access credentials
7. After making modifications save the file.

Chime Application

To specify database settings for Chime application take following steps:

1. Navigate to the folder **<WebSphere_Application_Profile>/Chime_app/Chime_war.ear/Chime.war/WEB-INF/spring**



2. In the folder you will need to modify **application-context_db2.xml**
3. Open the file using any text editor
4. In the file locate the bean named **databasePropertyMap**
5. Bean will look like the following snippet:

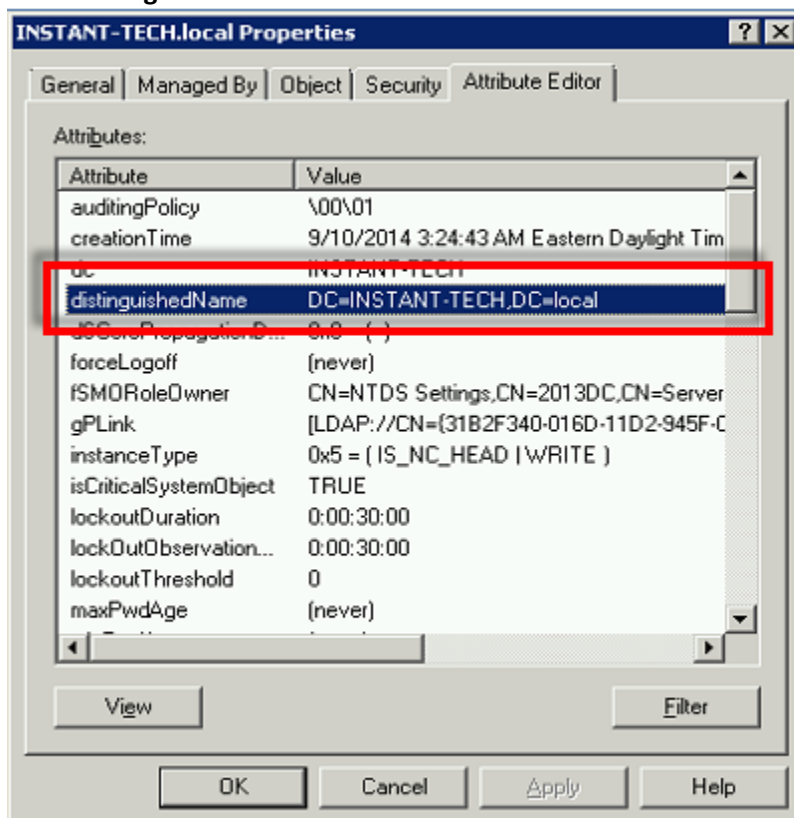
```
<bean id="databasePropertyMap" class="java.util.HashMap">
  <constructor-arg>
    <map key-type="java.lang.String" value-type="java.lang.String">
      <entry key="server" value="jdbc:db2://DB2ServerFQDN:DB2ServerPort" />
      <entry key="databaseName" value="xxxxx" />
      <entry key="user" value="xxxxx" />
      <entry key="password" value="xxxxx" />
    </map>
  </constructor-arg>
</bean>
```
6. In the bean tags you will need to specify DB2 host, server port, database name and access credentials
7. After making modifications save the file.

Specifying LDAP Details

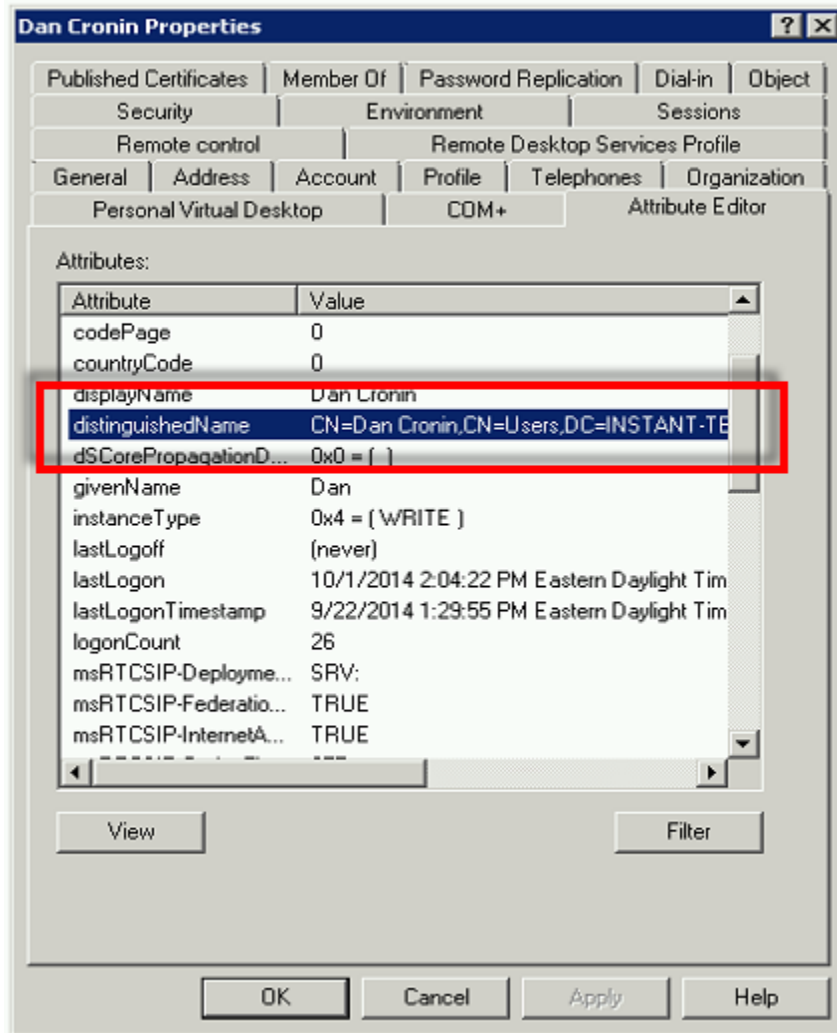
LDAP configuration settings will need to be specified for Chime web application. It allows users to use their corporate LDAP/Active Directory credentials for authentication.

Following LDAP/Active Directory details are needed:

1. LDAP URL with port number like **ldap://acme.com:389**
2. LDAP **distinguishedName** attribute

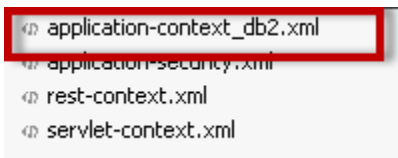


3. User LDAP attribute to be used as username, typically its CN or mail.
4. User LDAP attribute which is mapped to Sametime STID in Sametime Server. Typically it is **distinguishedName** attribute.



To specify LDAP settings for Chime application take following steps:

1. Navigate to the folder <WebSphere_Application_Profile>/Chime_app/Chime_war.ear/Chime.war/WEB-INF/spring



2. In the folder you will need to modify **application-context_db2.xml**
3. Open the file using any text editor
4. In the file locate the bean named **contextSource**

5. Bean will look like the following snippet:

```
<bean id="contextSource"
      class="org.springframework.security.ldap.DefaultSpringSecurityContextSource">
    <constructor-arg value="ldap://LDAP-FQDN:389" />
</bean>
```

6. In the bean tag you will need to specify **LDAP URL**

7. Next in the file locate the bean named **ldapAuthProvider**

```
<bean id="ldapAuthProvider"
      class="org.springframework.security.ldap.authentication.LdapAuthenticationProvider">
  <constructor-arg>
    <bean class="org.springframework.security.ldap.authentication.BindAuthenticator">
      <constructor-arg ref="contextSource" />
      <property name="userSearch">
        <bean class="org.springframework.security.ldap.search.FilterBasedLdapUserSearch">
          <constructor-arg index="0" value="LDAP-distinguishedName"/>
          <constructor-arg index="1" value="LDAP-Username Attribute"/>
          <constructor-arg index="2" ref="contextSource" />
        </bean>
      </property>
    </bean>
  </constructor-arg>
  <constructor-arg>
    <bean class="lyncqm.ldap.AuthoritiesPopulator" id="authoritiesPopulator">
      <aop:scoped-proxy proxy-target-class="false" />
      <constructor-arg ref="contextSource" />
      <constructor-arg value="LDAP-distinguishedName" />
    </bean>
  </constructor-arg>
</bean>
```

8. In the bean tags you will need to specify **LDAP distinguishedName** and **User attribute to be used as username**.

9. Next in the file locate the bean named **ldapPropertyMap**

```
<bean id="ldapPropertyMap" class="java.util.HashMap">
  <constructor-arg>
    <map key-type="java.lang.String" value-type="java.lang.String">
      <entry key="unqiId" value="LDAP-User Attribute which maps to user STID" />
    </map>
  </constructor-arg>
</bean>
```

10. In the bean tag you will need to specify LDAP User attribute which maps to user **STID**, typically it is **distinguishedName**

11. After making modifications save the file.

Starting Applications using WebSphere Console

After the Database and LDAP/Active Directory settings have been specified for both Chime and ITFramework application, they can be started from IBM WebSphere Console.

After the applications have been started, they will appear as follows in the applications list:

Enterprise Applications

Enterprise Applications

Use this page to manage installed applications. A single application can be deployed onto multiple servers.

Preferences

Start

Stop

Install

Uninstall

Update

Rollout Update

Remove File

Export

Export DDL

Export File

Select

Name

Application Status

You can administer the following resources:

<input type="checkbox"/>	DefaultApplication	
<input type="checkbox"/>	ITFramework_war	
<input type="checkbox"/>	chime_war	
<input type="checkbox"/>	ivtApp	
<input type="checkbox"/>	query	

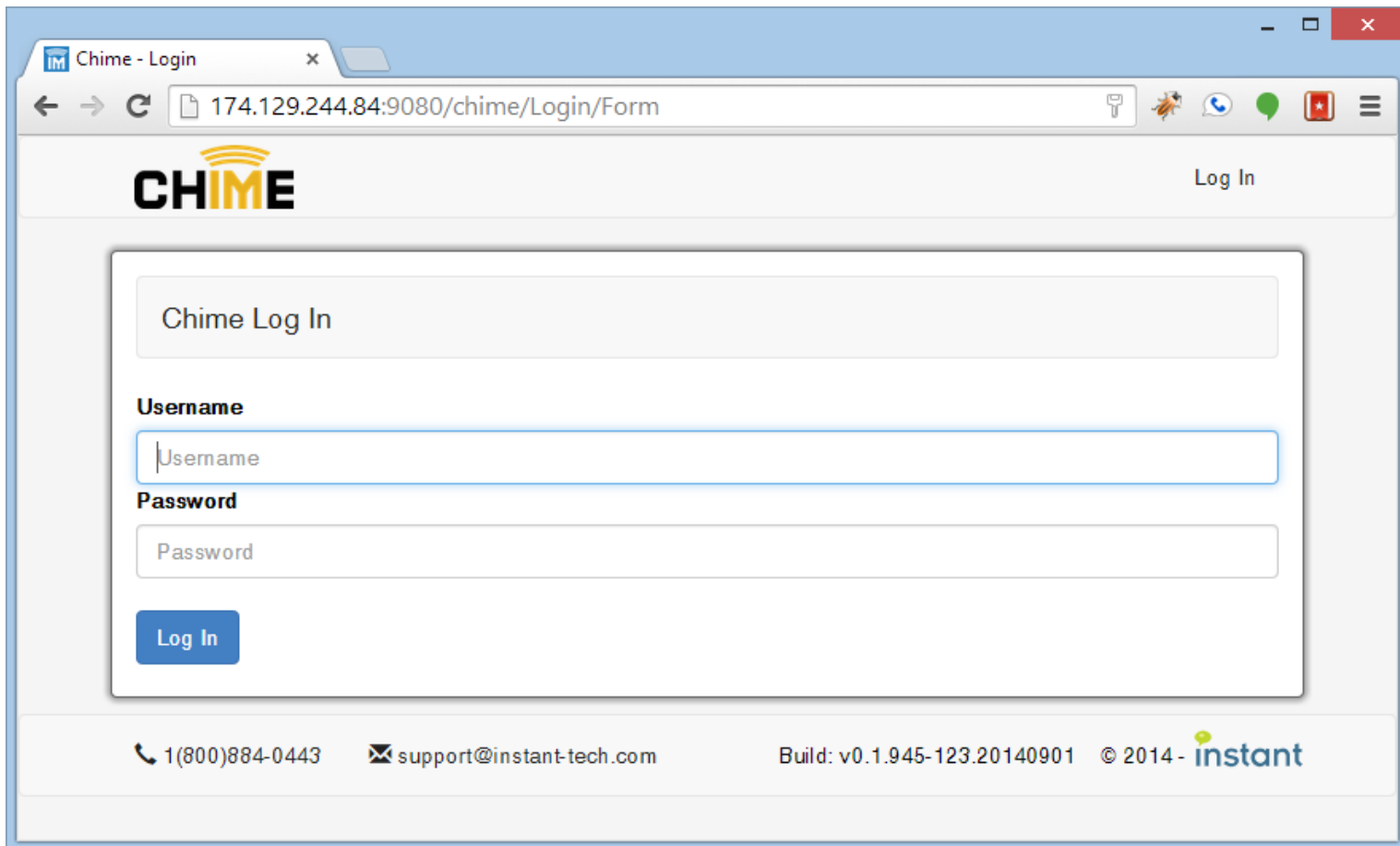
Total 5

Accessing Chime Web Application

After the applications have been successfully started, they can be accessed using following URL:

<http://websphereServerFQDN:9080/chime>

You should now see the following login form:

A screenshot of a web browser window displaying the Chime login page. The browser's address bar shows the URL "174.129.244.84:9080/chime/Login/Form". The page features the "CHIME" logo in the top left and a "Log In" link in the top right. The main content area is a white box with a light gray border containing the "Chime Log In" title, a "Username" label with a text input field, a "Password" label with a text input field, and a blue "Log In" button. The footer contains contact information: a phone icon, "1(800)884-0443", an email icon, "support@instant-tech.com", the build number "Build: v0.1.945-123.20140901", and the copyright notice "© 2014 - instant" with the Instant Technologies logo.

When accessing the application for the very first time for configuration use the following credentials:

Username: **admin**

Password: **admin**

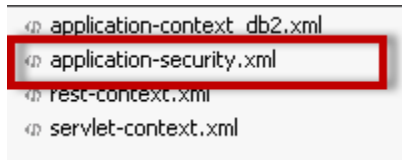
After the application has been configured then the LDAP credentials can be used to access and manage the application.

Disabling default credentials

Default named credentials allow System Administrators to initially setup the application. After the application has been configured to have a few LDAP entries for Administrators the default credentials feature can be turned off.

To disable default credentials feature take following steps:

1. Navigate to the folder **<WebSphere_Application_Profile>/Chime_app/Chime_war.ear/Chime.war/WEB-INF/spring**



2. In the folder you will need to modify **application-security.xml**
3. Open the file using any text editor
4. In the file locate the section named **authentication-manager**
5. **authentication-manager** will look like the following snippet:

```
<security:authentication-manager>
    <security:authentication-provider
        user-service-ref="inMemoryUserServiceWithCustomUser">
    </security:authentication-provider>
    <security:authentication-provider ref="ldapAuthProvider" />
</security:authentication-manager>
```

6. From **authentication-manager** section remove the provider **inMemoryUserServiceWithCustomUser** as highlighted above.
7. After modifying the **authentication-manager** section it will appear as follows:

```
<security:authentication-manager>
    <security:authentication-provider ref="ldapAuthProvider" />
</security:authentication-manager>
```

Revision History

Date	User	Remarks
Sept 3, 2014	VG	Initial Draft
Sept 15, 2014	PM	Various updates – generate PDF
Sept 22, 2014	VG	Added DB2 command line processor steps
Sept 26, 2014	PM	Small tweaks