SOFTWARE INSTALLATION GUIDE

ERWIN
DATA INTELLIGENCE (DI) SUITE

Getting Started

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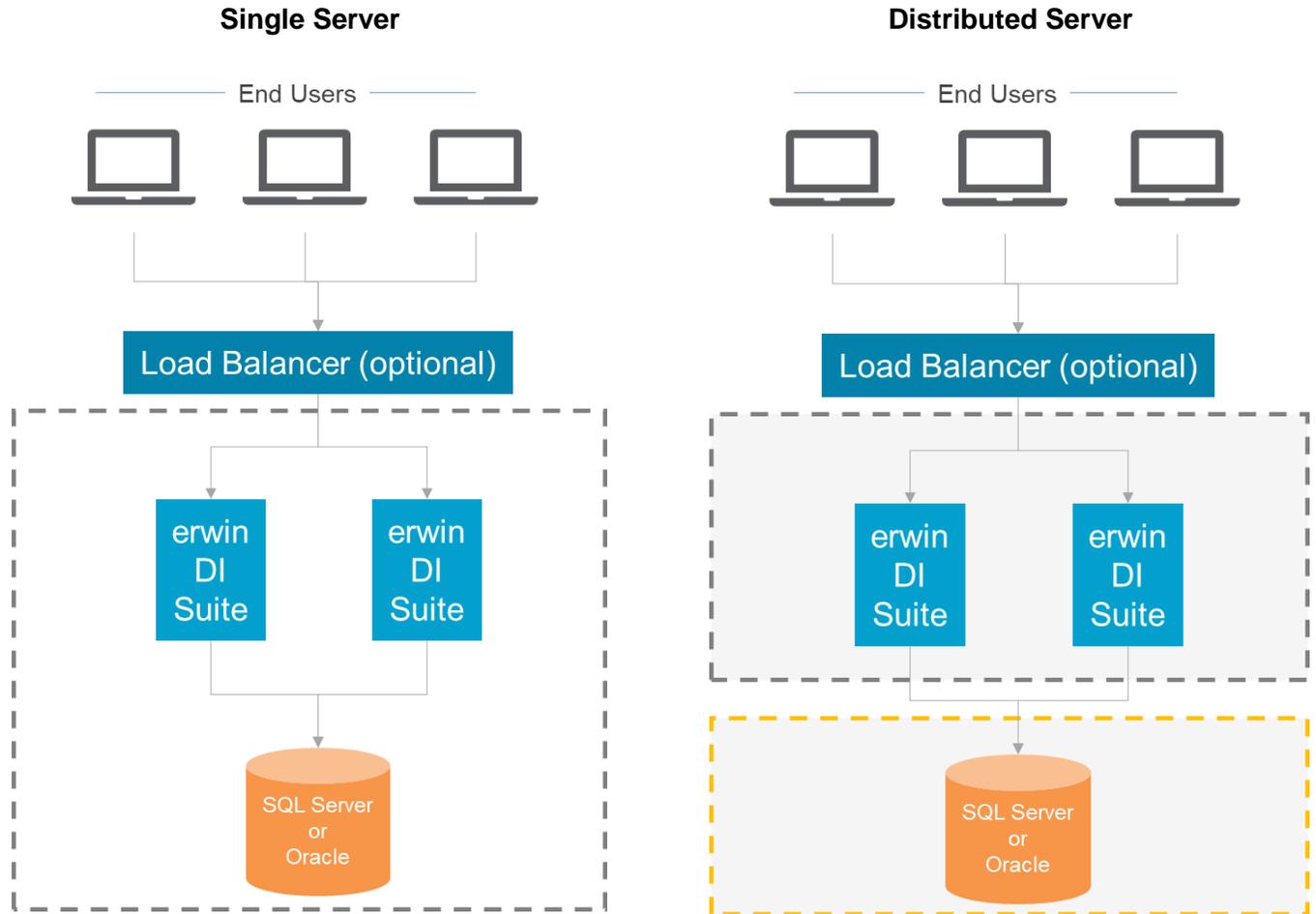
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Software Architecture

The erwin DI Suite application supports both Single Server and Distributed architectures

Single Server

Distributed Server

Technical Specifications and Software Requirements

Prerequisite**: *Java 8.0.39 or Open JDK 8 and Tomcat 8.0.39 or Tomcat 8.5.35/41*

The erwin DI Suite software is certified to run on

- Tomcat – v8.0.39 or v8.5.35/41
- Java – Oracle JRE 8u192 or Open JDK 8

Hardware Specs for Standard Edition:

Type of Server	Dedicated Standalone server
Processor	64 Bit
Cores	4 cores minimum
RAM	16 GB – for limited user POCs 32-64 GB – for enterprise production deployment
Hard Drive	200 – 300 GB
Operating Systems	Microsoft Windows, RHEL, Ubuntu, Unix, Linux
Supported Databases	SQL Server – 2005 and higher Oracle – 9i and higher
Web Browsers	Google Chrome – v28.0 or higher Firefox – v16.0 or higher Internet Explorer – v10.0 or higher
Supported Web Servers	Apache Tomcat - v8.0.39, v8.5.35/41 IBM WebSphere 8.5x
Development Platform	Java

Memory Allocation to Web Server

As high as possible based on physical RAM of the server.

E.g. If the server has a 16 GB RAM, the web server needs to be allocated a minimum of 50% of the RAM to begin with i.e. 8 GB minimum. The higher the memory allocation, the better for the functioning of the application.

An example of the recommended Memory allocation to Tomcat would look as follows:

Physical RAM on Server	Allocation to Tomcat
16 GB	➢ 8 – 12 GB
32 GB	➢ 16 – 28 GB
64 GB	➢ 48 GB

Recommended Configuration for Enterprise deployments:

Note: For good performance, we recommend about a minimum of 0.5 GB space per user on the application server. If you have 30 users simultaneously logging in, then the application server would need to have a minimum of 15 GB (30*0.5=15) free RAM space allocated to it. This is not the RAM of the server machine. It is the physical RAM allocated to the application server itself.

Database Server: Dual Core or higher. The software requires a dedicated schema/database (Oracle or SQL Server) with a minimum of 50GB tablespace allocated to it and exponentially increase as usage increases

Database Server Specs:

Type of Server	Dedicated Standalone server
Processor	64 Bit
Cores	4- 8 cores minimum
RAM	16 - 32 GB
Hard Drive	250 – 500 GB
Tablespace	Min 50 GB

End-user Machines: Minimum i3 processor or higher, min 8 GB RAM.

NOTE: The CPU should have minimum 1GB RAM free space while accessing AMM application via web browser. e.g. If you have a 4GB laptop and any application is occupying 100%CPU space, then AMM web pages will not load until some physical memory is freed up.

Installing the erwin the DI Suite software

Install the software in 5 easy steps

STEP 1:
Install Java (JRE or Open JDK v8)

STEP 2:
Install Apache Tomcat 8x

STEP 3:
Deploy **erwinDISuite.war** file on Tomcat

STEP 4:
Configure the "database.properties" file to connect to the backend Database repository

*NOTE**:* Create the backend repository in SQL SERVER or ORACLE databases and provide these connectivity parameters in the "database.properties" file.

STEP 5:

Access the erwin DI Suite Login screen.

Install Java (JRE)

1. Download Oracle JRE 8u192/8u202 versions or Open Java version 8 and finish the installation process

   Link to download **Open Java 8** - https://adoptopenjdk.net/archive.html
   Oracle JRE 8 – to be downloaded by the customer

Installing Tomcat

1. To Start Installation Double click on \Tomcat\apache-tomcat-8.5.35.exe (or Tomcat 8.0.39 exe file). You will see the welcome screen. Click on the Next button to continue the installation process.

2. Choose the port number on which you want to run the tomcat server. Tomcat uses 8080 as its port by default (you can provide any other port number if 8080 is already being used)

3. Enter Admin User ID and password for Tomcat (default: admin/admin)

On the Java Virtual Machine selection window, select the path to the JRE/Java 8 folder

Note**: If there is more than one version of JRE installed, Ensure Tomcat is being mapped to the JRE8 version previously installed.

After successful installation, a shortcut icon to start the tomcat server appears in the icon tray of the task bar as shown below. Double clicking the icon, displays the window of Apache Manager for Tomcat. It might show the "Startup type" as manual (if you change default installation Location)

## Configuring Tomcat Memory settings for optimum performance

After installing tomcat, modify the tomcat memory settings as described below to achieve optimum performance.

E.g. If the server has a 16 GB RAM, the web server needs to be allocated a minimum of 50% of the RAM to begin with i.e. 8 GB minimum. The higher the memory allocation, the better for the functioning of the application.

Memory Settings:

1. If you are using the normal tomcat installation and Tomcat manager then set the memory related values as shown in the Tomcat → Java → Java Options window

   Copy the 2 lines in blue below and paste these 2 lines at the end of the existing lines in the Java Options window.

Tomcat Memory Settings
-Xms2048m -Xmx8192m
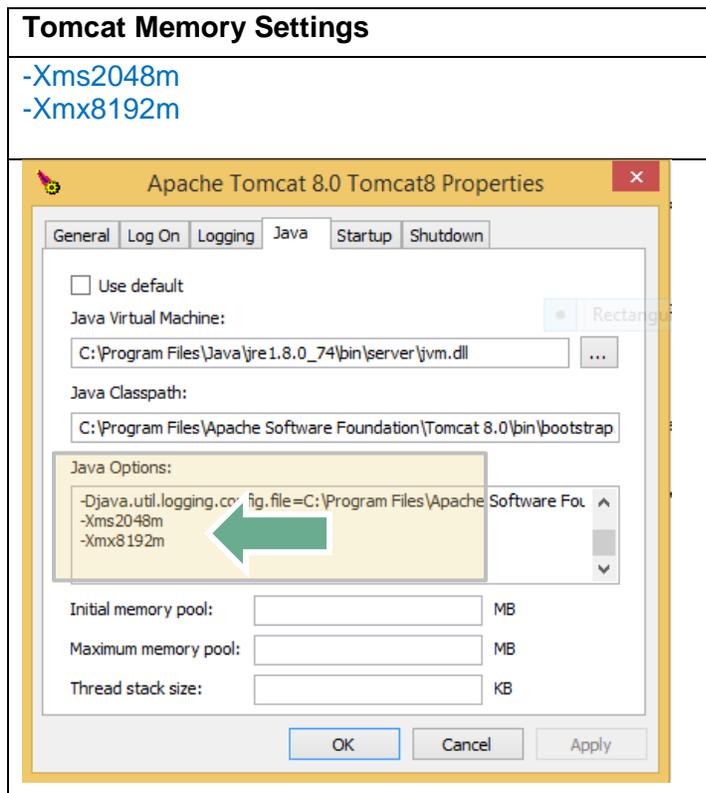
   IMPORTANT NOTE: Ensure that the "Initial memory pool" & "Maximum memory pool" values are empty. If values exist in these 2 fields, delete the values i.e. set to empty and click the "Apply" button

2. If using an alternate Tomcat zip installation (startup.bat)

   Add the following line to the **catalina.bat** (Windows) or **catalina.sh** (Unix) file as the first line in the file.

   catalina.bat:
   ==========
   set CATALINA_OPTS=%CATALINA_OPTS% -Xms2048m –Xmx16384m

   catalina.sh
   ============================
   CATALINA_OPTS="$CATALINA_OPTS -Xms2048m –Xmx16384m"

Create Dedicated Database/Schema for the application (on SQL Server or Oracle)

Create Database in SQL SERVER Database

The following steps are for a **SQL SERVER** database.

1. Create a new Database/Schema for erwin DI Suite e.g. "**erwinDISuite**".
2. From the SQL folder of the installation software, run the "erwinDISuite_SqlServer.sql" file against the newly created SQL Server Database.
3. The required database tables for the software are created in the SQL Server database.

IMPORTANT NOTE:

A dedicated database needs to be created in SQL Server for the software and the DDL needs to be executed against this dedicated database.
**The DDL should not be executed against the MASTER schema.**
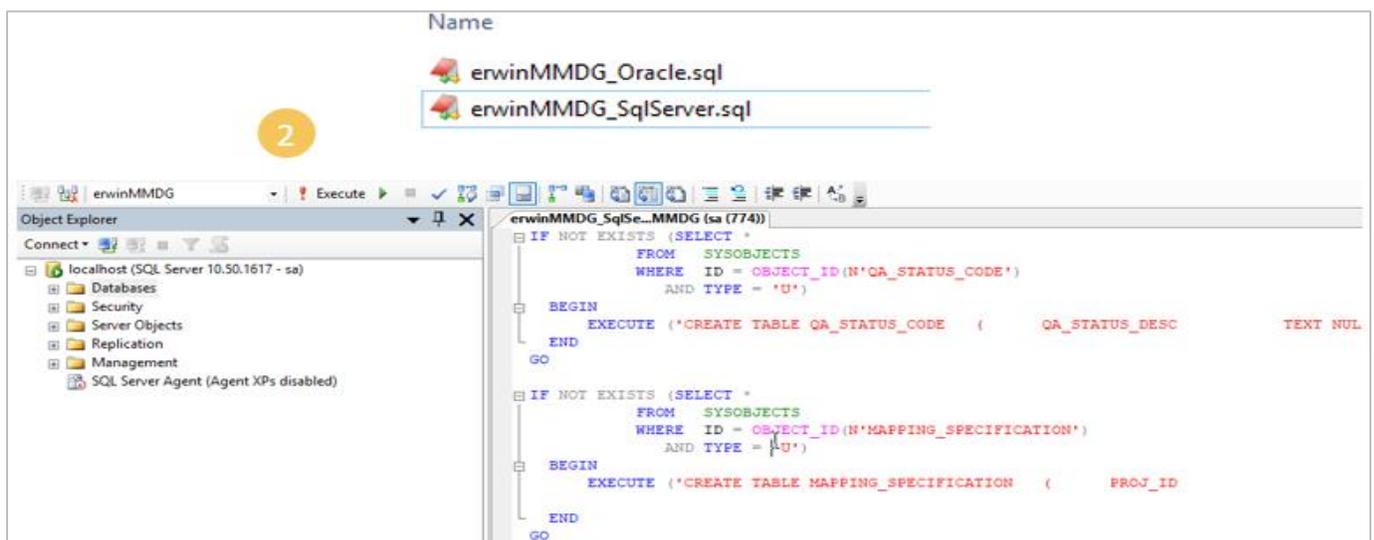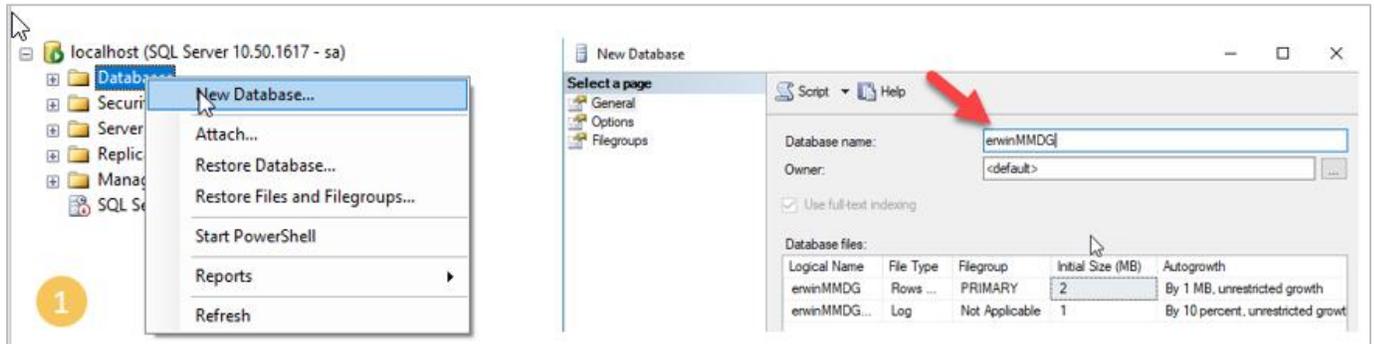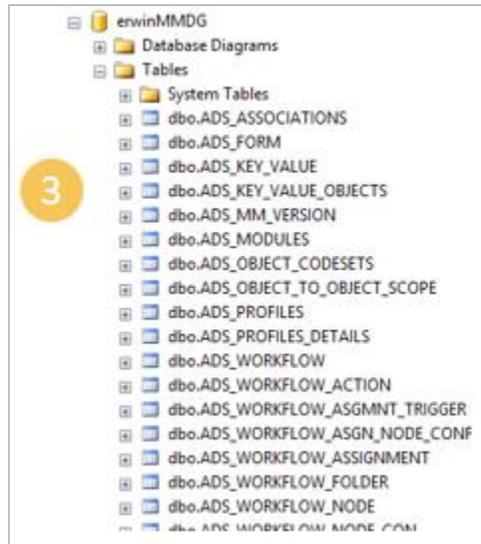
Create a dedicated DB User Account for the erwin DI Suite's database

1. Create a new Database login role for the erwinDISuite Database (e.g. create a new DB role as "**erwinDISuiteUser**" for the previously created database "erwinDISuite".
2. Ensure that you select the "*SQL Server Authentication*" mode for the new login role

Note**: *Windows Authentication mode* support is not available at this point of time.

3. Grant the new login the following roles.

   ➢ Public

   ➢ db_owner

   ➢ data_reader

   ➢ data_writer
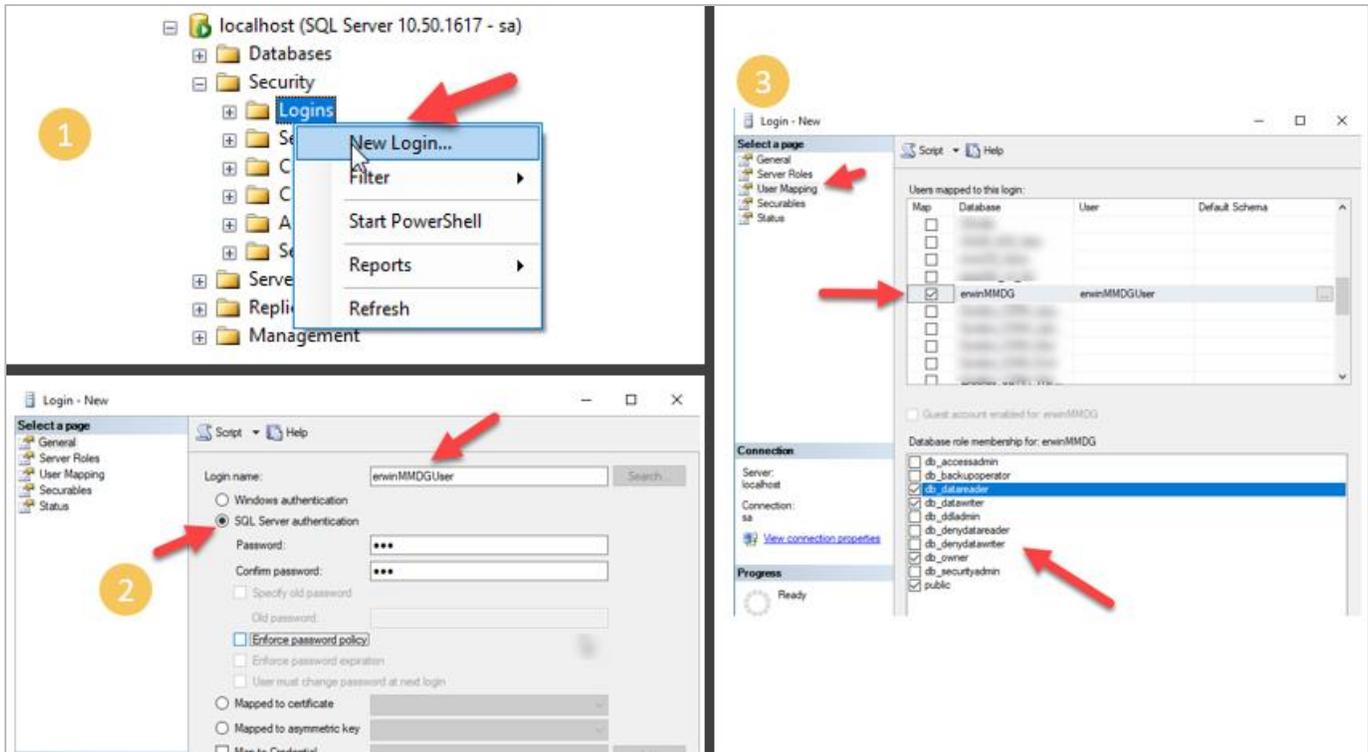
Create Schema in Oracle Database

1. Create a new Database/Schema for the application in the Oracle database e.g. "**erwinDISuite**"

2. Provide the following privileges to the "**erwinDISuite**" user/schema

➢ **Resource**
➢ **Connect**
➢ **Create a View privileges**

3. From the SQL folder of the installation software, run the "erwinDiSuite_Oracle.sql" file against the newly created Oracle Schema
4. The required database tables for the software are created in the Oracle schema.

IMPORTANT NOTE:

A dedicated schema needs to be created in Oracle for AMM and the DDL needs to be executed against this dedicated schema. **The DDL should not be executed against SYS or SYSTEM schemas.**

Deploying the erwin DI Suite on Tomcat

1. Go into the WAR folder of the installation

2. Copy the "erwinDISuite.war" file

3. Go into the webapps folder of Tomcat directory and paste the "erwinDISuite.war" file into this webapps folder

4. Wait a few minutes (2-3 min). You will see a newly created "erwinDISuite" folder
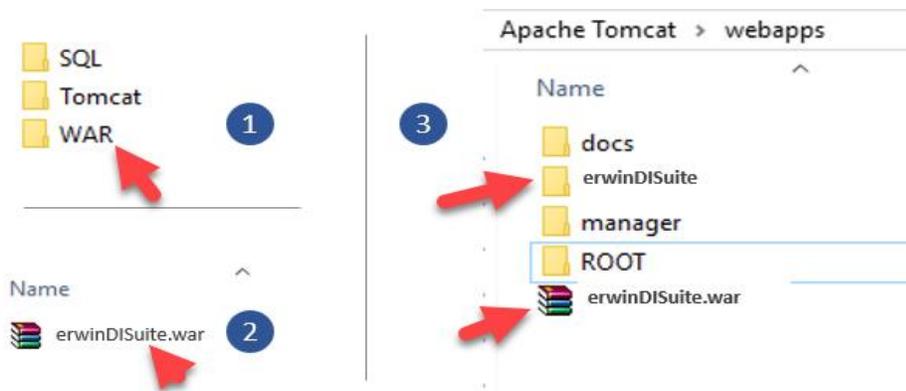
5. Go into the erwinDISuite/WEB-INF/Database folder to configure the "***database.properties***" file

6. Provide the required parameters to connect to the SQL Server/ORACLE database

7. Set **PasswordEncrypted=false** and Restart the Tomcat server

 IMPORTANT**: Restart the Tomcat server after updating the "database.properties" file
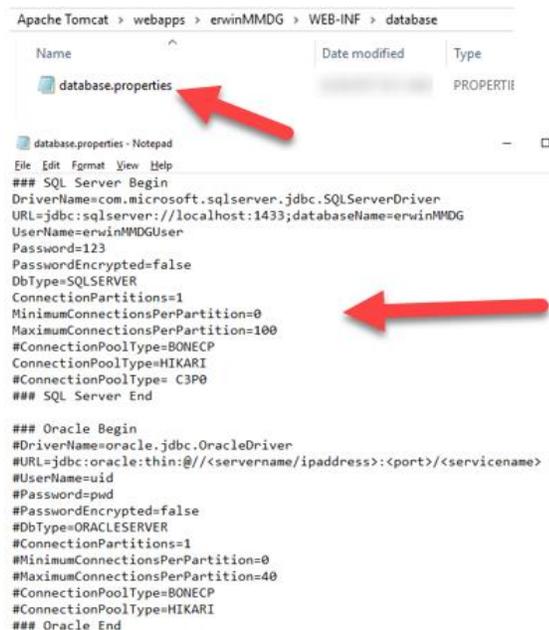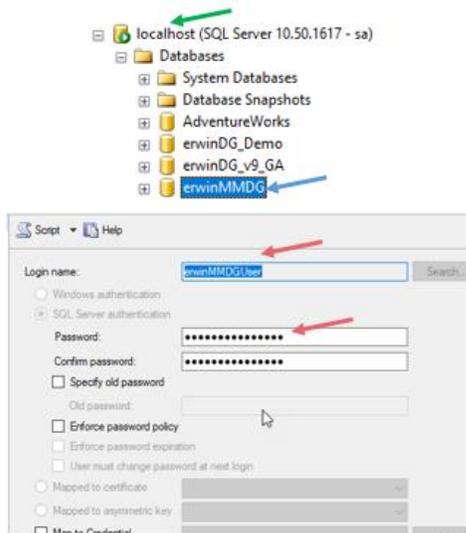
Configuring the "database.properties" file for SQL Server Database

Uncomment the SQL Server section by removing the # at the beginning of each line (between SQL SERVER BEGIN and SQL SERVER END section)

Enter the following parameters

- ➢ SERVER NAME
- ➢ PORT# (default 1433)
- ➢ Database Name
- ➢ User Name
- ➢ Password
- ➢ PasswordEncrypted = false

Configuring the "database.properties" file for Oracle Database

Uncomment the ORACLE section by removing the # at the beginning of each line (between ORACLE BEGIN and ORACLE END section)

Enter the following parameters

- ➢ SERVER NAME
- ➢ PORT# (default 1521)
- ➢ Database Name
- ➢ User Name
- ➢ Password
- ➢ PassEncrypted = false

Sample screenshot of Parameters is shown below.


```
### Oracle Begin
DriverName=oracle.jdbc.OracleDriver
URL=jdbc:oracle:thin:@//oracleserv:1521/xe
UserName=erwinMMDGUser
Password=123
PasswordEncrypted=false
DbType=ORACLESERVER
ConnectionPartitions=1
MinimumConnectionsPerPartition=0
MaximumConnectionsPerPartition=40
ConnectionPoolType=BONECP
ConnectionPoolType=HIKARI
### Oracle End
```

Oracle | erwin DI Suite Connection Params

Access the erwin DI Suite Login Screen

1. Open a web browser

2. Type the URL **http://IP_ADDRESS:Port#/erwinDISuite/**

   IP_ADDRESS = IP Address or Physical Name of Server where tomcat is running

   Port#: Port Number on which Tomcat is configured

3. You will now see the login screen.

4. Enter the User Name as "**Administrator**" and Password as "**Administrator**" and login to the application.

   Note**: Both User Name and Password are case sensitive

How to activate the software:

Once you have a valid license key, go back to the login screen, click the "**Activate Software**" link and paste the text from the license key file in the pop up window.

Important Note**: Once the product is successfully configured, please reach out to your sales contact for a valid license key.

Configuring erwin DI Suite with LDAP/Active Directory user login

erwin DI Suite can be configured to use LDAP/Active Directory by enabling the LDAP properties in the "database.properties" file.

Below is a depiction of typical LDAP instance and connectivity setup in the "database.properties" file for erwin DI Suite
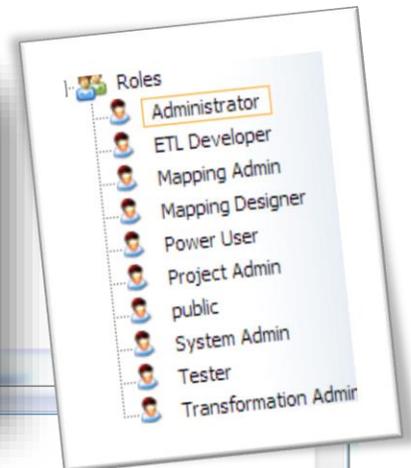
PREREQUISITES:-

➢ It is necessary to create an Organizational Unit as 'AMMRoles' in Active Directory and create the same role names available in Mapping Manager.

➢ To create an Administrator role, a separate Group has to be created in Active Directory, and the role name can be anything except "Administrator". (Reason: Administrator is the Global Group available in Active Directory). The Administrator Group name can thus be mapped in "database.properties" file as below.

E.g. **LDAPAdminGroupName=AMMAdministrator**

Note: ***Except the 'Administrator' role which can be created as required (and provided as a dynamic parameter in LDAP configuration) all other role names in the LDAP space should exactly match the role names defined in the erwin DI Suite product.


```
#Start LDAP Properties #uid,sAMAccountName,cn
IsLDAPEnabled=false
LDAPLoginAttribute=sAMAccountName
LDAPServerUrl=ldap://<ldapserver/ipaddress>:389/DC=ANALYTIXDS,DC=LOCAL
LDAPUserDN=CN=ammuser,OU=AMMEmployees,DC=ANALYTIXDS,DC=LOCAL
LDAPServerPassword=<ldappwd>
LDAPSearchBase=DC=ANALYTIXDS,DC=LOCAL
LDAPBindUser=<binduser>
LDAPBindServerUrl=ldap://<ldapserver/ip>:389
SearchBase=
SearchFilter=(sAMAccountName={0})
GroupRoleAttribute=cn
ConstructorArg=OU=AMMRoles
LDAPAdminGroupName=AMMAdministrator
## END LDAP Properties
```

LDAP CONFIGURATION PARAMETERS

IsLDAPEnabled	Enter this as **true**
LDAPLoginAttribute	Enter the login attribute name used for the bind to the LDAP database. This can be any of the < **#uid** (or) **sAMAccountName** (or) **cn**> as setup. e.g., **LDAPLoginAttribute=sAMAccountName**
LDAPServerUrl	Enter the fully qualified name (URL) of the LDAP Server IP address along with the port and domain controller details. e.g., **LDAPServerUrl= ldap://192.168.1.10:389/DC=ANALYTIXDS,DC=LOCAL**
LDAPUserDN	Enter the LDAP bind user with fully qualified distinguished name. You can add any user DN with the privilege to search LDAP/Active Directory. e.g., in the below case ammuser is the bind user **LDAPUserDN=CN=ammuser,OU=AMMEmployees,DC=ANALYTIXDS,DC=LOCAL**
LDAPServerPassword	Enter the password associated with the LDAP Server
LDAPSearchBase	The standard format is dc=first part of distinguished server name, dc=any part of the distinguished server name that appears after the dot. You set a search base to put limits on the authentication server directories. Enter the fully qualified search base details e.g., **LDAPSearchBase=DC=ANALYTIXDS,DC=LOCAL**
LDAPBindUser	Enter only the Bind User Name e.g., **LDAPBindUser =ammuser**
LDAPBindServerUrl	Enter the LDAP Server URL e.g., **LDAPBindServerUrl=ldap://192.168.1.10:389**
SearchBase	<Optional> Enter an OU to put limits on the authentication server directories. e.g., **SearchBase=OU= AMMEmployees**
SearchFilter	Enter the same Login Attribute type used to get user details e.g., **SearchFilter=(sAMAccountName={0})**
GroupRoleAttribute	This attribute holds user group information on the LDAP server. Here it is the identifier to search the association between the user and the AMM role. e.g., **GroupRoleAttribute=cn**
ConstructorArg	Specify the path where the AMM roles are created e.g., **ConstructorArg=OU=AMMRoles**
LDAPAdminGroupName	Specify the AMM Admin role name e.g., **LDAPAdminGroupName=AMMAdministrator**

Troubleshooting Tips

1. **Cannot access the login screen?**

   Trying to access the URL http://IP_ADDRESS:Port#/erwinDISuite/ in your web browser and get a "404 Page Not Found" or a "black screen" error?

   ← → C   ⓘ localhost:6080/erwinDISuite/

   HTTP Status 404 - /erwinDISuite/

   type Status report

   message /erwinDISuite/

   description The requested resource is not available.

   Apache Tomcat/8.0.39
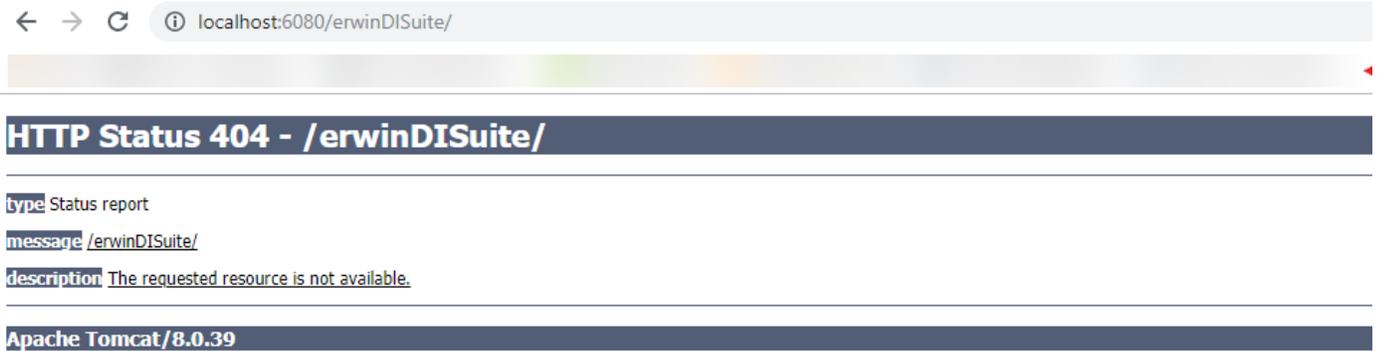
If you get the above error,

1. **The application is not able to establish a connection to the backend Database (SQL SERVER or Oracle) repository.**

Cause 1: Incorrect parameters in the "database.properties" file.

Solution: Check the connectivity parameters "database.properties" file in the tomcat/webapps/erwinDISuite/WEB-INF/database folder to ensure the connectivity parameters are correctly listed. Click here to view the Configuration options for Oracle and SQL Server dbs

Cause 2: Database port is blocked by firewall.

Solution: The port numbers being used for SQL Server or Oracle Databases need to be open and made available for access by the MM & DGapplication. Check the port# listed in the "database.properties" file and ensure the port# being used is open. E.g. SQL SERVER typically uses port# 1433. Ensure TCP/IP is enabled on your SQL SERVER database in order for the MM & DGapplication to successfully establish a connection.

2. **The application did not deploy properly**

Cause 1: Incomplete deployment by the web server

Solution: Sometimes, incomplete deployment of the erwinDISuite.war file results in the application not being available for access. To ensure that the application is properly deployed, go into the tomcat/webapps/erwinDISuite/WEB-INF/ folder and confirm if a "web.xml" file is visible. If yes, the application is deployed correctly.

If not, execute the following steps to re-deploy the application

1. Stop tomcat
2. Go into the tomcat/webapps/ folder and delete the erwinDISuite.war and erwinDISuite folder
3. Go into the tomcat/work/catalina/localhost folder and delete the erwinDISuite folder
4. Start Tomcat
5. Follow steps from installation guide to deploy the erwinDISuite.war file. Click Here to view deployment instructions

If the errors still persist, go into the tomcat/logs folder and zip all the log files into a compressed folder and send them to dgsupport@erwin.com and we will get in touch with you to help you with the installation process.