Dell OpenManage Essentials Database

Dell Engineering
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A Dell Technical White Paper

Revisions

Date	Description
May 2015	Initial release
September 2015	OpenManage Essentials v2.1 release

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1 SQL Server requirements – OpenManage Essentials

1.1 Minimum login roles for Microsoft SQL Server

The following table provides information about the minimum permissions for SQL Server based on different installation and upgrade use cases.

Table 1 Minimum login roles

Number	Use Case	Minimum Login Roles for SQL Server
1	Installing OpenManage Essentials for the first time and you select the Typical option during the installation process.	sysadmin access on the installed instance.
2	Installing OpenManage Essentials for the first time, you select the Custom option during the installation process and an empty OpenManage Essentials database is present (locally or remotely). NOTE: If you select the Custom install option and do not enter any credentials then the installation is considered as a Typical installation and sysadmin rights are required.	db_owner access on the OpenManage Essentials database.
3	You are installing OpenManage Essentials for the first time, you select the Custom option during the installation process, and an empty OpenManage Essentials database is not present.	dbcreator access on the server.
4	Upgrading OpenManage Essentials from version 1.3, 2.0, or 2.0.1 to version 2.1 and an OpenManage Essentials database is present (locally or remotely).	db_owner access on the OpenManage Essentials

1.2 Database size and scalability

The following table provides information about the changes to the database size in an environment with 4000 devices based on alerts, tasks, and alert actions.

Events	Database Size
Initial database size	60 MB
After discovery and inventory of 4000 devices	65 MB
After 2000 alerts are generated	73 MB
After tasks (status polling, OpenManage Server Administrator deployment tasks, remote tasks, and system update tasks) against these alerts are executed	77 MB
After deleting all the alerts and sending 20,000 alerts with all the alert actions configured	127 MB
After sending 40,000 alerts with all alert actions configured	230 MB

1.3 Considerations when installing OpenManage Essentials on a domain controller

When installing OpenManage Essentials on a domain controller:

- You must install Microsoft SQL Server manually.
- If SQL Server is installed locally, the SQL Server service must be configured to run using a domain user account.

Note: The SQL Server service will not start if you are using the default NETWORK SERVICE or LOCAL SYSTEM accounts.

After OpenManage Essentials is installed on a domain controller:

- By default, the Domain Admins group is added as a member of the OmeAdministrators and OmePowerUsers roles.
- Local Windows user groups are not included in the OpenManage Essentials roles. OmeAdministrators, OmePowerUsers, or OmeUsers rights can be granted to users or user groups by adding them to the OpenManage Essentials Windows groups. OmeSiteAdministrators rights can be granted by OmeAdministrators through the Device Group Permissions portal.

1.4 Setting up OpenManage Essentials database on a remote SQL Server

You can configure OpenManage Essentials to use an SQL Server present on a remote system. Before setting up the OpenManage Essentials database on the remote system, check for the following prerequisites:

- Network communication between the OpenManage Essentials system and the remote system is functioning.
- SQL connection works between the OpenManage Essentials system and the remote system for the specific database instance. You can use the Microsoft SQL Server Express 2012 Management Studio tool to verify the connection. On the remote database server, enable TCP/IP protocol and if you are using SQL Authentication, enable mixed mode on the remote SQL Server.

You can retarget the database for the following:

- SQL credentials to the SQL Server fails.
- Windows credentials to the SQL Server fails.
- Login credentials have expired.
- Database is moved.

2 Database maintenance – OpenManage Essentials

OpenManage Essentials maintains its database with stored procedures that run periodically and also when all sessions expire. Therefore, no user actions are required.

3 Database backup and restore – OpenManage Essentials

3.1 SQL Server backup and restore instructions

For information on backup and restore of SQL Server, see https://msdn.microsoft.com/en-IN/library/ms187510.aspx.

3.2 Prerequisites

- Microsoft SQL Server Management Studio must be installed on the server running OpenManage Essentials
- OpenManage Essentials must be installed using the Typical Installation method
- Ensure that you stop Internet Information Services (IIS)
- Ensure that you stop all OpenManage Essentials services

3.3 Backing up the database

1. On the server running OpenManage Essentials, open SQL Server Management Studio.
2. Right-click the OpenManage Essentials database (**OMEssentials**)→ **Tasks** → **Back Up**.

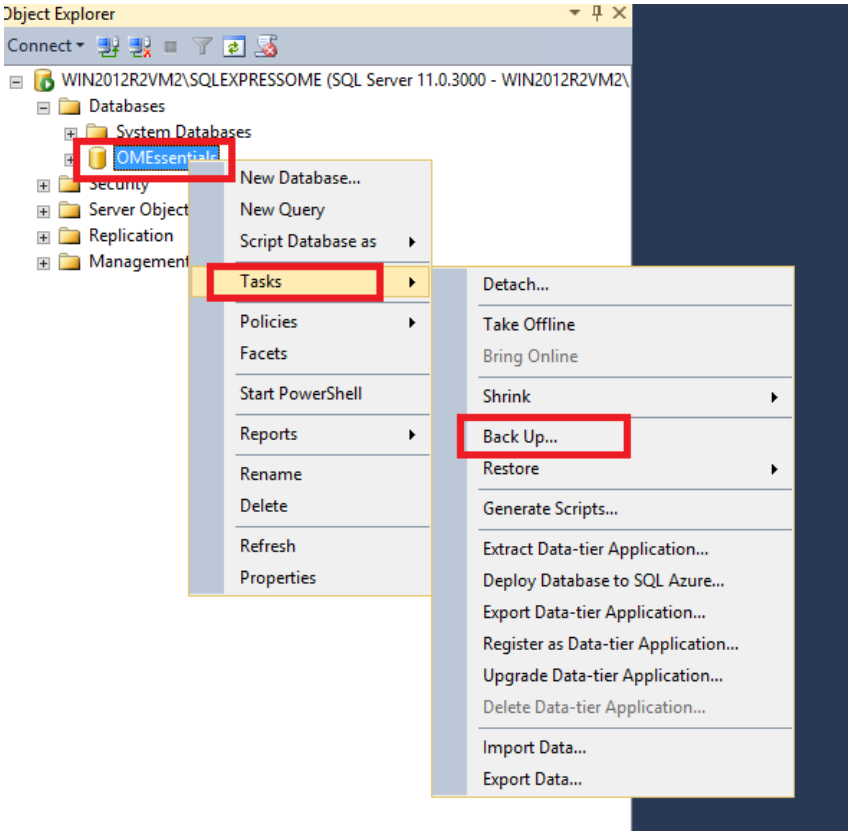

Figure 1 Back Up task option

The **Back Up Database – OMEssentials** window is displayed.

3. Click **OK**.

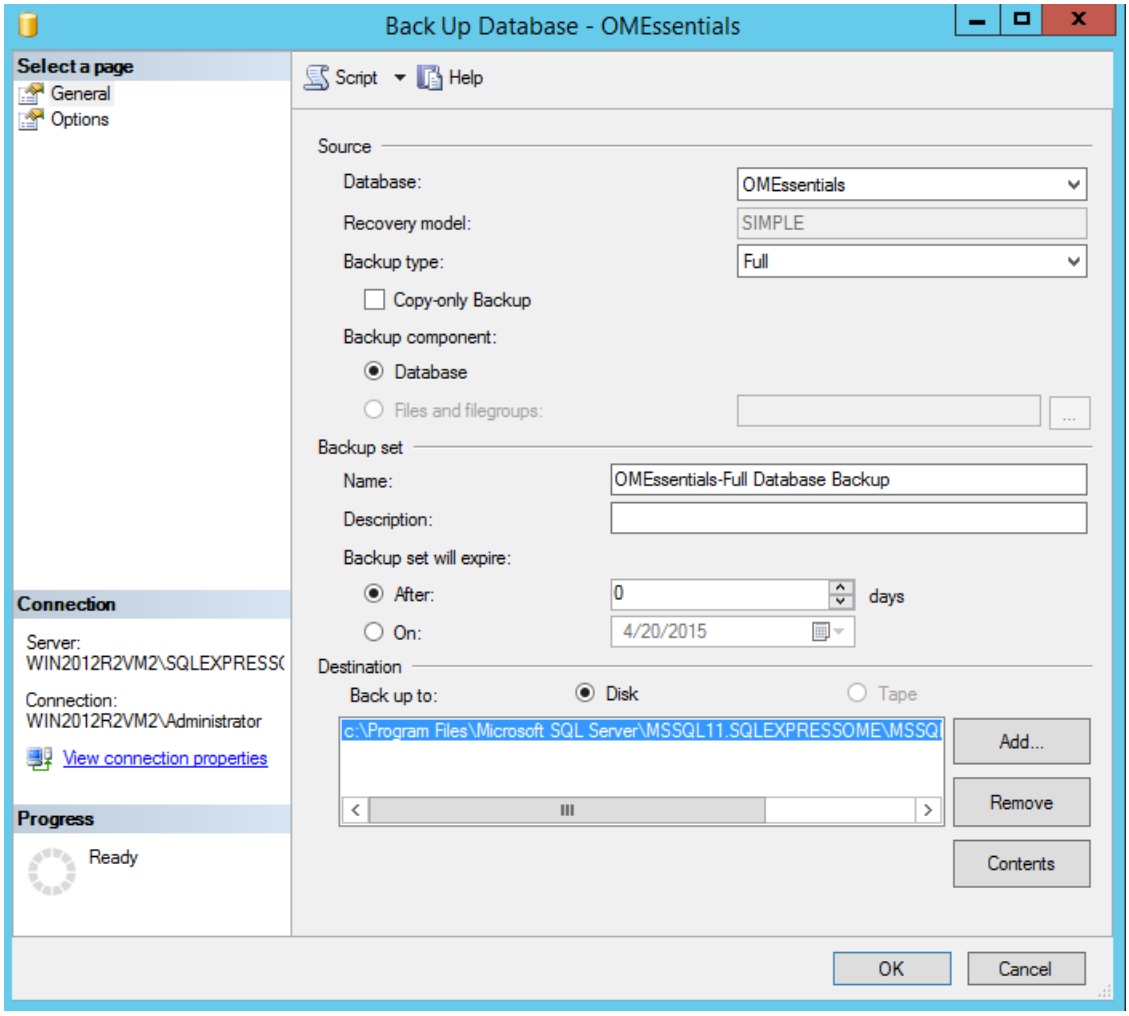

Figure 2 Back Up Database window

4. At the back up completed successfully message, click OK.

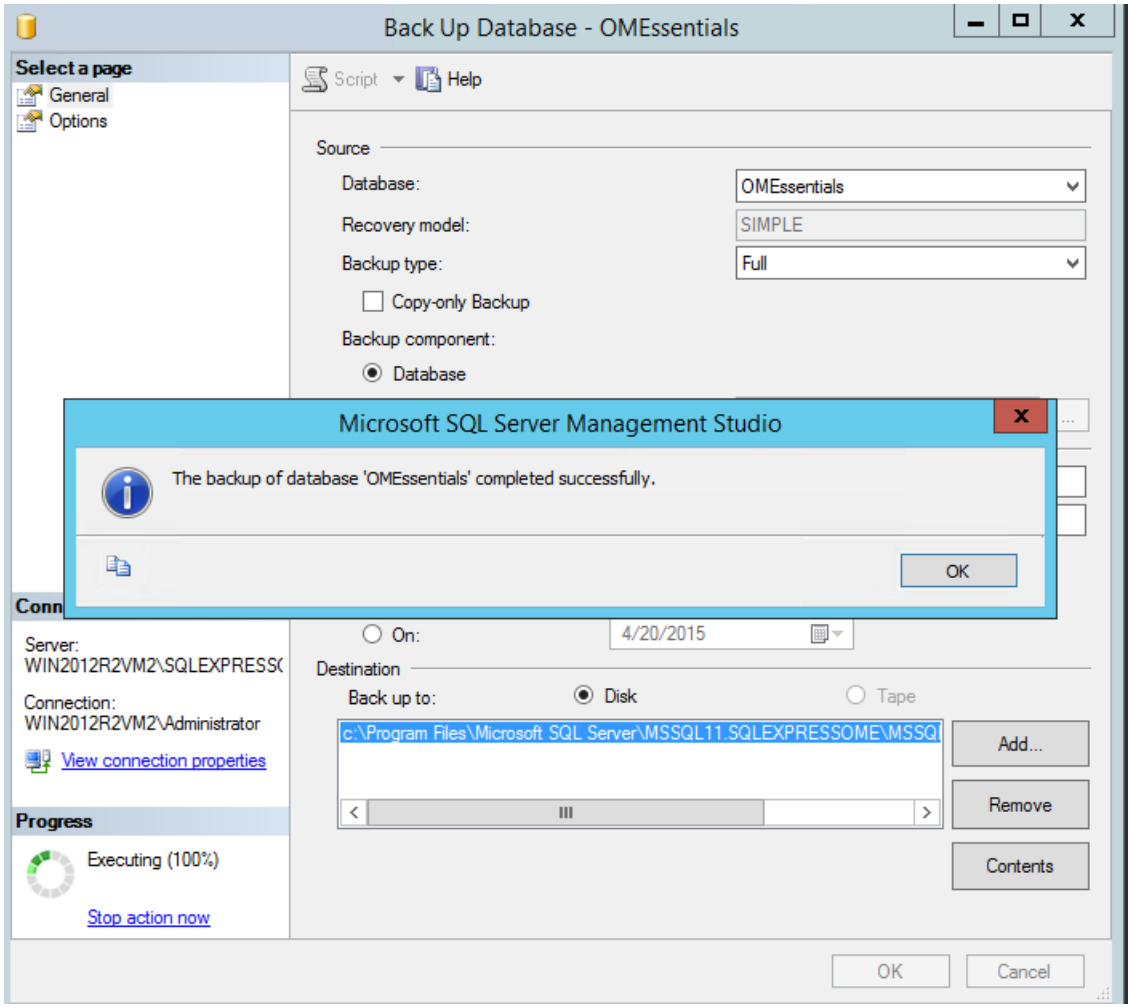

Figure 3 Back up successful message

The OpenManage Essentials database back up file (**OMEssentials.bak**) is saved at **C:\Program Files\Microsoft SQL Server\MSSQL11.SQLEXPRESSOME\MSSQL\Backup**.

5. Copy the back up file (**OMEssentials.bak**) and paste it on another server.

3.4 Restoring the database

6. Open SQL Server Management Studio.
7. Right-click **Databases→ Restore Database**.

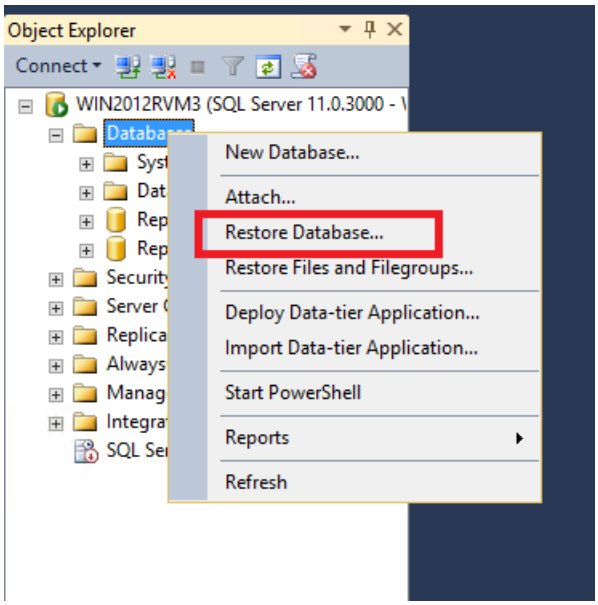

Figure 4 Restore Database option

The **Restore Database** window is displayed.

8. Select the **Device** and click the browse button.

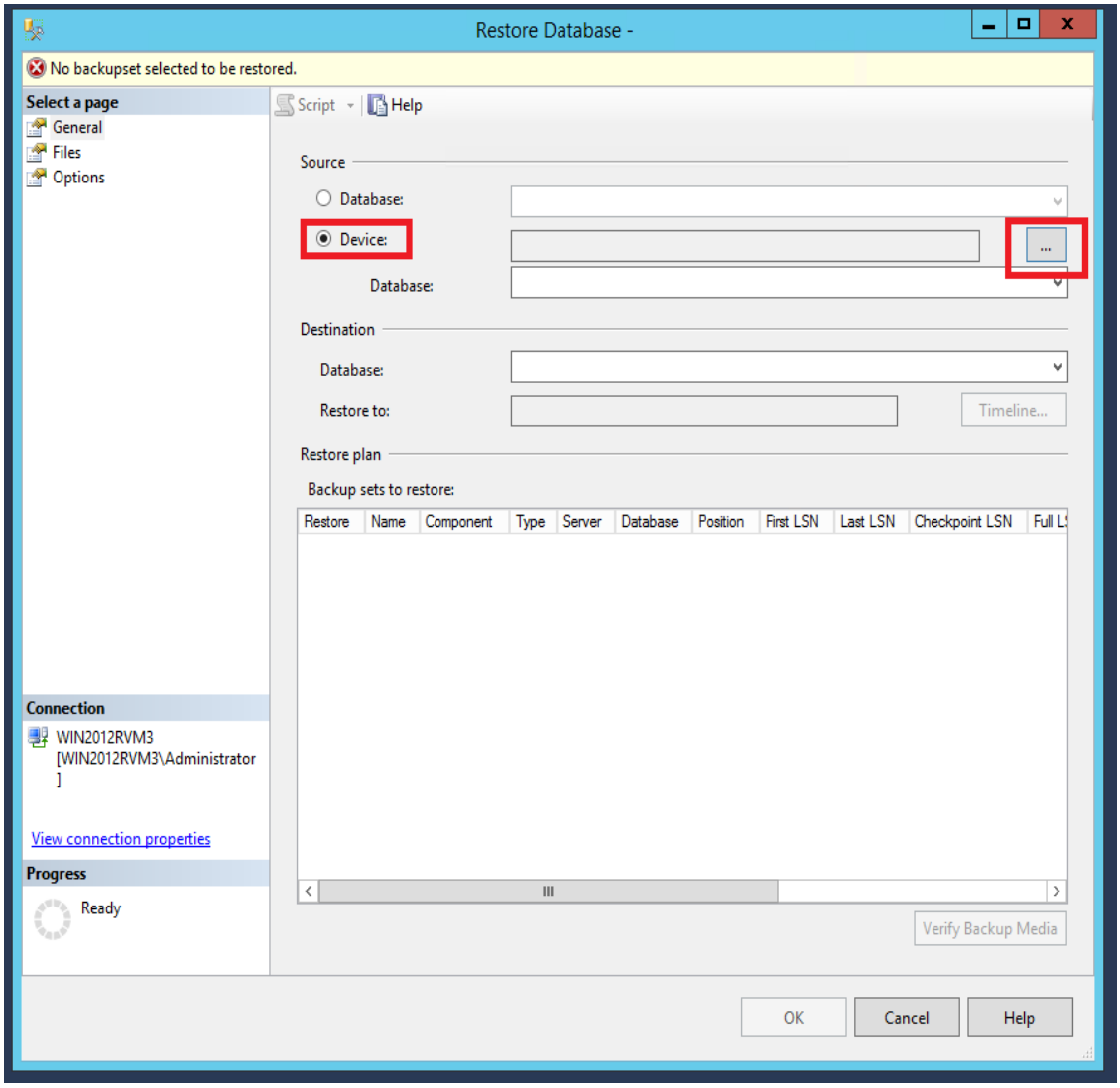

Figure 5 Restore Database window

The **Select backup devices** window is displayed.

9. Click **Add** and browse to select the back up file.
10. Click **OK**.

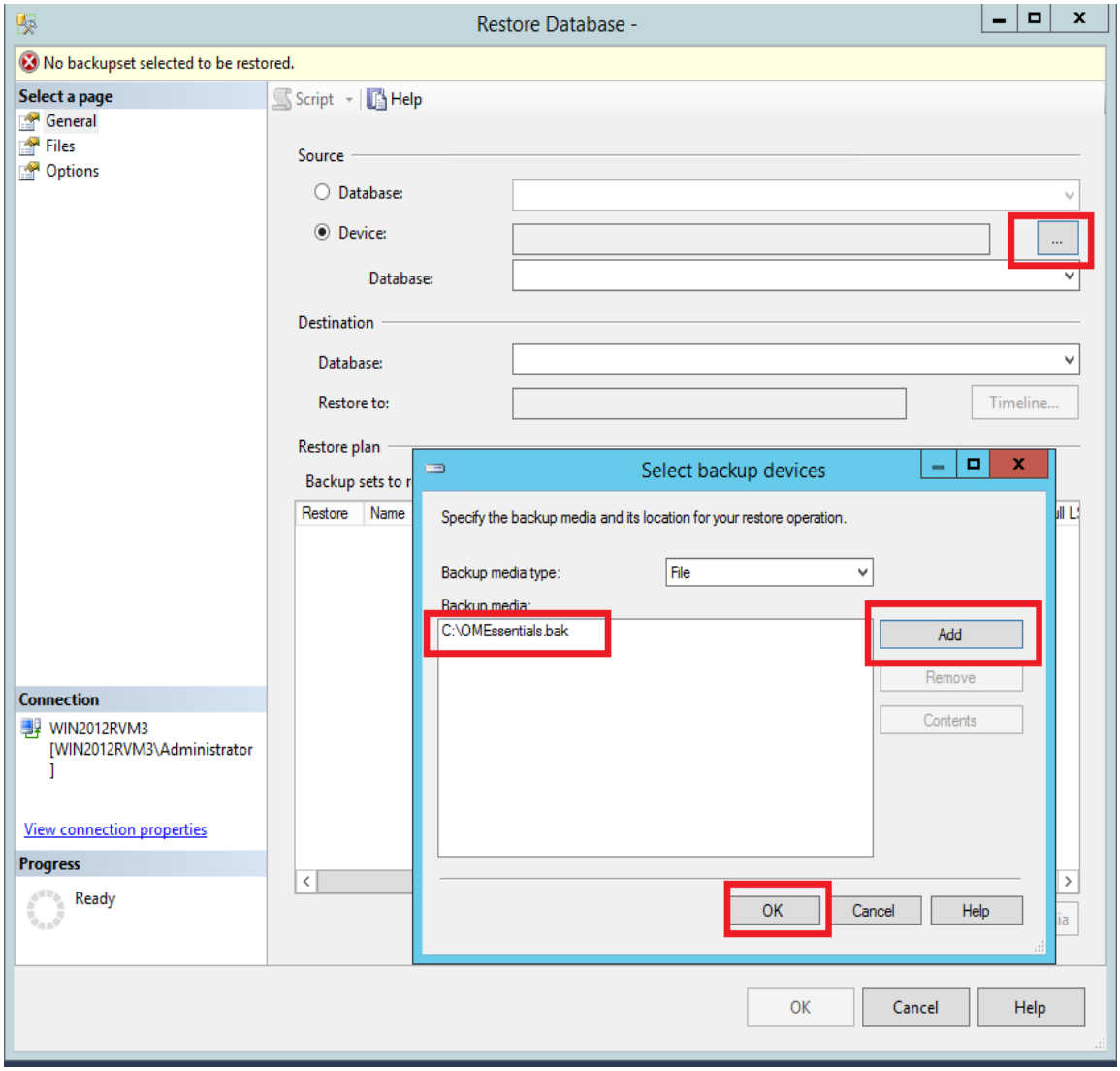

Figure 6 Select backup devices window

The database is restored successfully.

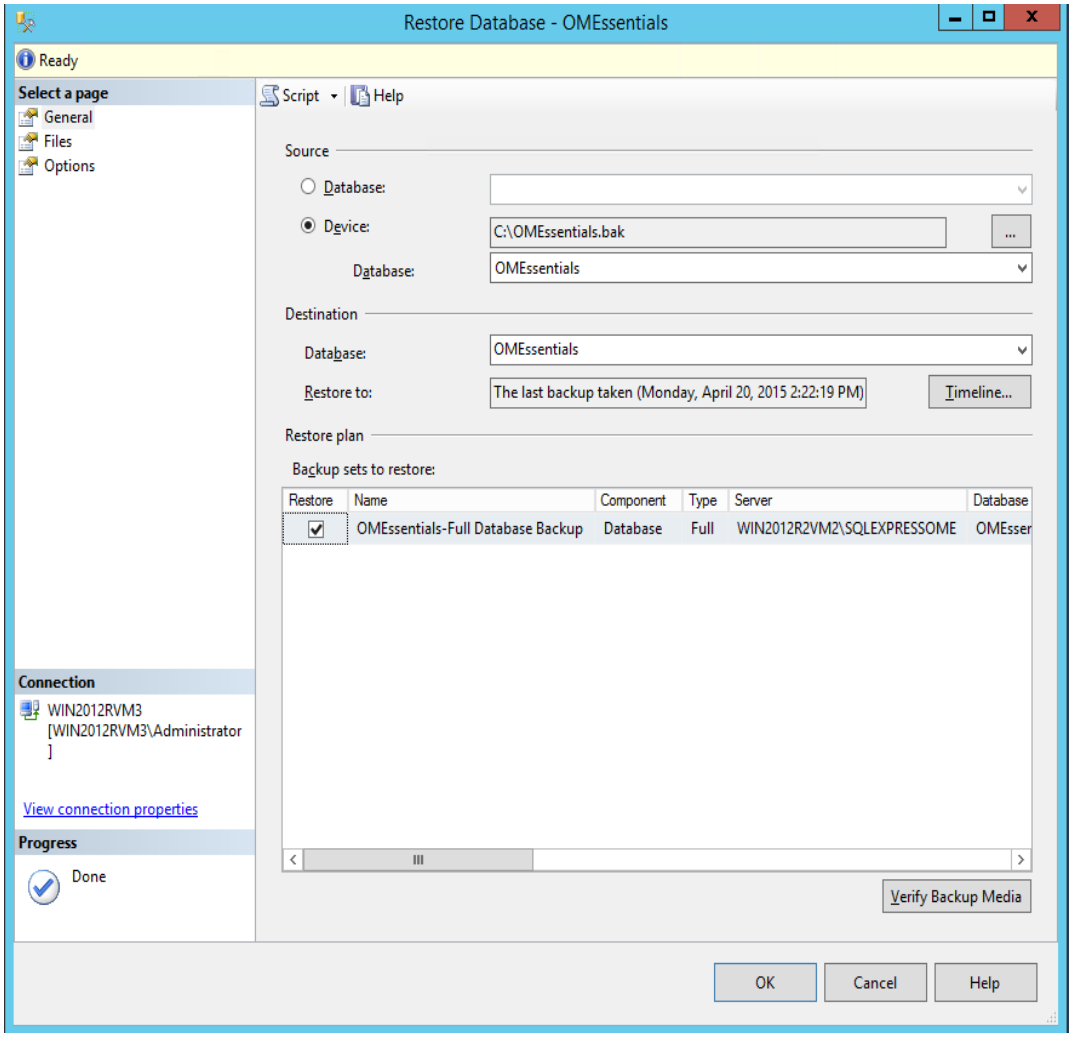

Figure 7 Restore Database window

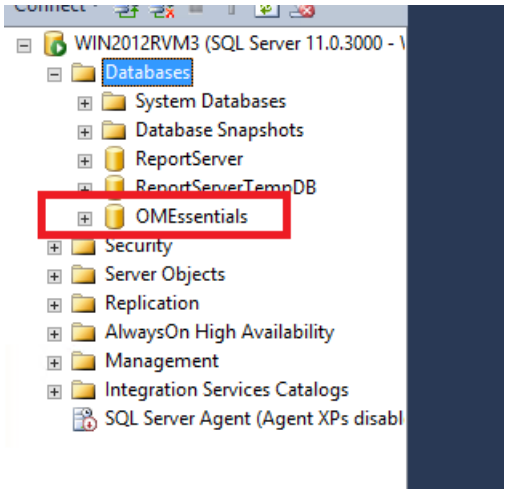

Figure 8 OMEssentials database

3.5 Resolving issues with duplicate backup databases

If there are multiple instances of the back up file (**OMEssentials.bak)**, the database cannot be restored.

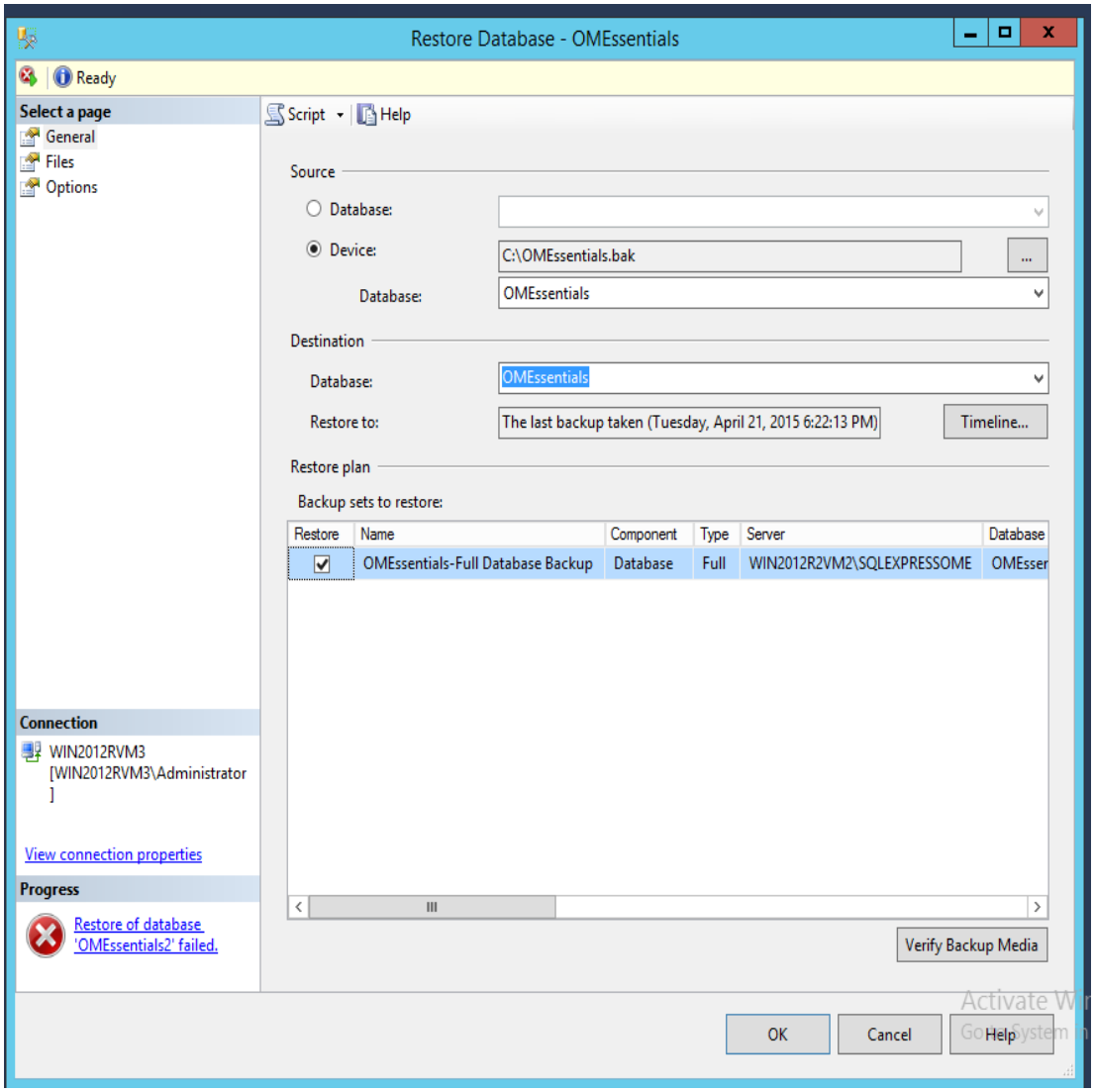

Figure 9 Restore Database window

To resolve the issue, rename both the files (OMEssentials and OMEssentials_log) and then try restoring the database.

To rename the files, edit the file names in the **Restore As** field.

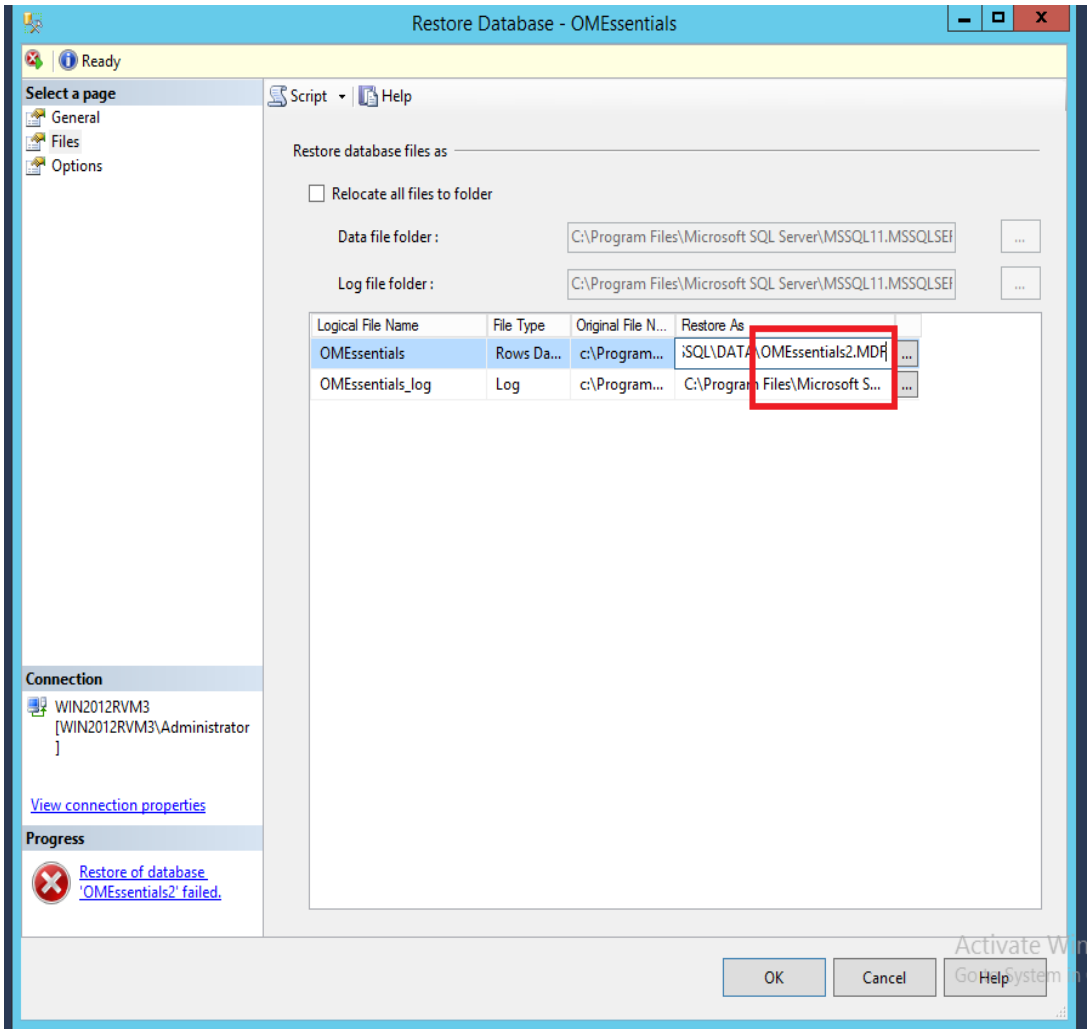

Figure 10 Edit database file name

4 Retargeting OpenManage Essentials

4.1 Creating a SQL Server login

1. Open SQL Server Management Studio.
2. Click **Security→ New Login**.

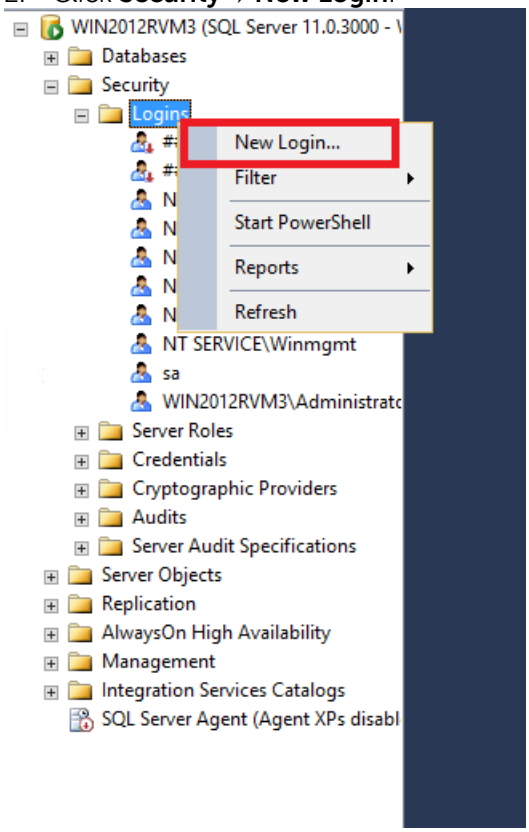

Figure 11 New Login option

The **Login - New** window is displayed.

3. Type a login name and click **SQL Server Authentication** or **Windows Authentication**.

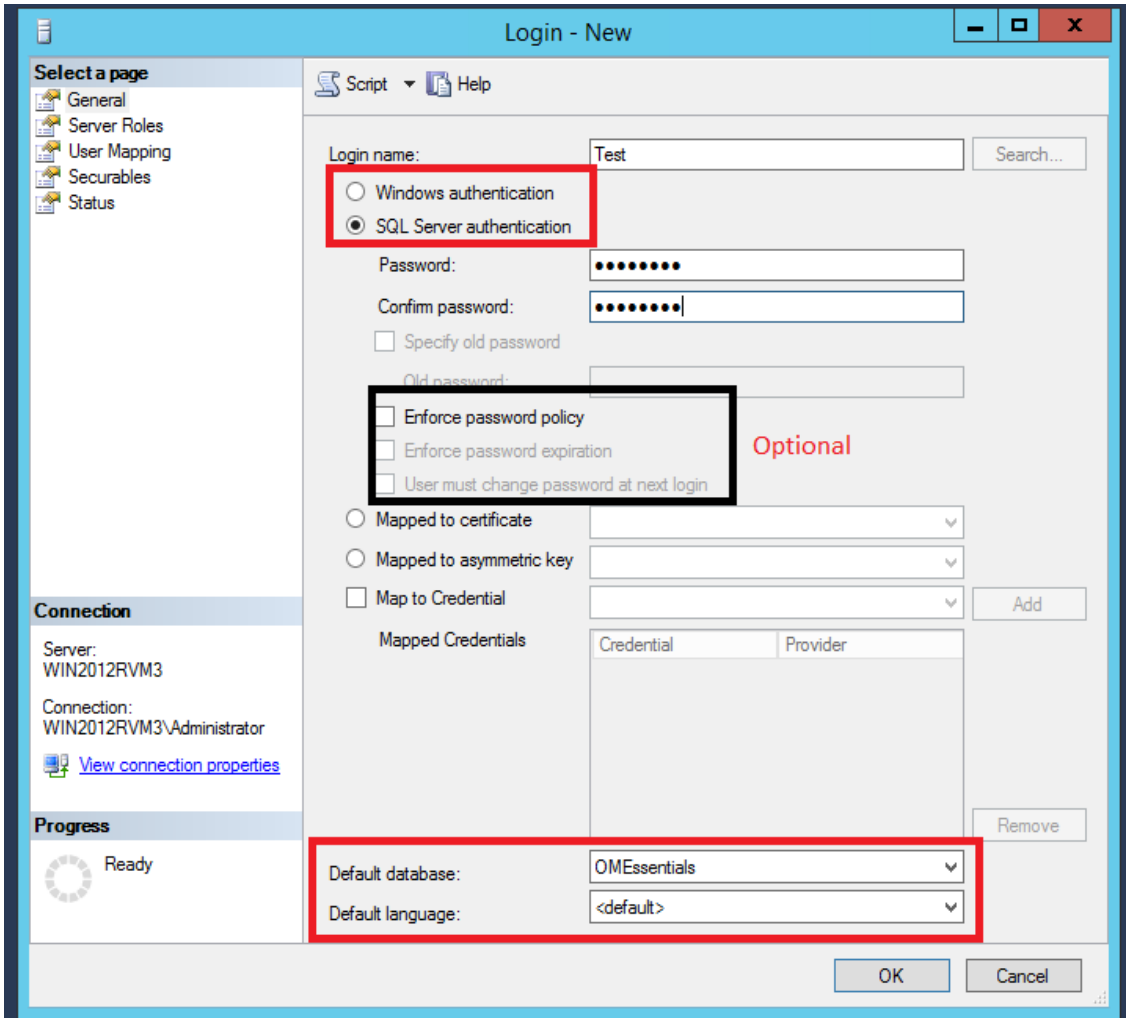

Figure 12 Login – New window

4. On the **Server Roles** page, select **public**.

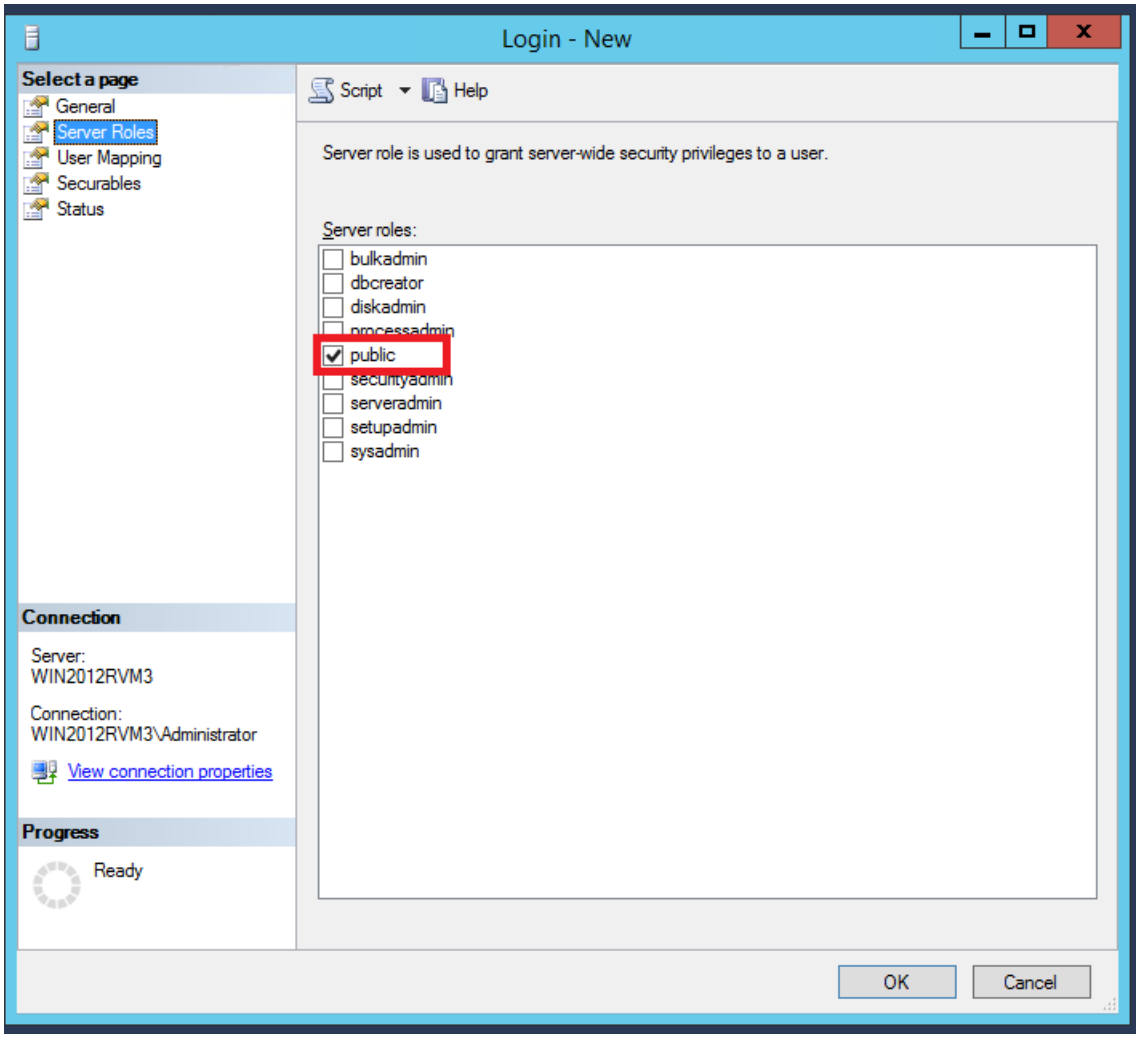

Figure 13 Server Roles

5. On the **User Mapping** page, select **OMEssentials**.

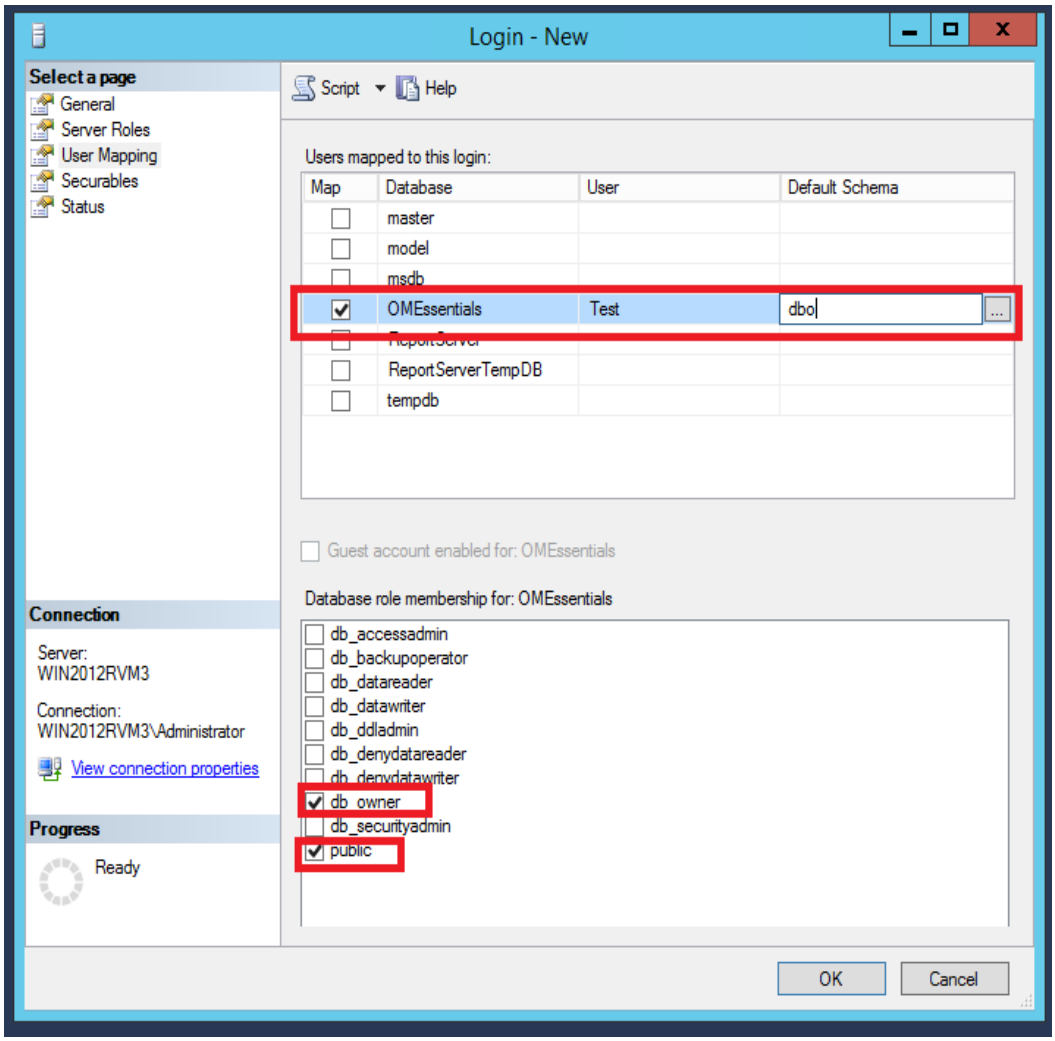

Figure 14 User Mapping

6. Click **OK**.

The new user is created.

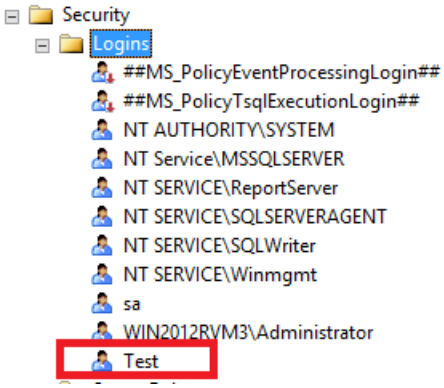

Figure 15 Users

4.2 Disabling the 'OMEService' SQL Server login account

1. On the system where OpenManage Essentials is installed, run following command from the command prompt:

   ```
   sqlcmd -E -S ".\SQLEXPRESSOME" -Q "ALTER LOGIN [OMEService] WITH PASSWORD='DummyPassword'"
   ```

   Note: Please verify if SQLEXPRESSOME is the name used for the Typical installation.

   Note: Copying and pasting from the command from a website or email may result in incorrect characters. It is recommended to type the complete command.

2. Open OpenManage Essentials.
   A database login error is displayed.

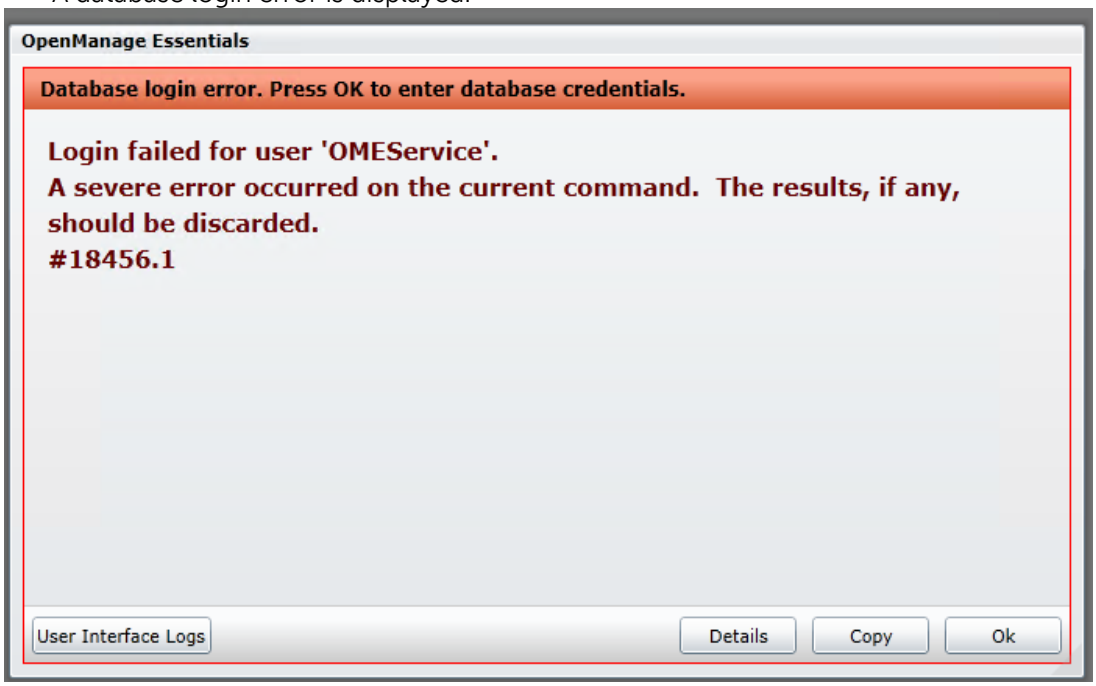

Figure 16 Database login error

3. Click **OK**.
   The **Database Connection Error** window is displayed.

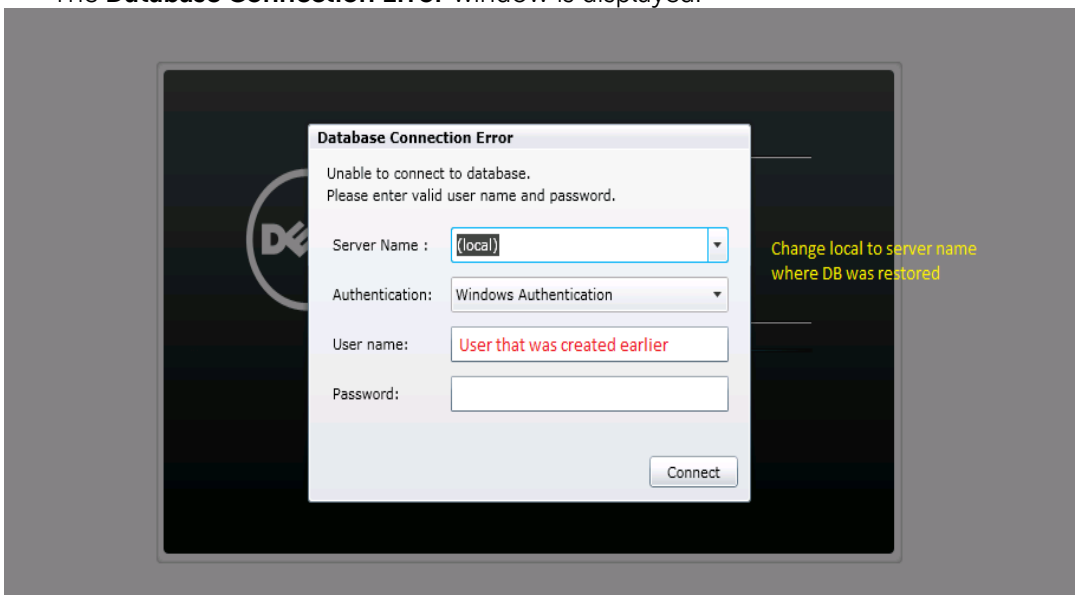

Figure 17 Database Connection Error

4. Type the name of the server where OpenManage Essentials database was restored, and the user name and password of the new user you created.

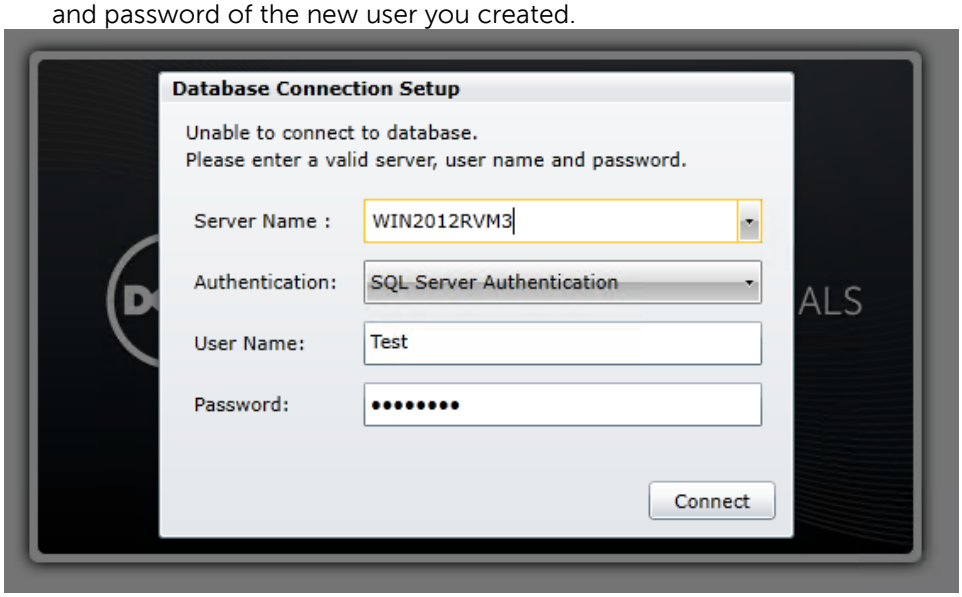

Figure 18 Connecting to the database

5. Click **Connect**.
6. Open OpenManage Essentials.
7. Reset Internet Information Services (IIS).
8. Restart the OpenManage Essentials services or restart the server.

You may delete the database where OME was installed after retargeting of the database is completed.