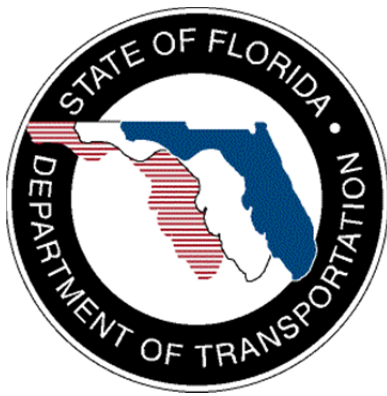


SunGuide®:

Release 6.0.0p2 Installation Notes

SunGuide-IN-6.0.0p2



Prepared for:

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Installation Notes

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	Tucker Brown, SwRI	TJB	08/01/12
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List of Acronyms

CCTV	Closed Circuit Television
COTS	Commercial-Off-The-Shelf
DLL.....	Dynamics Link Library
DMS	Dynamic Message Sign
DOT	Department of Transportation
FDOT	Florida Department of Transportation
GUI	Graphical User Interface
IN	Installation Notes
ITN.....	Invitation to Negotiate
ITS.....	Intelligent Transportation Systems
SPARR.....	Smart Phone Application for Road Rangers
SSL.....	Secure Sockets Layer
SwRI	Southwest Research Institute [®]
TSS.....	Transportation Sensor Subsystem
VDD.....	Version Description Document
XML.....	Extensible Markup Language

Revision History

Revision	Date	Changes
4.0.0	September 10, 2008	Initial release
4.0.1	September 29, 2008	Updated based on IV&V results as well as new instructions for updating the event type table
4.0.2	October 3, 2008	Updated with CMB revised Event Lists, SAE codes and change of “Accident to Crash” terminology
4.1.0	October 24, 2008	Updated for release 4.1.0.
4.1.1	November 17, 2008	Updated for release 4.1.1.
4.1.2	January 8, 2009	Updated for release 4.1.2.
4.1.3	March 6, 2009	Updated for release 4.1.3.
4.2.0	May 15, 2009	Updated for release 4.2.0.
4.2.2	June 25, 2009	Updated for release 4.2.2.
4.3.0	February 11, 2010	Updated for release 4.3.0.
4.3.2	March 25, 2010	Updated for release 4.3.2.
4.3.3	May 7, 2010	Updated for release 4.3.3.
5.0.0	May 10, 2010	Updated for release 5.0.0.
5.0.1	May 25, 2010	Updated for release 5.0.1.
5.0.2	June 15, 2010	Updated for release 5.0.2.
5.0.3	June 21, 2010	Updated for release 5.0.3
5.0.4	November 4, 2010	Updated for release 5.0.4
5.0.5	February 11, 2010	Updated for SPARR enhancement (release 5.0.5).
5.1.0	August 9, 2011	Updated for release 5.1.0
5.1.1	June 22, 2012	Updated for release 5.1.1
6.0.0	April 11, 2013	Updated for release 6.0.0
6.0.0p1	September 13, 2013	Updated for release 6.0.0p1
6.0.0p2	October 11, 2013	Updated for release 6.0.0p2

1. Scope

1.1 Document Identification

This document serves as the Installation Notes (IN) for the SunGuide® Release 6.0.0p2 software.

1.2 Project Overview

The Florida Department of Transportation (FDOT) SunGuide Support, Maintenance and Development Contract, contract number BDQ69, addresses the necessity of supporting, maintaining and performing enhancement development efforts to the SunGuide software. The SunGuide software was developed by the FDOT in a contract from October 2003 through June 2010. The SunGuide software is a set of Intelligent Transportation System (ITS) software that allows the control of roadway devices as well as information exchange across a variety of transportation agencies and is deployed throughout the state of Florida. The SunGuide software is based on ITS software available from the state of Texas; with significant customization and development of new software modules to meet the needs of the FDOT. The following figure provides a graphical view of the software to be developed:

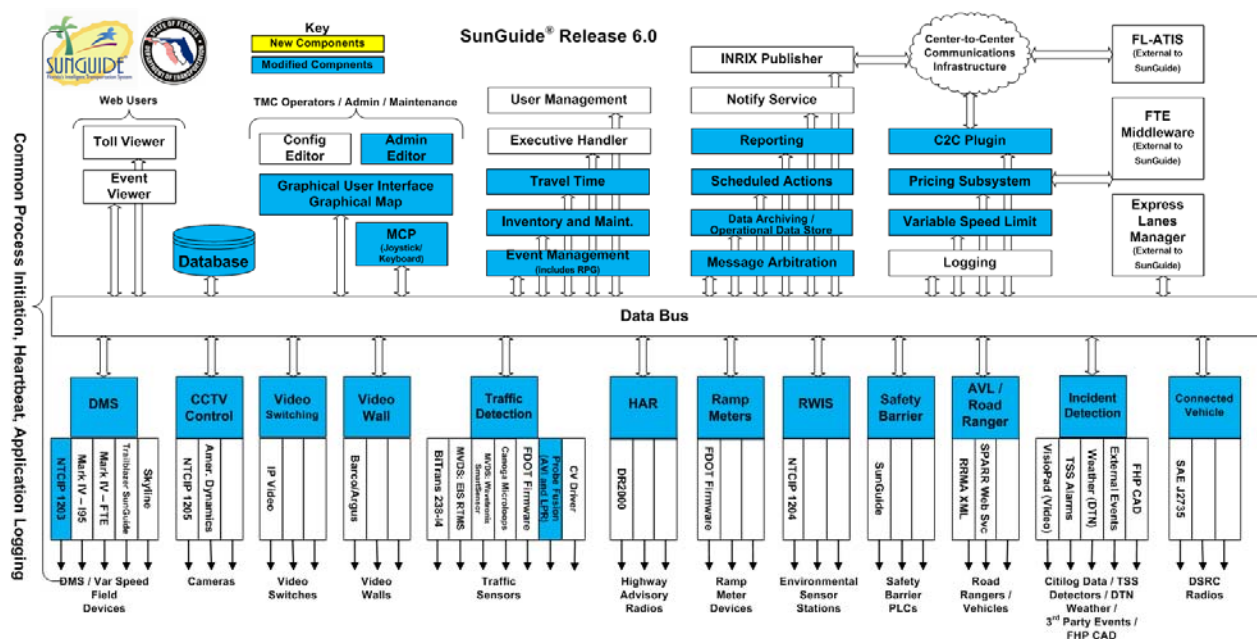


Figure 1 - High-Level Architectural Concept

The SunGuide development effort began in October 2003 and six major releases have been developed. After the development, the software will be deployed to a number of Districts and Expressway Authorities throughout Florida and support activities will be performed.

1.3 Related Documents

The following documents were used to develop this document:

- FDOT Scope of Services: *BDQ69, Standard Written Agreement for SunGuide Software Support, Maintenance, and Development, Exhibit A: Scope of Services*. July 1, 2010.
- Notice to Proceed: Letter to SwRI for BDQ69, July 1, 2010

- Letter of Authorization 005: Letter to SwRI for BDQ69, November 9, 2010.
- Letter of Authorization 007: Letter to SwRI for BDQ69, December 22, 2012.
- SunGuide Project website: <http://sunguide.datasys.swri.edu>.

1.4 Contacts

The following are contact persons for the SunGuide software project:

- Elizabeth Birriel, ITS Section, Traffic Engineering and Operations Office Central Office, elizabeth.birriel@dot.state.fl.us, 850-410-5606
- Derek Vollmer, FDOT SunGuide Project Manager, derek.vollmer@dot.state.fl.us, 850-410-5615
- Clay Packard, P.E., PBS&J Project Manager, clay.packard@dot.state.fl.us, 850-410-5623
- David Chang, P.E., PBS&J Project Advisor, David.Chang@dot.state.fl.us, 850-410-5622
- Robert Heller, SwRI Project Manager, rheller@swri.org, 210-522-3824
- Tucker Brown, SwRI Software Project Manager, tbrown@swri.com, 210-522-3035

2. Installation Notes

This document is intended to be a “companion” document to the SunGuide Version Description Document (VDD). This document will provide detailed notes and tips on how to upgrade the SunGuide software to version 6.0.0p2 from version 5.1.1, version 6.0.0, or 6.0.0p1. Prior to upgrading the database to version 6.0.0, the Video on Desktop hotfix must be applied. Please read all instructions before beginning the upgrade process.

NOTE: It is highly recommended that the database be sent to SwRI to perform the upgrade on the database before beginning the upgrade procedure. Due to the nature of this release, there can be no failures when running the scripts. If a failure is encountered, the scripts will terminate. The database must be reimported and the scripts attempted again after the failure is resolved.

2.1 Upgrade Procedure

If the upgrade is moving directly from version 5.1.1 to version 6.0.0p2, begin the upgrade procedure with step 1.

If the upgrade is being applied to an existing 6.0.0 system, skip steps 1-3c and begin with step 3d.

If the upgrade is being applied to an existing 6.0.0p1 system, skip steps 1-3d and begin with step 3e.

1. Apply the database scripts from the Release5.1.1 Hotfix Video on Desktop zip file from the Database Scripts directory using “Release 5.1.1 Video on Desktop” document (just the database piece).
2. Apply the database scripts from the Release5.1.1 Hotfix FP 2366 - HD Wavetronix Detectors zip file from the Database Scripts directory using readme file included with the hotfix (just the database piece).
3. SG Database
 - a. Backup the existing SunGuide database using one of Oracle’s export utilities.
 - b. Ensure .NET4.0 and Oracle 11.2 Client is installed on the machine running the upgrade scripts. Also, ensure the tnsnames.ora file is currently updated to include the database you are running the scripts against.
 - c. Run the 6.0.0 Database Upgrade Scripts found on the distribution media against the database, following the included instruction document.
 - d. Apply the database scripts from the Release 6.0, Patch 1 directory in the Database Scripts directory following the directions in the included readme file.
 - e. Apply the database scripts from the Release 6.0, Patch 2 directory in the Database Scripts directory following the directions in the included readme file.
4. SG Application Servers
 - a. If using Windows Server 2008, ensure the following:
 - i. Install IIS and IIS 6 Management Compatibility role and all Sub-Roles. Note that Windows Server 2008 uses a new version of IIS (7.0) which is

not compatible with IIS 6 Applications. When installing IIS, install everything except “Server Side Includes” under the “Application Development” section.

- b. Ensure both versions of .NET, 2.0 and 4.0 are installed on all application servers.
 - i. Once installed the .NET 4.0 components must be registered within IIS.
 1. For x86, use the following command
“c:\windows\Microsoft.Net\Framework\v4.0.30319>aspnet_regiis -i”
 2. For x64, use the following command,
“c:\windows\Microsoft.Net\Framework64\v4.0.30319>aspnet_regiis -i”
 - c. Shutdown all SunGuide applications on all application servers.
 - d. Backup the various configuration files (plural) according to the list in the Backup List section below.
 - e. Uninstall SunGuide via the Control Panel -> Add/Remove Programs on all Application Servers. Reboot if prompted.
 - f. Ensure that the following folders were deleted on each SunGuide Application Server:
 - i. C:\inetpub\wwwroot\OperatorMap (this path may be located on a shared location if running in a clustered environment)
 - ii. C:\inetpub\wwwroot\SunGuideAdmin (this path may be located on a shared location if running in a clustered environment)
 - iii. C:\Program Files\Florida Department of Transportation
 - g. Install SunGuide via the installer on all application servers. Reboot if asked.
 - h. Restore the various configuration files according to the Backup List section below. The map tiles location in the “OMInterface.dll.config” file must match the actual location of the map tile files. The default location is a folder named “Tiles” under the “OperatorMap” folder. To change the default location, edit the “value” attribute associated with the “key” attribute named “tilesets”. The “value” attribute must contain pairs of strings that define the label of the tile set and the file system path of the tileset. The file path can be relative to the “OperatorMap” folder or it can be an absolute path. Note that neither the label nor the file path may contain any whitespace characters.
5. SunGuide share data
- a. Upgrade config.xml file according to configuration upgrades in distribution media for the 6.0.0 version. Note that this upgrade includes minor configurations changes in multiple places. Please ensure the values are added and that the configuration value is set to the desired setting.
 - b. Report files:

- i. Verify the locations and permissions of the report templates and exported reports folder as specified in the <RS> section of the config file.
 - ii. Copy the newly installed reports to the configured location on the share (see <RS> section in config file). By default these files are installed to C:\Report Templates.
 - iii. Copy the Performance Measures updated reports over the ones in the configured location. (If SunGuide is configured to run on an SQL Server database, use the SQL Server reports instead of the default Oracle reports. On the installation media, these are located in the ReportTemplates\SQL Server Delivered folder.) SwRI support staff will directly coordinate with the district system administrators to provide the updated reports that will be specific to the database from which they will extract data.
 - c. Copy the XML schema files to the share.
 - d. Give NETWORK_SERVICE full access to the OperatorMap folder, propagating this (rather than inheriting only) to all subfiles and subfolders using the Advanced Tab in the file security dialog.
6. IIS Configuration performed on each server hosting the web apps / S: drive:
 - a. If using Windows Server 2008, do the following:
 - i. Change the "Default Web Site" to an Application Pool with "Classic .NET AppPool" or an Application Pool set to Classic
 - ii. Change the Application Pool for SunGuideAdmin to "Classic .NET AppPool" or an Application Pool set to Classic
 - iii. Double click on "Authentication" located in the IIS section of "Default Web Site", select ASP .NET Impersonation and click "Enable" on the right hand side
 - iv. Double click on "Directory Browsing" located in the IIS section of "Default Web Site" and click "Enable" on the right hand side (if disabled)
 - v. Navigate to "Request Filtering" located in the IIS section of "Default Web Site", once there highlight ".config", right click and remove it from list
 - vi. Turn off Windows Firewall using the Domain, Private and Public tab
 - b. MOVE the GROUP containing the network name used to access the operator map if in clustered configuration via cluster administrator to the appropriate server.
 - c. VERIFY the correct version, ASP.NET 4.0, is set for SunGuide admin.
 - d. VERIFY the Event Viewer, Toll Viewer, etc. come up; else, reconfigure in IIS appropriately.

- i. Check the ASP.NET version of IIS (should be 4.0),
- ii. Database location in the TollViewerSvc's web.config file
- iii. Default documents in the Event Viewer website properties,
- iv. Host string in the web site listener that allows the Event Viewer website to listen on port 80 for that string while all other strings are accepted by the default website.
- v. The default.htm file in the root should contain correct links to point to the Event Viewer and TollViewer if necessary.

Repeat this IIS Configuration step if in a cluster environment for all servers that will be hosting the web applications.

7. Full System Test: Test the system in its entirety to verify that everything is functioning properly in order to identify and resolve any configuration/deployment issues.

2.2 Configuration Files Backup List

If the installation to be performed is on servers currently configured to execute SunGuide, the following files should be backed up prior to installation so that they can be reused once the new installation is performed.

- config.xml – primary configuration file that contains the settings for all of the SunGuide subsystems and drivers
- ipvideodevices.xml – provides model specific settings for video devices
- SnapshotDevices.xml – defines video capture devices and corresponding IP video decoder devices
- OMInterface.dll.config – operator map client configuration settings
- ProcessList.xml – Executive Handler Server's list of installed services
Note: This is only necessary if the system is not operating in a clustered environment. The Installer will auto-generate a ProcessList.xml for all installed SunGuide application processes.

2.3 Post Installation Step

- If using SQL Server, please install the SQL Server Native Client 11.0 on all of the application servers. This will ensure reports will continue to run against your system. The installation media can be found on the SunGuide Installation media under Misc/Native Client 11.0. Please ensure you install the correct version depending on your server's architecture (x86 or x64).
- If the scheduled actions subsystem is something you intend to use, permissions must be given to the user used by the SAS subsystem. In order to enable SAS to perform actions against the travel times and DMSs, navigate to the Admin Editor and select User Management >> Users. Navigate to the "sassubsystem" user and give full permissions to both the TVT and MAS subsystems. Save the changed user permissions. If SAS is currently running, restart SAS.

- If you intended to run against SQL Server, first import the database into SQL Server using the steps in section 2.6. Afterwards, the following change needs to be made in the config file:

In the database section of the config file change the jdbcDriver to the SQL Sever value:

```
<!-- Fully qualified name of the class to use as the JDBC driver. -->  
<!-- For Oracle use: oracle.jdbc.driver.OracleDriver -->  
<!-- For SQLServer use: net.sourceforge.jtds.jdbc.Driver -->  
<jdbcDriver>oracle.jdbc.driver.OracleDriver</jdbcDriver>
```

2.4 Operator Map Troubleshooting

- For each browser that wishes to run the Operator Map, please verify the following setting in Internet Explorer. Under Tools > Internet Options > Browsing History > Settings the “Check for newer versions of stored pages” should be set to “Every time I visit a webpage”
- If experiencing issues with the hotfix, try clearing the browser cache and reloading the application
- Please ensure .NET 4.5 is NOT installed on any of the application or database servers as well as the Operator workstations

2.5 Currently Supported version of IE

- Please ensure the Internet Explorer version is either IE 8 or IE 9. IE 10 is known to have issues that are currently being addressed
- Please ensure the 32 bit version of Internet Explorer is being run as opposed to the 64 bit version.

2.6 Convert Oracle Database to SQL Database

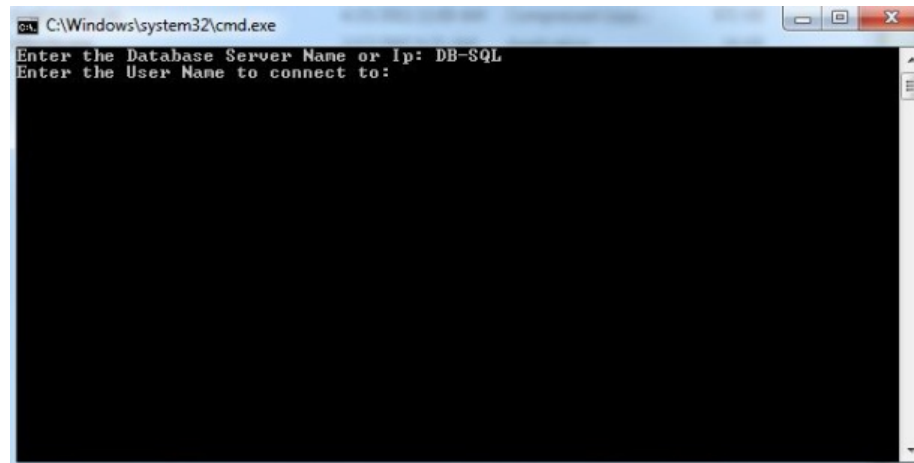
In this version of SunGuide a District will be required to convert an Oracle database if they are going to switch to SQLServer from Oracle. This section covers how to convert an Oracle database into a SQL Server database using SQL Server Migration Assistant for Oracle. If the district chooses to continue operations with an Oracle database this step is not required.

Prerequisites: Successfully ran the database scripts and corrected discrepancies logged in the Log.txt file. Access to active Windows Live account, this account will be used to retrieve SQL Server Migration Assistant for Oracle license.

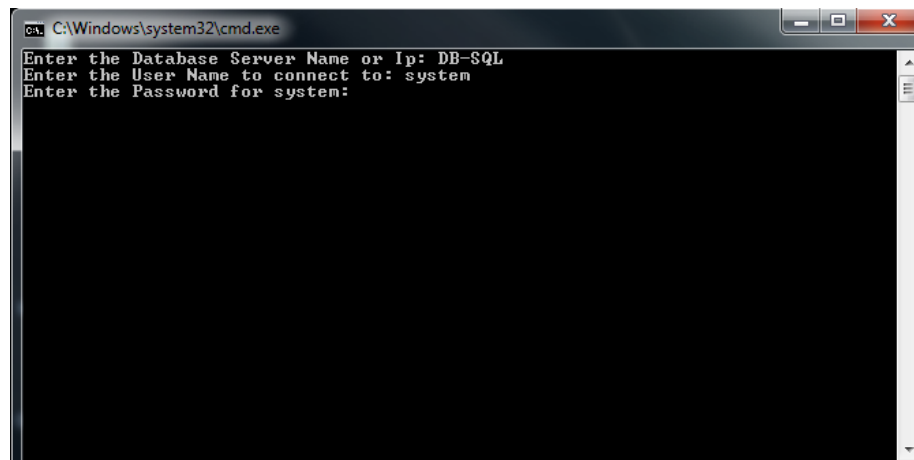
1. Create base SQL Server database
 - a. Create SQL Server file directory on the database server running SQL Server, C:\SqlServerFiles\Databasename
i.e.
C:\SqlServerFiles\SGDB
 - b. Run createSQLServerDB.bat scripts located on the distribution media.
 - c. Enter the DatabaseServer name or IP



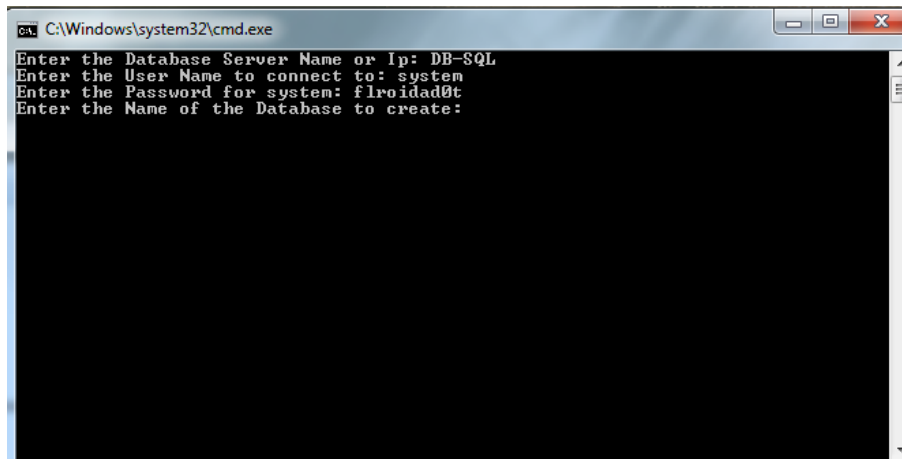
d. Enter User name



e. Enter the Password for User entered

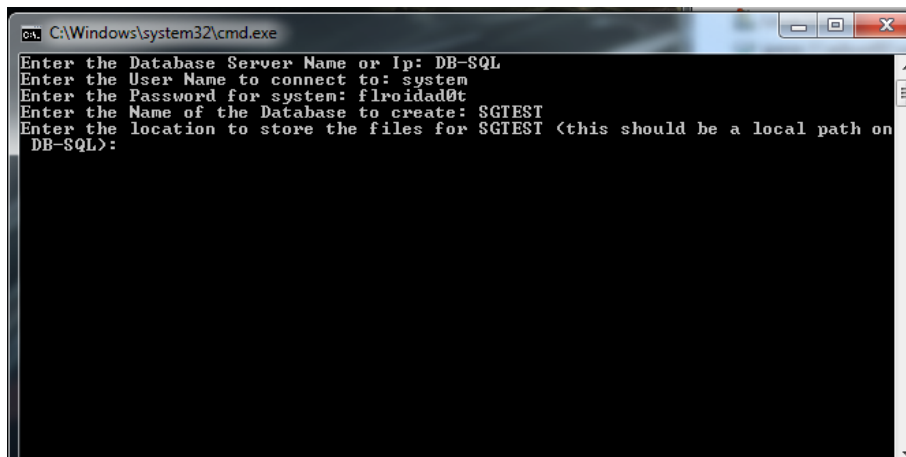


f. Enter name of database to create



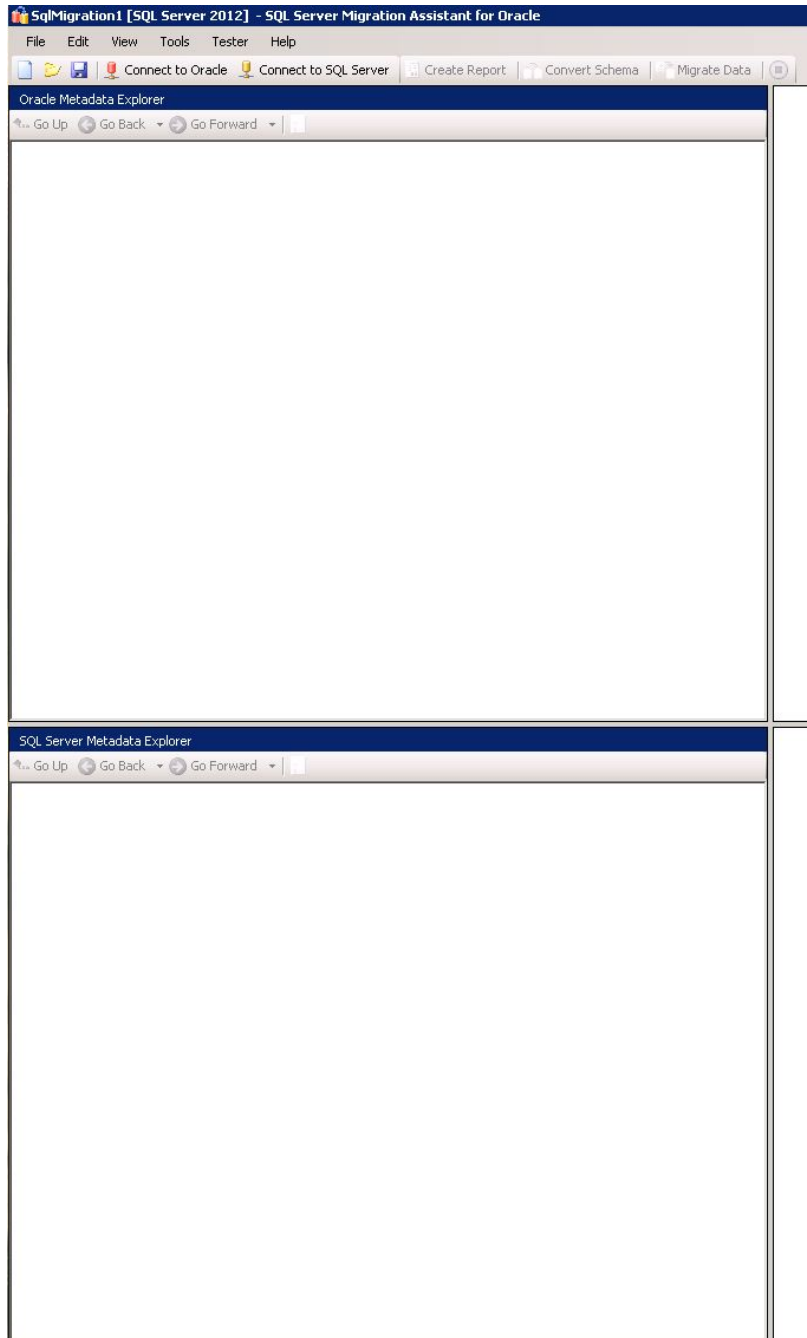
```
C:\Windows\system32\cmd.exe
Enter the Database Server Name or Ip: DB-SQL
Enter the User Name to connect to: system
Enter the Password for system: flroidad0t
Enter the Name of the Database to create:
```

- g. Enter the location to place the Database files created in step a.

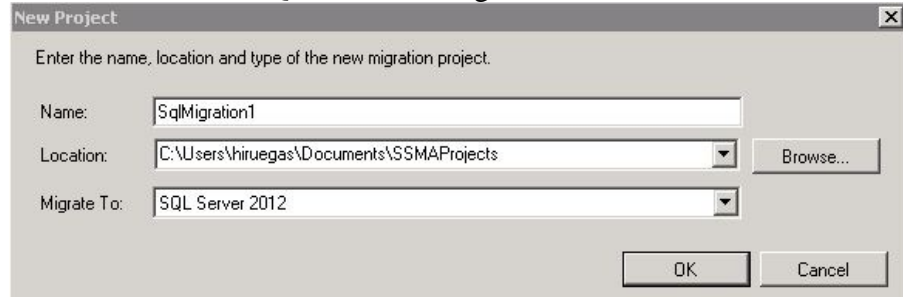


```
C:\Windows\system32\cmd.exe
Enter the Database Server Name or Ip: DB-SQL
Enter the User Name to connect to: system
Enter the Password for system: flroidad0t
Enter the Name of the Database to create: SGTEST
Enter the location to store the files for SGTEST <this should be a local path on
DB-SQL>:
```

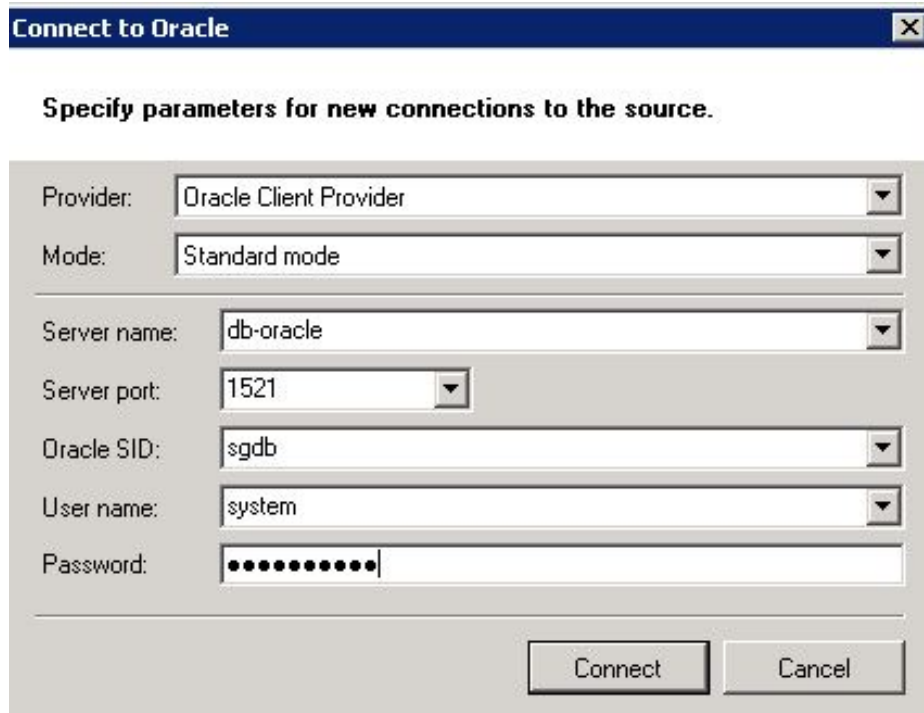
2. Install SQL Server Migration Assistant for Oracle
 - a. This must be run from a server with the Oracle client installed. Copy SSMA for Oracle5.2.zip, located on the distribution media, file to a local directory
 - b. Follow the instructions located at <http://msdn.microsoft.com/en-us/library/hh313197.aspx> to install and license SQL Server Migration Assistant.
3. Using SQL Server Migration Assistant to migrate database
 - a. Click on the “New Project” button

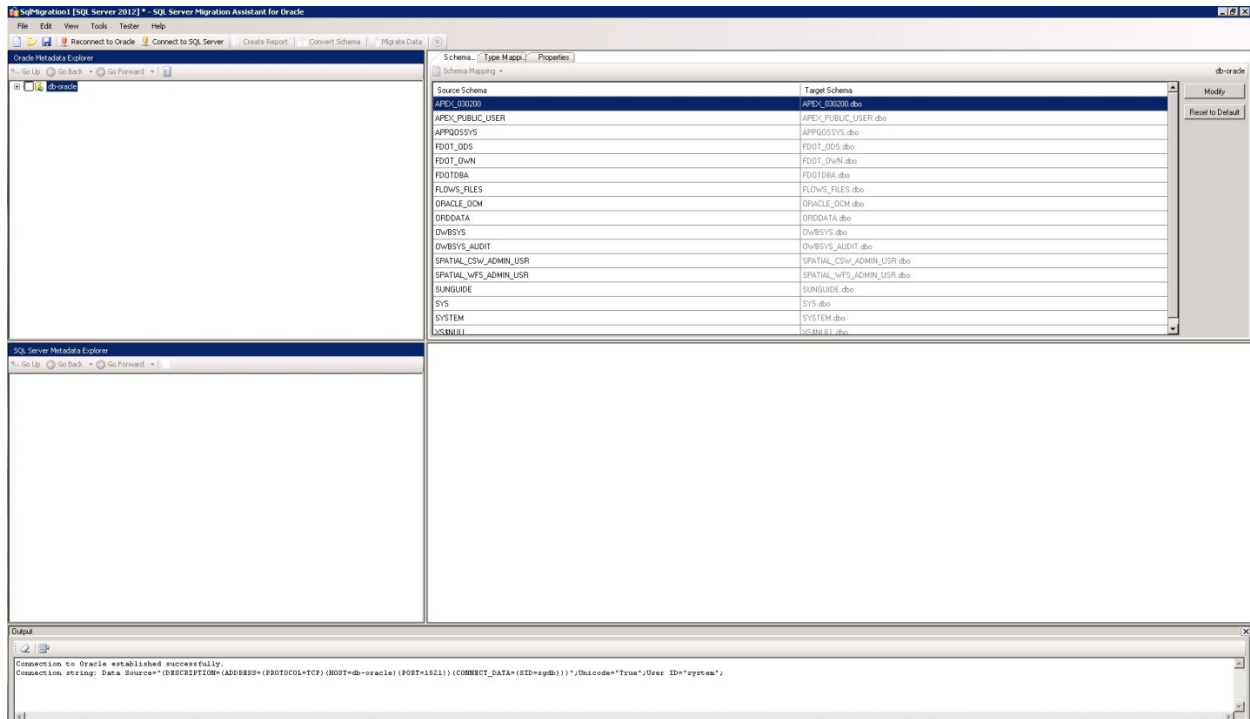


- b. The following window will display. Fill in the dialog with a Name, Location, and the version of SQL Server to migrate to. Once done, click the “OK” button.

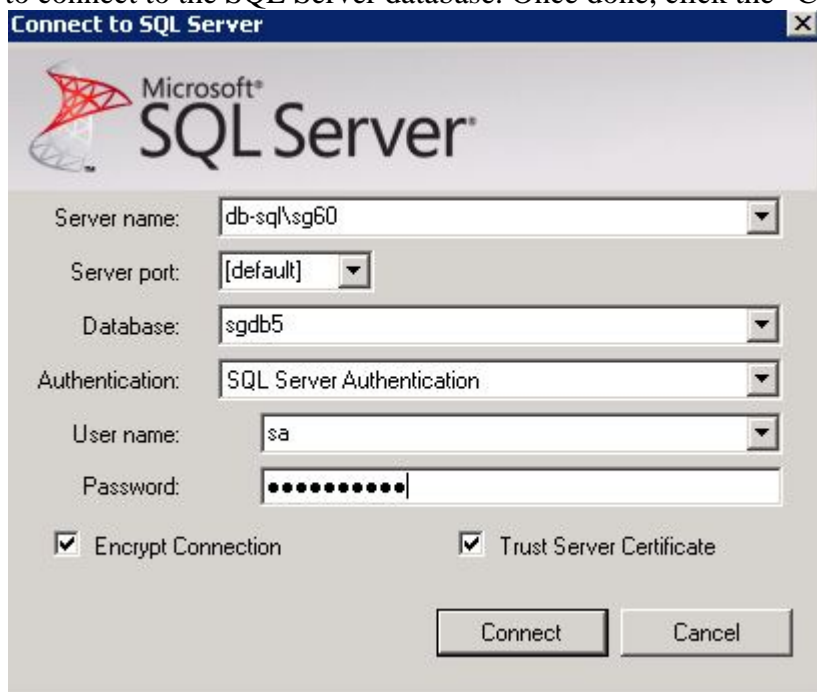


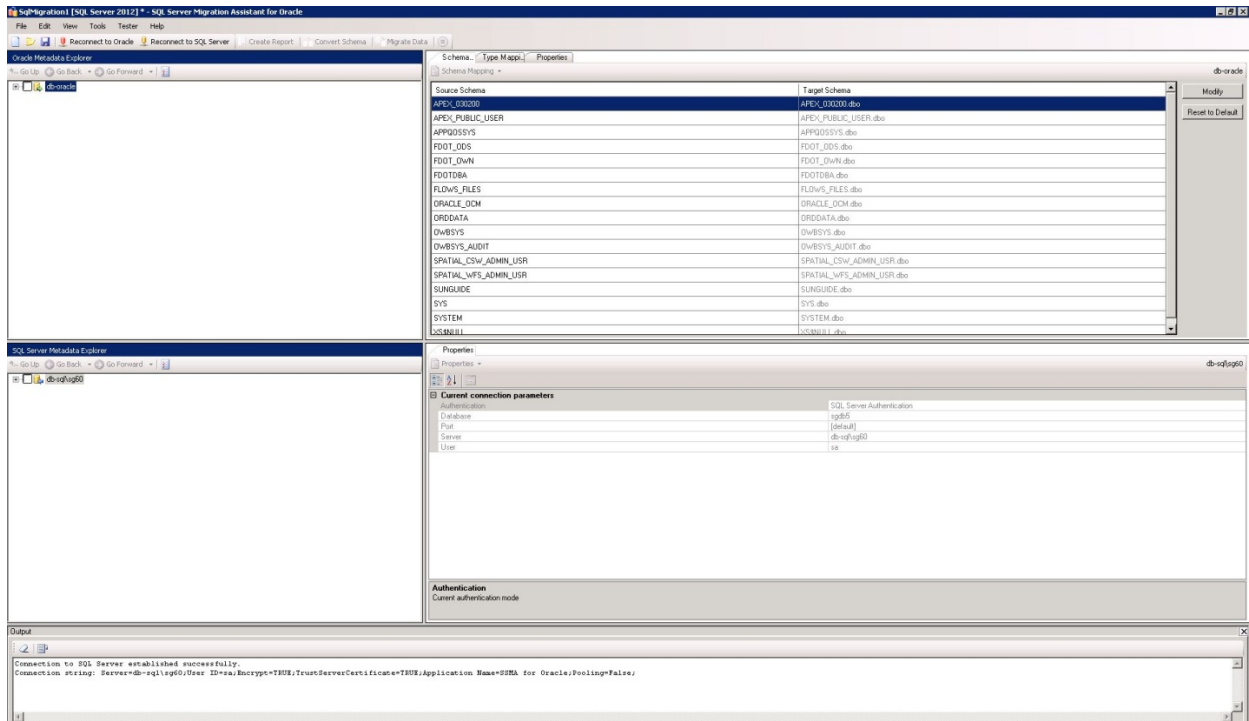
- c. Click the “Connect to Oracle” button and fill in with the proper parameters to connect to the Oracle database. Once done, click the “Connect” button.



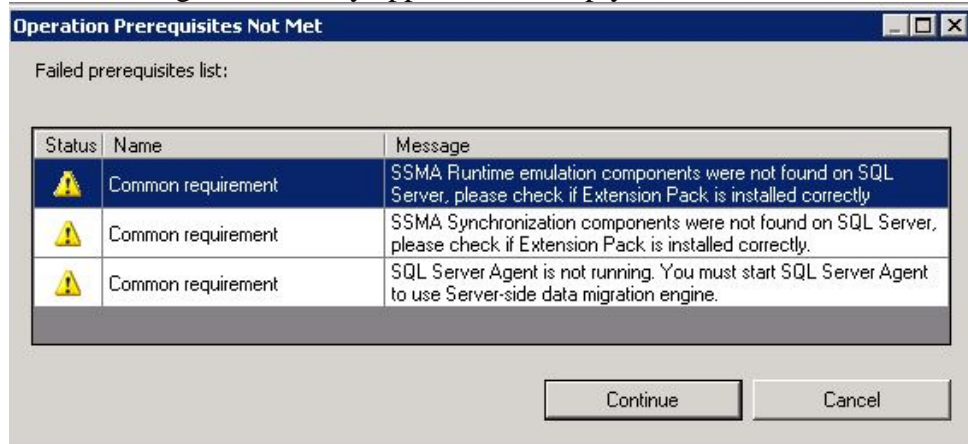


- d. Click the “Connect to SQL Server” button and fill in with the proper parameters to connect to the SQL Server database. Once done, click the “Connect” button.

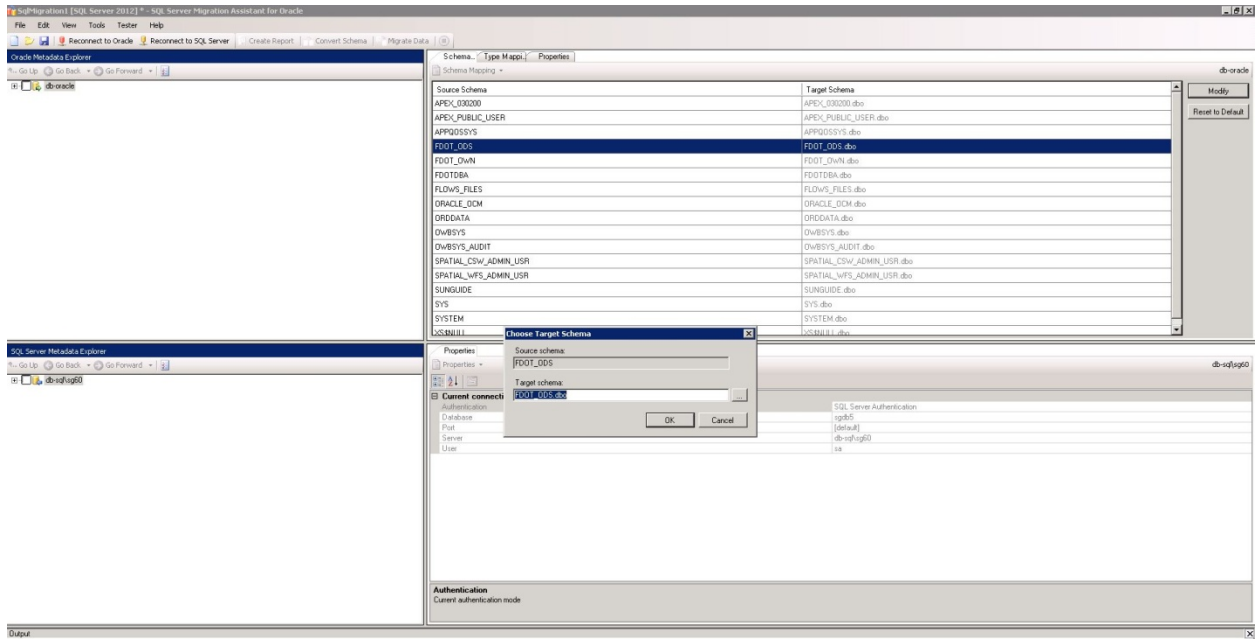




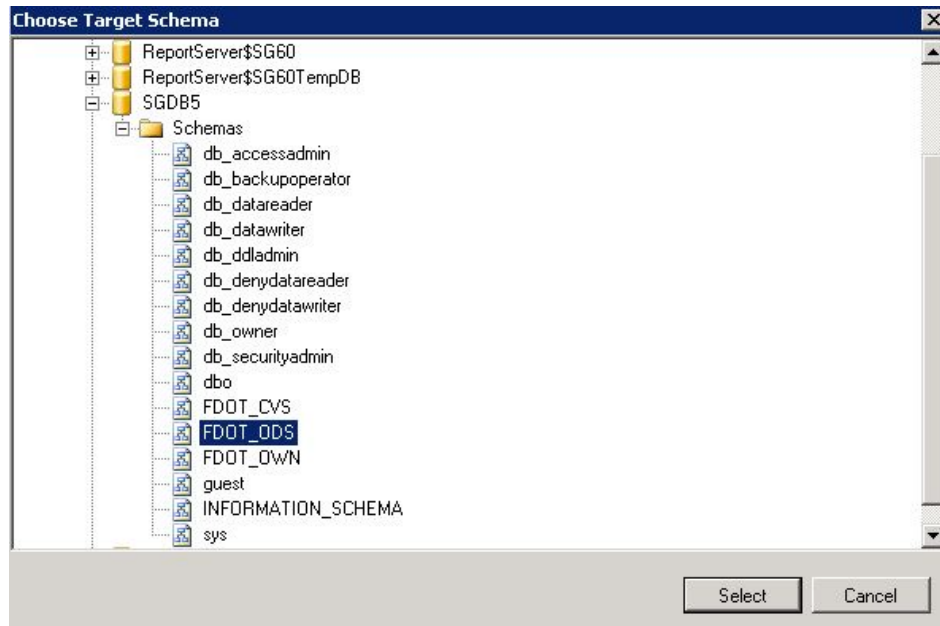
e. The following window may appear, if so simply click the “Continue” button.



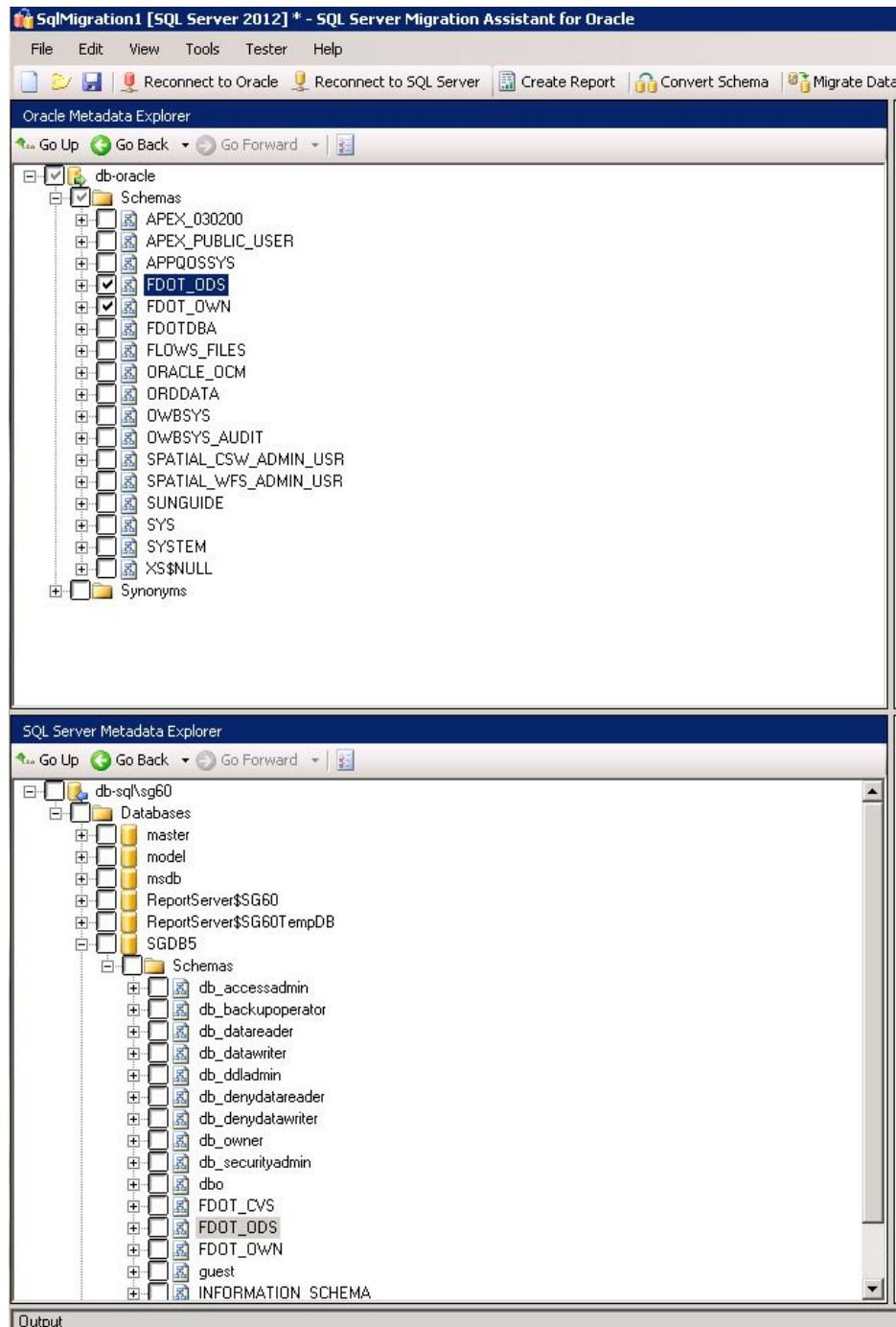
f. Select the FDOT_ODS schema in the “Schema Mapping” tab and click on the “Modify” button, then click on the “...” button.



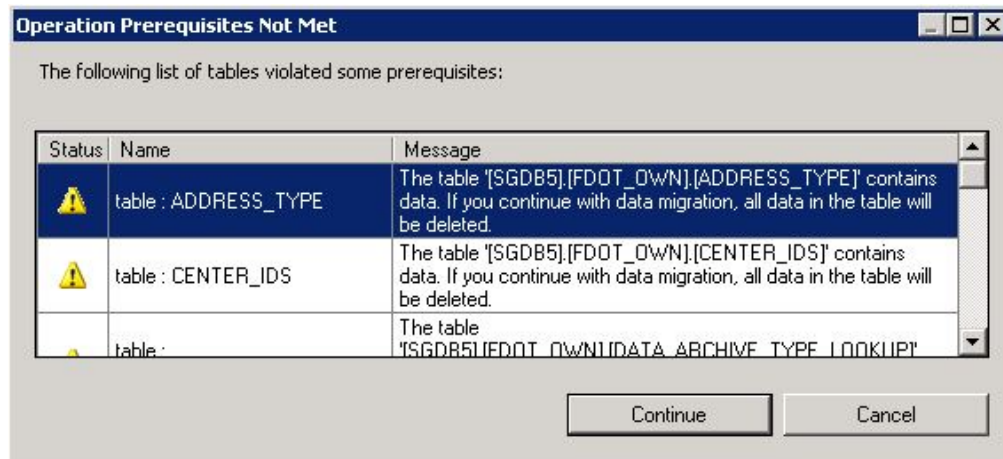
- g. Select the FDOT_ODS schema in SQL Server Database being migrated to and click the “Select” button and on the next window click the “OK” button.



- h. Perform Steps (f) and (g) for every Schema being migrated.
- i. Click the checkbox for every Oracle Schema being migrated to SQL Server



- j. Select the “Schemas” item in the dropdown list and click the “Migrate Data” button.
- k. Reconnect to Oracle and SQL Server windows may appear. Provide the same log in information for each and click the “Connect” button.
- l. Once the migration is about to start the following window may appear, simply click the “Continue” button.



- m. Confirm all tables have been migrated successfully.