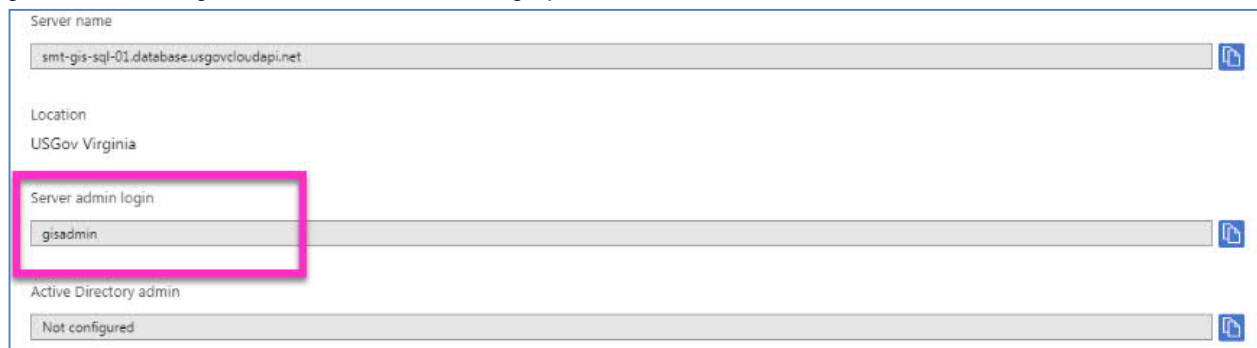


Enterprise Geodatabase in Azure SQL database

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Summary: A sde-schema enterprise geodatabase, atlas, was created in Azure SQL database, with schema sde containing ArcGIS system repository tables, schema ps containing stormwater data, and schema pw containing all other GIS data. In addition, user gisviewer has read-only permission to access all of GIS data in enterprise geodatabase. In this exercise, SQL Azure is 12, and ArcGIS is 10.6.

In the Azure portal, gisadmin is a server admin login. It is used to create Azure SQL database, enterprise geodatabase, login, user, schema, and assign permissions.



The screenshot shows the configuration page for an Azure SQL database server. The fields are as follows:

- Server name: smt-gis-sql-01.database.usgovcloudapi.net
- Location: USGov Virginia
- Server admin login: gisadmin (highlighted with a pink box)
- Active Directory admin: Not configured

sde: login and user.

1. create login

```
CREATE LOGIN sde WITH PASSWORD = 'xxx'
```

2. create user on master database.

```
CREATE USER sde FROM LOGIN sde
```

3. create a user database atlas.

4. Create a user on user database.

```
CREATE USER sde FROM LOGIN sde
```

5. add login to the loginmanager role.

```
ALTER ROLE loginmanager ADD MEMBER sde;
```

6. verify permissions for user sde.

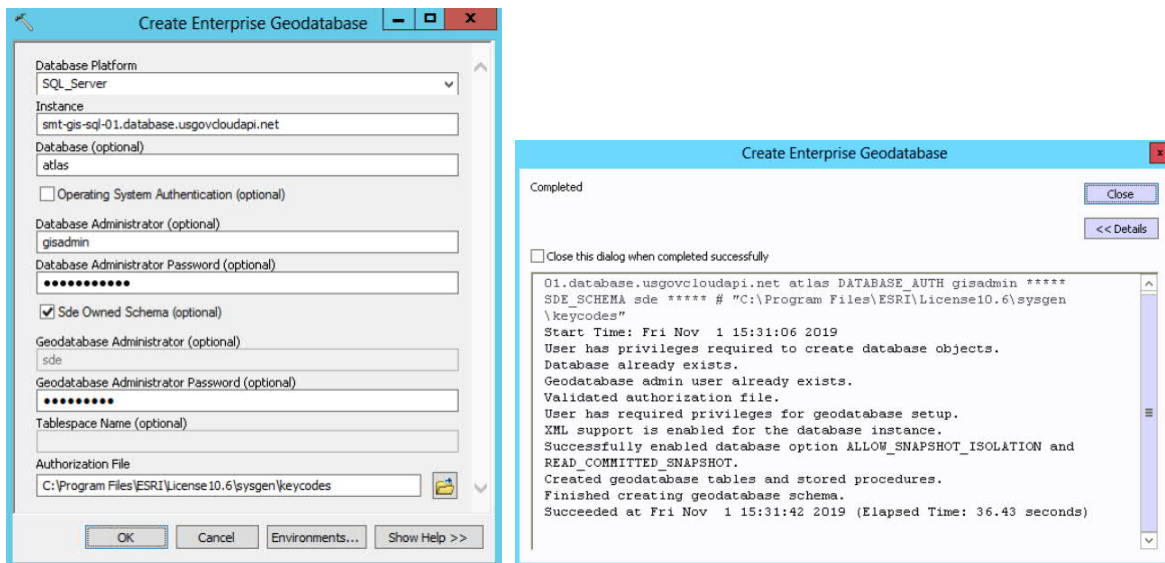
```
CREATE Function
```

- Create procedure
- Create table
- Create view
- View database state
- View definition

7. ALLOW_SNAPSHOT_ISOLATION and READ_COMMITTED_SNAPSHOT
Set them True.

8. Create enterprise geodatabase

Use the "Create Enterprise Geodatabase" tool to create enterprise geodatabase atlas.



pw: login and user.

1. create login

```
CREATE LOGIN pw WITH PASSWORD = 'yyy'
```

2. create user on master database.

```
CREATE USER pw FROM LOGIN pw
```

3. Create a user on user database.

```
CREATE USER pw FROM LOGIN pw
```

4. Create a schema pw owned by database user pw.

```
CREATE SCHEMA pw
```

AUTHORIZATION pw

5. Set default schema.

```
ALTER USER pw WITH DEFAULT_SCHEMA=pw
```

6. Add permissions to user pw.

Create procedure

Create table

Create view

7. Import GIS data.

ps: login and user.

1. create login

```
CREATE LOGIN ps WITH PASSWORD = 'zzz'
```

2. create user on master database.

```
CREATE USER ps FROM LOGIN ps
```

3. Create a user on user database.

```
CREATE USER ps FROM LOGIN ps
```

4. Create a schema ps owned by database user ps.

```
CREATE SCHEMA ps
```

```
AUTHORIZATION ps
```

5. Set default schema.

```
ALTER USER ps WITH DEFAULT_SCHEMA=ps
```

6. Add permissions to user ps.

Create procedure

Create table

Create view

7. Import GIS data.

stormwater data for City of Sumter, SC

gisviewer: login and user

1. Create a login.

```
CREATE LOGIN gisviewer WITH PASSWORD = 'www';
```

2. Create a user on master database.

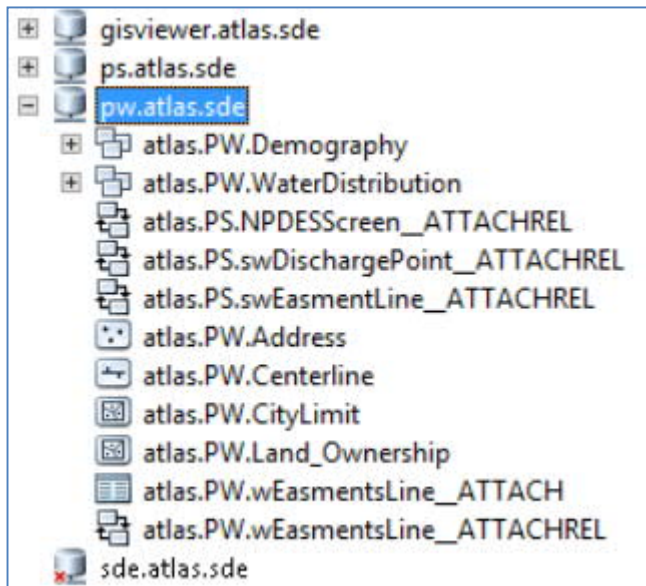
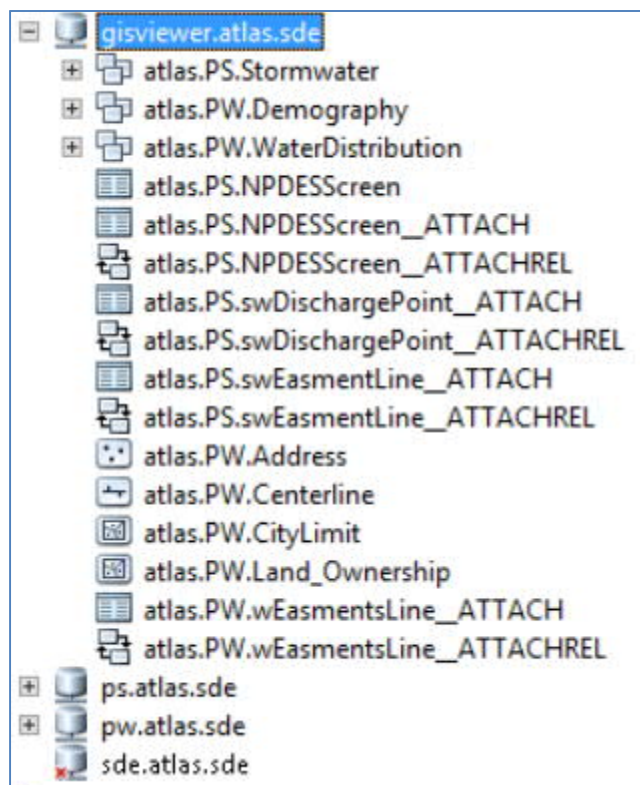
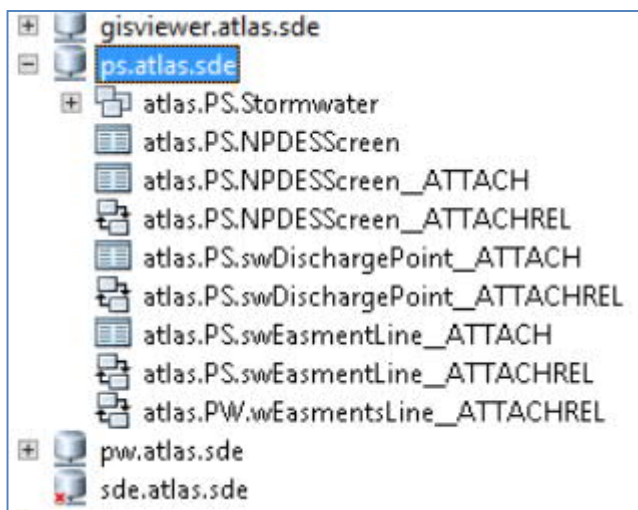
```
CREATE USER gisviewer FROM LOGIN gisviewer;
```

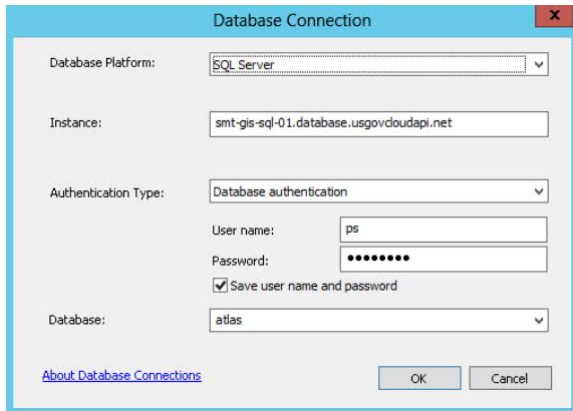
3. Create a user on user database.

```
CREATE USER gisviewer FROM LOGIN gisviewer;
```

4. Grant permissions to the user by assigning him to a database role.

```
ALTER ROLE db_datareader ADD MEMBER gisviewer;
```





Kill connection to enterprise geodatabase

Azure SQL has server-level roles: dbmanager and loginmanager. Because Azure SQL does not have a server-level role similar to processadmin in traditional SQL Server, the Geodatabase Administration dialog box in ArcGIS Desktop as well as `arcpy.DisconnectUser(workspace, "ALL")` cannot be used to disconnect existing connections to an enterprise geodatabase in Azure SQL database. Here, we can use SQL script to disconnect existing connections to an enterprise geodatabase in Azure SQL database. The server admin login gisadmin is used to execute the SQL script.

```

SELECT conn.session_id, host_name, program_name,
nt_domain, login_name, connect_time, last_request_end_time
FROM sys.dm_exec_sessions AS sess
JOIN sys.dm_exec_connections AS conn
ON sess.session_id = conn.session_id AND program_name LIKE 'ArcGIS%'

DECLARE @kill varchar(8000) = '';
SELECT @kill = @kill + 'kill ' + CONVERT(varchar(5), session_id) + '; '
FROM sys.dm_exec_sessions
WHERE database_id = db_id('atlas') AND program_name LIKE 'ArcGIS%'

select @kill
EXEC(@kill)

```

session_id	host_name	program_name	nt_domain	login_name	connect_time
104	SMT-GIS-01	ArcGIS:5629BA4E-BAA3-474C-8044-38D3906151F8	NULL	gisviewer	2019-11-02 18:14:56.710
107	SMT-GIS-01	ArcGIS:95E7EF1D-054F-4D2E-8A0E-A0BD7B4417D1	NULL	gisviewer	2019-11-02 18:15:10.850
108	SMT-GIS-01	ArcGIS:95E7EF1D-054F-4D2E-8A0E-A0BD7B4417D1	NULL	gisviewer	2019-11-02 18:15:11.023
110	SMT-GIS-01	ArcGIS:79547F15-EC13-4EE8-942B-52A3A969A899	NULL	gisviewer	2019-11-02 18:15:27.210
111	SMT-GIS-01	ArcGIS:79547F15-EC13-4EE8-942B-52A3A969A899	NULL	gisviewer	2019-11-02 18:15:27.367

Results: (No column name)
1 kill 104;kill 107;kill 108;kill 110;kill 111;

Query executed successfully. | smt-gis-sql-01.database.usg... | gisadmin (113) | atlas | 00:00:00 | 6 rows

Appendix: error and solution

Create Enterprise Geodatabase

Database Platform
SQL_Server

Instance
smt-gis-sql-01.database.usgovcloudapi.net

Database (optional)
atlas

Operating System Authentication (optional)

Database Administrator (optional)
gisadmin

Database Administrator Password (optional)
●●●●●●●●

Sde Owned Schema (optional)

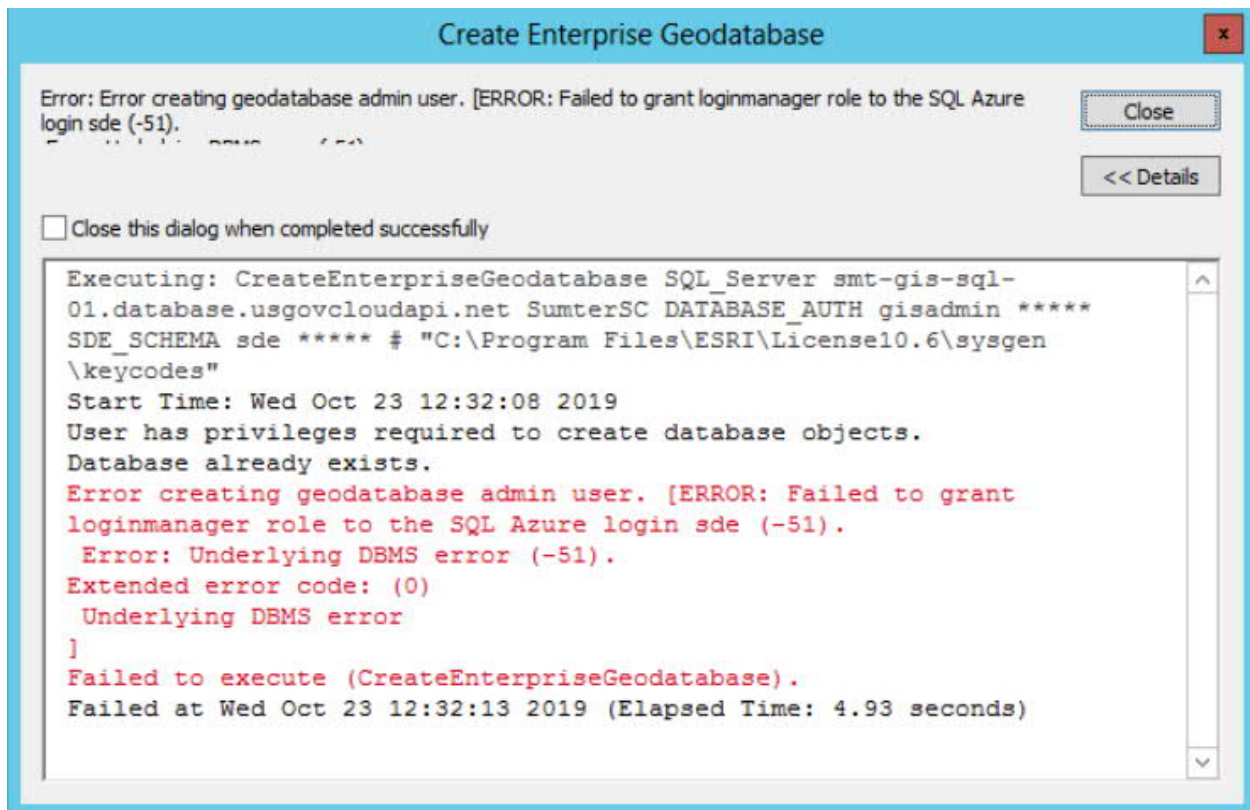
Geodatabase Administrator (optional)
sde

Geodatabase Administrator Password (optional)
●●●●●●●●

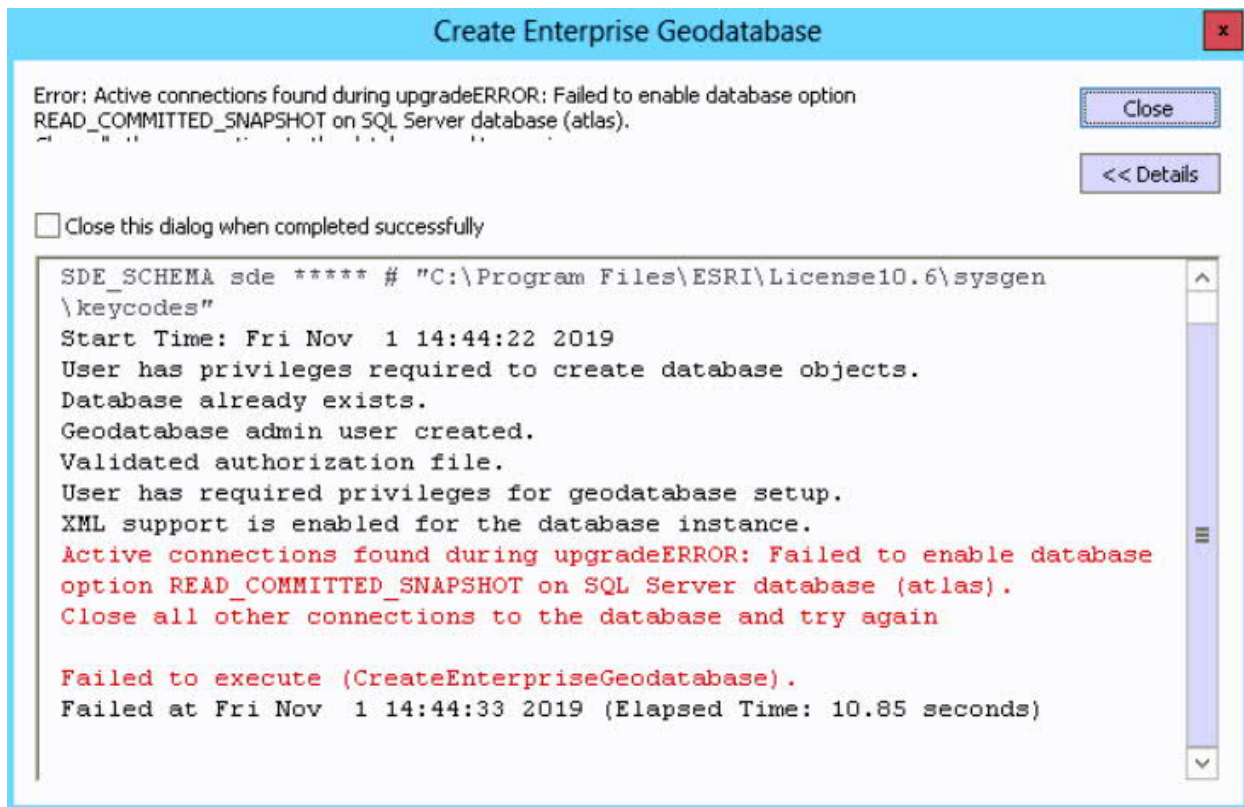
Tablespace Name (optional)

Authorization File
C:\Program Files\ESRI\License10.6\sysgen\keycodes

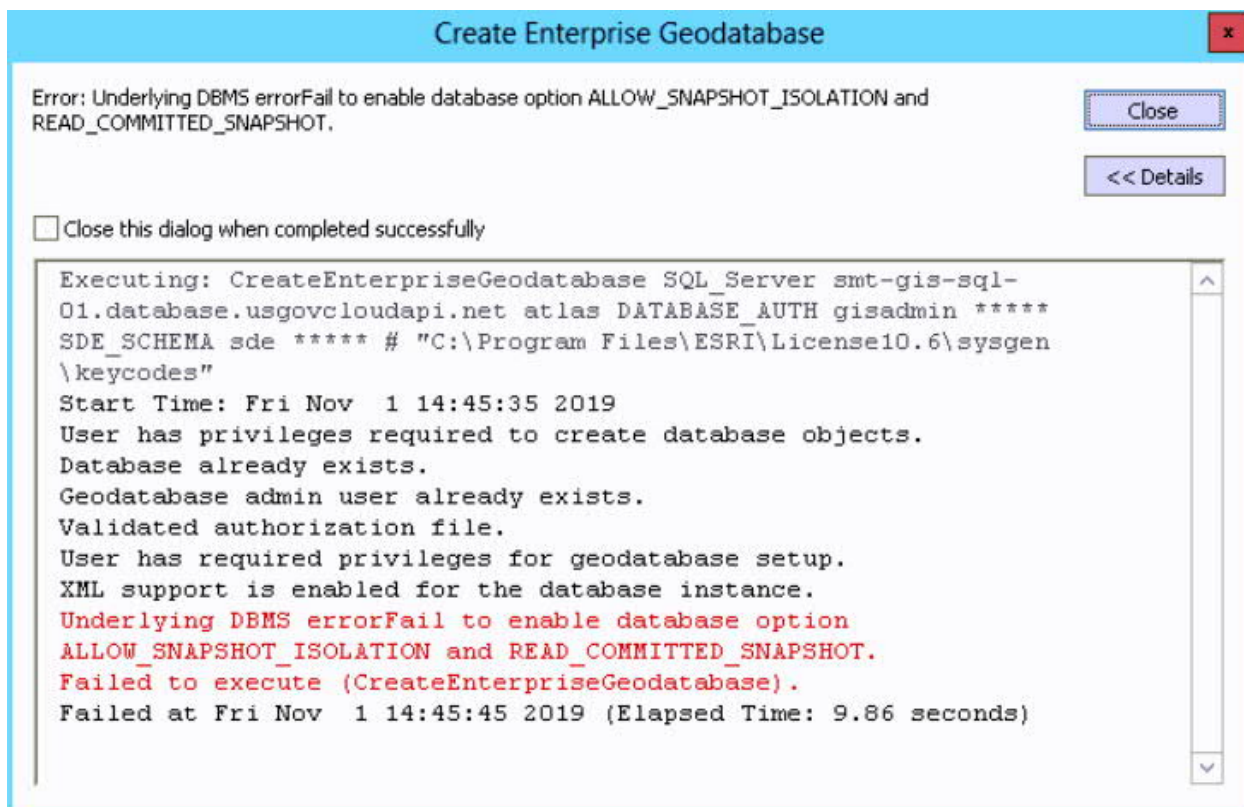
OK Cancel Environments... Show Help >>



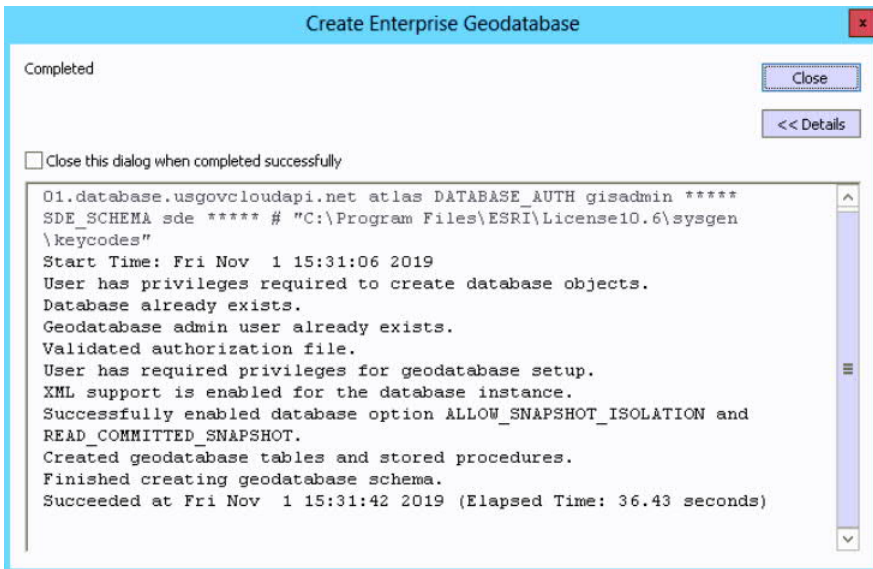
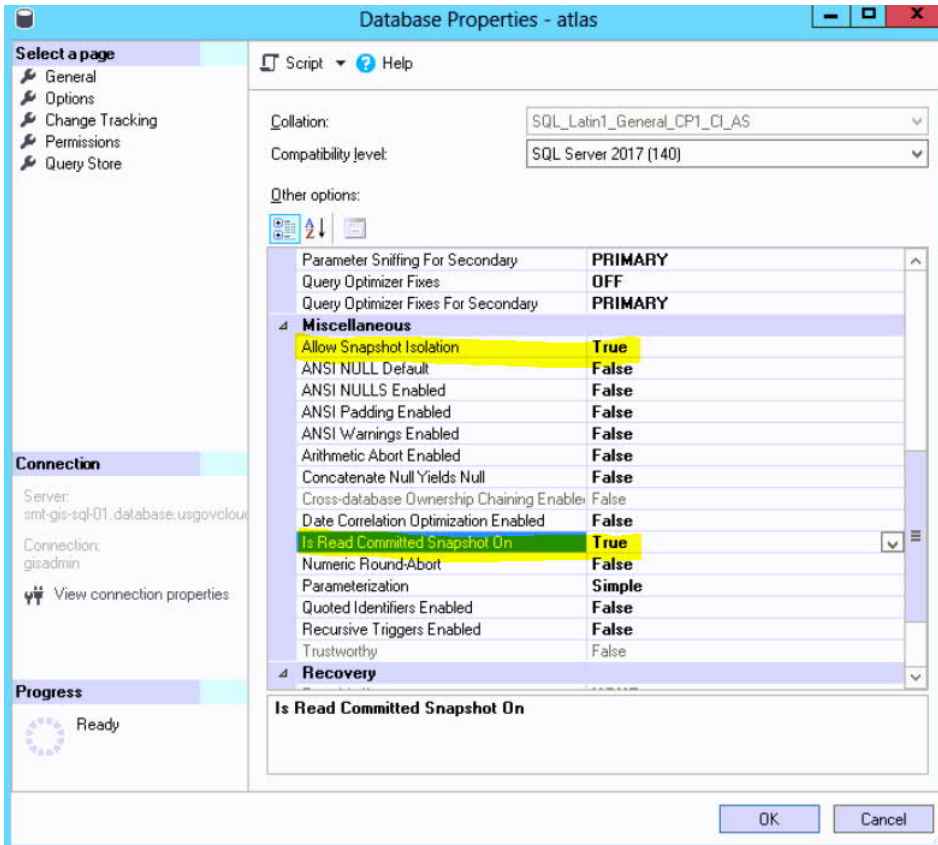
Solution: add login sde to the login manager role.



Solution: close SSMS.



Solution: set True for ALLOW_SNAPSHOT_ISOLATION and READ_COMMITTED_SNAPSHOT.



Bingo!