

Databases Laboratory Work Nr. 1

The Installation and Configuration of SQL Server 2017

Prerequisites:

Processor, RAM memory, monitor, Operating system, framework;

Objectives:

Familiarization with the configuration process of the SQL database. Moreover, understanding the advantages of using client-server database technologies and schemes utility in databases.

Tasks:

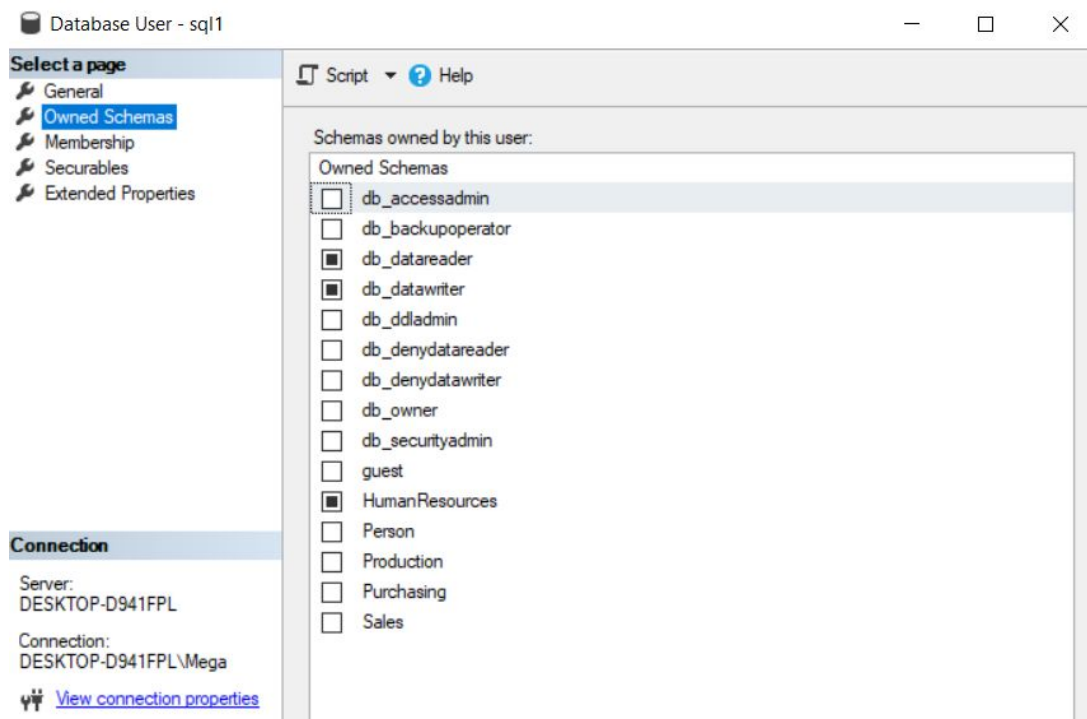
- Install MS SQL Server 2017 Development Edition;
- Install Microsoft SQL Server Management Studio 17.x;
- Install Microsoft SQL Server Data Tools;
- Install SQL Server Reporting;
- Install **AdventureWorks2017** database;
- Answer control questions;
- Realize practical tasks:
 1. Install SQL Server 2017;
 2. Register the server, selecting the SQL authentication type;
 3. Create 3 login users with SQL authentication:
 - a. The first user must have access to the **HumanResources** scheme from the **AdventureWorks2017** database. The user must have the possibility to read and edit the data from the tables of the respective scheme;
 - b. User #2 must have access to read the data of the **Sales** scheme from the **AdventureWorks2017** database. At the same time, he must have the possibility to manage any object and its contents from the **AdventureWorks2017** database;
 - c. User #3 must have the possibility to create new databases and to define its access to them.

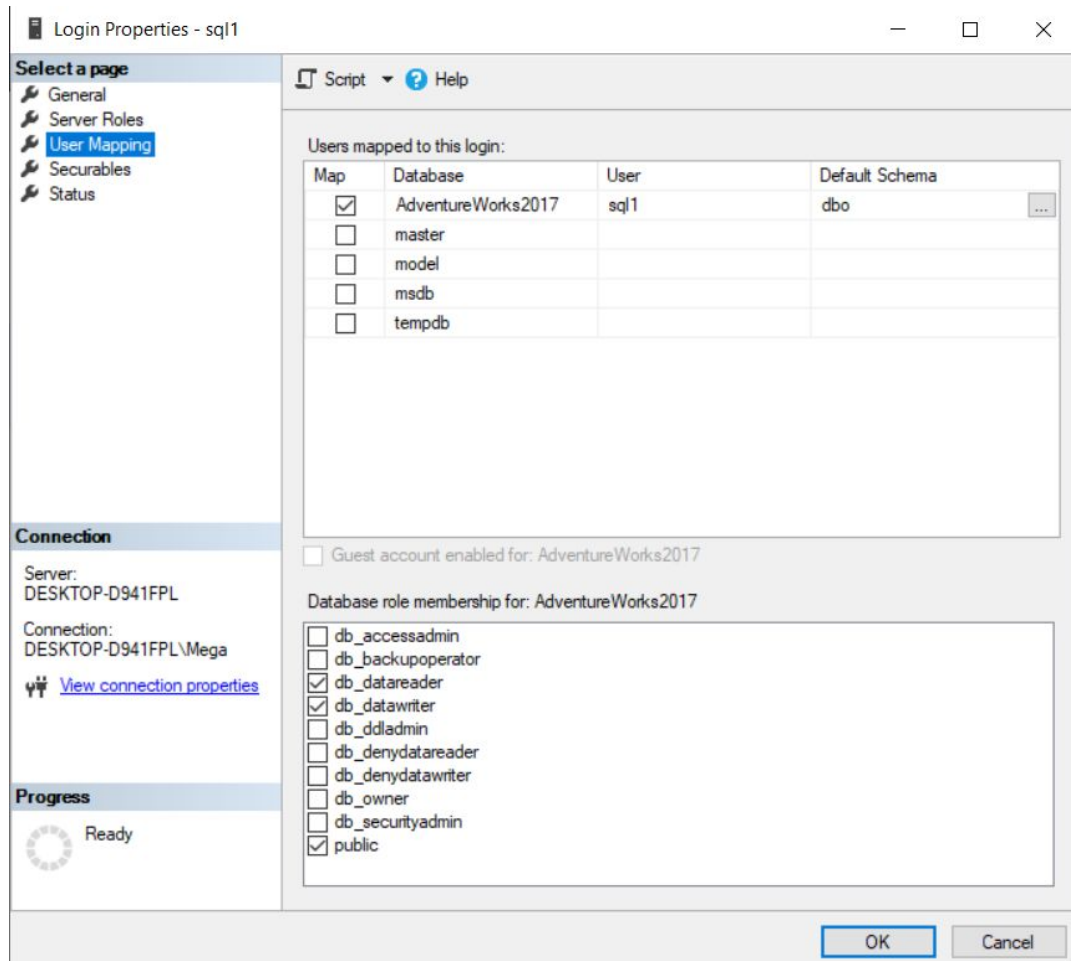
Implementation:

Firstly I've run the SQL Server system installation process and set up the SQL Server 2017. The next step was installation of the **AdventureWorks2017** database. At that point we needed to introduce some changes and login 3 new users with different responsibilities on this database.

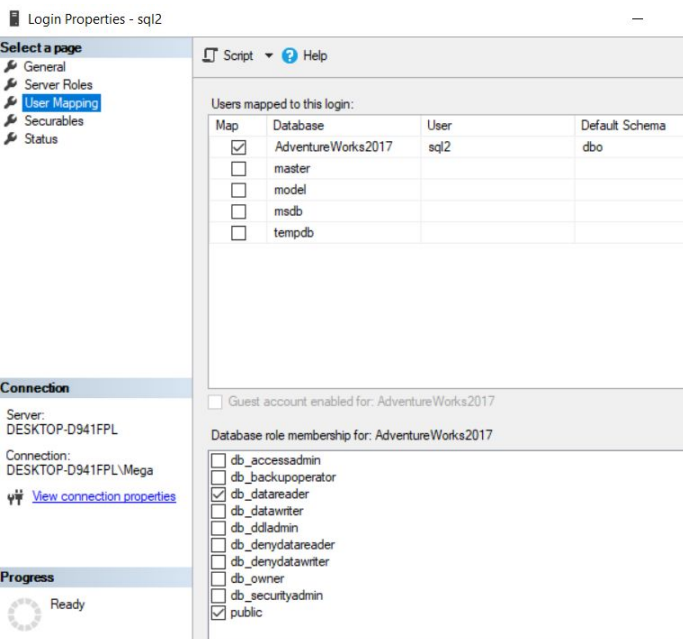
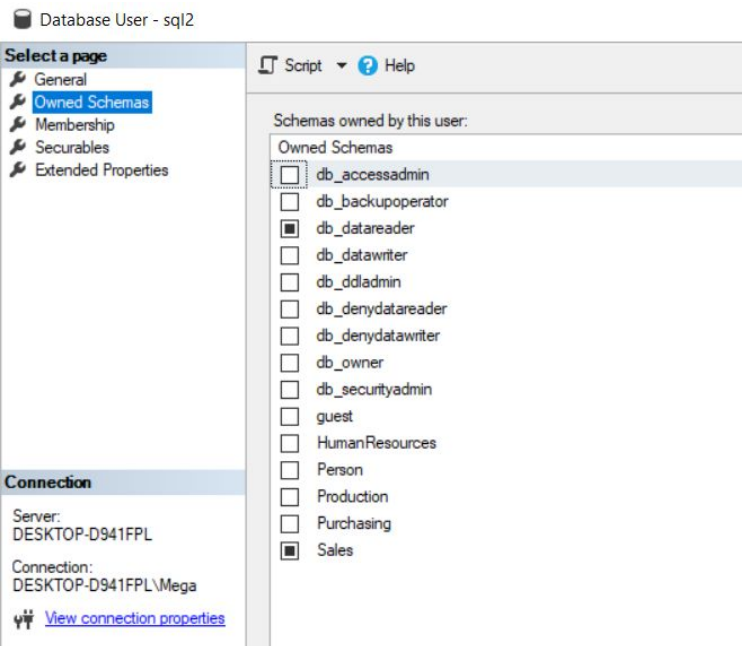


First user, named **sql1** must have access to the **HumanResources** scheme with the possibility to read and edit the data from the tables of the respective scheme, i've done that by accessing the database users, and selecting the roles of reader and writer for **HumanResources** scheme. And then, by navigating to LoginProperties to User Mapping, we select the required roles.





The second user, sql2, must have access to read the data of the **Sales** scheme from the **AdventureWorks2017** database. At the same time, he must have the possibility to manage any object and its contents from the **AdventureWorks2017** database. For this we needed to enter the user database and went to Owned Schemas where we added db_datareader and Sales. Then we went to the user login properties and fill the specified role membership.



And the 3rd user, sql3 must have the possibility to create new databases and to define its access to them. We needed to access the Database user to fill the schemas. Then went to user login, UserMapping property and filled the role membership for AdventureWorks database. Then accessed the Server Role Properties - dbcreator and added the sql3 user.

Database User - sql3

Select a page

- General
- Owned Schemas**
- Membership
- Securables
- Extended Properties

Script **Help**

Schemas owned by this user:

Owned Schemas

- ☒ db_accessadmin
- ☐ db_backupoperator
- ☐ db_datareader
- ☐ db_datawriter
- ☐ db_dtladmin
- ☐ db_denydatareader
- ☐ db_denydatawriter
- ☒ db_owner
- ☒ db_securityadmin
- ☐ guest
- ☐ HumanResources
- ☐ Person
- ☐ Production
- ☐ Purchasing
- ☐ Sales

Connection

Server:
DESKTOP-D941FPL

Connection:
DESKTOP-D941FPL\Mega

[View connection properties](#)

Login Properties - sql3

Select a page

- General
- Server Roles
- User Mapping**
- Securables
- Status

Script **Help**

Users mapped to this login:

| Map | Database | User | Default Schema |
|-------------------------------------|--------------------|------|----------------|
| <input checked="" type="checkbox"/> | AdventureWorks2017 | sql3 | dbo |
| <input type="checkbox"/> | master | | |
| <input type="checkbox"/> | model | | |
| <input type="checkbox"/> | msdb | | |
| <input type="checkbox"/> | tempdb | | |

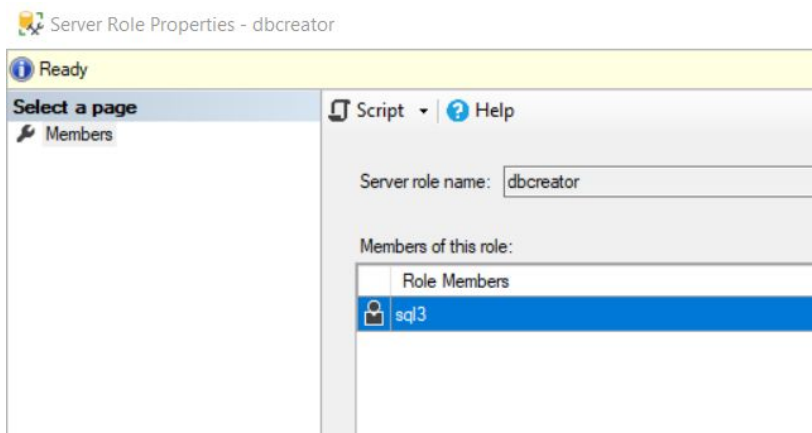
☐ Guest account enabled for: AdventureWorks2017

Database role membership for: AdventureWorks2017

- ☒ db_accessadmin
- ☐ db_backupoperator
- ☐ db_datareader
- ☐ db_datawriter
- ☐ db_dtladmin
- ☐ db_denydatareader
- ☐ db_denydatawriter
- ☒ db_owner
- ☒ db_securityadmin
- ☒ public

Progress

Ready



Conclusion

This laboratory, as a first one, was a bit hard. I've learned how to configure the SQL database and make changes like adding users and changing their roles for databases.