

Databases Laboratory Work Nr.1

Title: SQL Server 2017 Installation and Configuration

Prerequisites: SQL Server 2017 and SSMS (version 17.9)

Objectives: Install SQL Server and SSMS. Get basic knowledge on installation of SQL Server instance, creating users and managing roles and permissions.

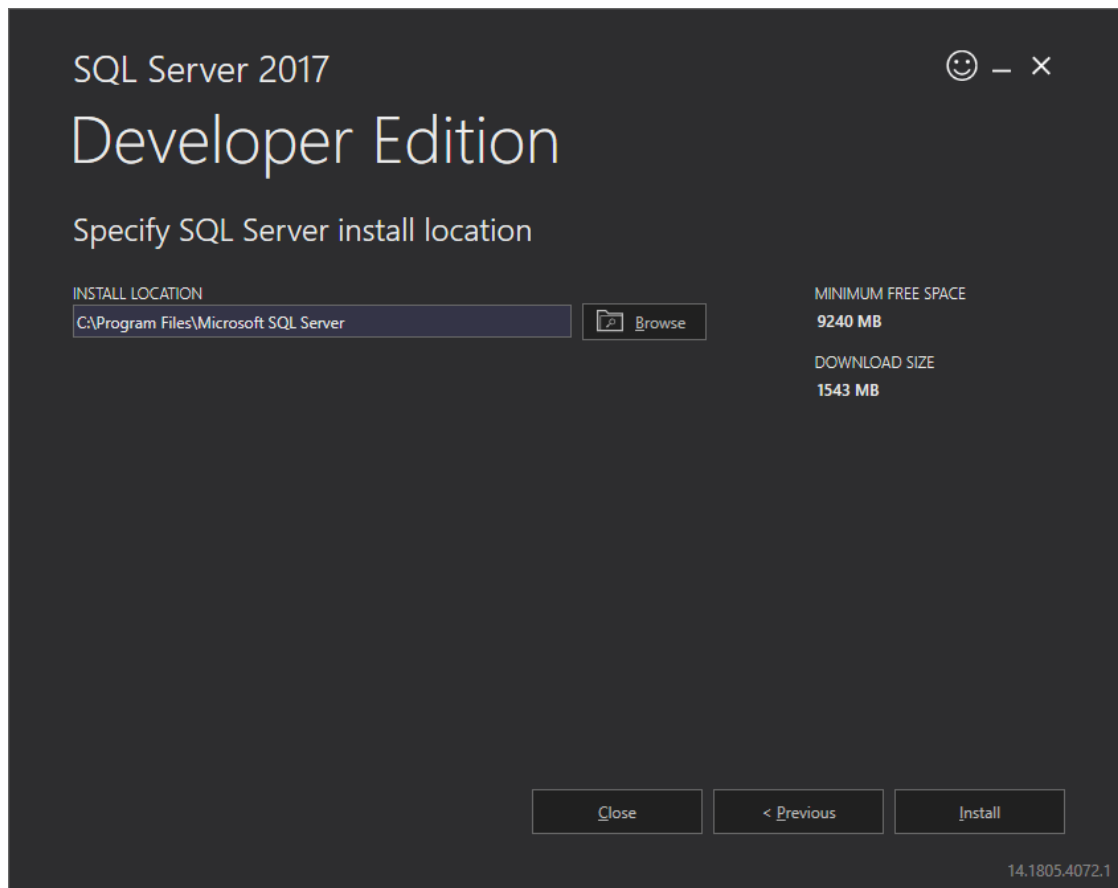
Tasks:

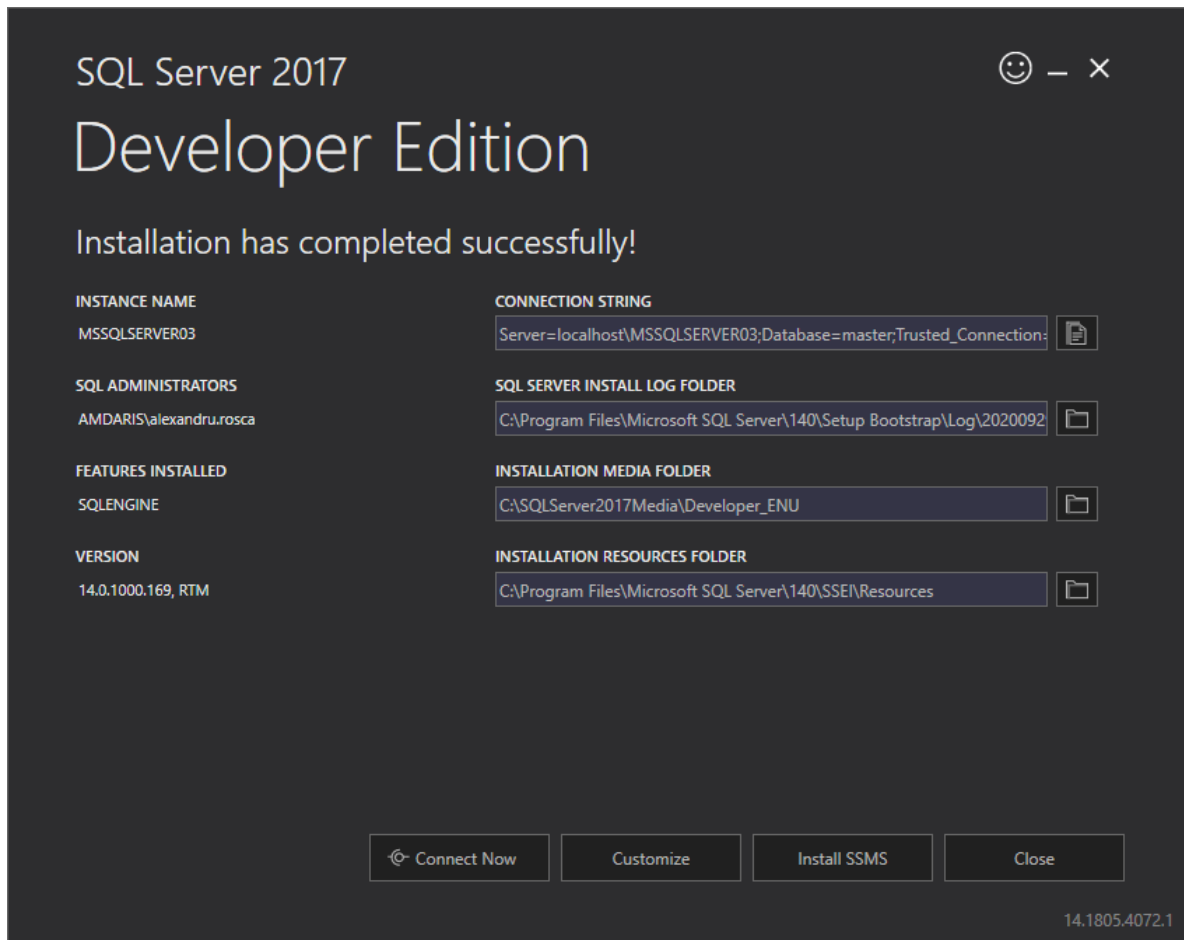
1. Install SQL Server 2017
2. Register server with SQL authentication type.
3. Create 3 logins with SQL authentication
 - a. Give first user access to **HumanResources** scheme.
 - b. Give second user read-only permission for **Sales** scheme
 - c. Third user should have access to create new database and change its security settings.

Implementation:

Task 1:

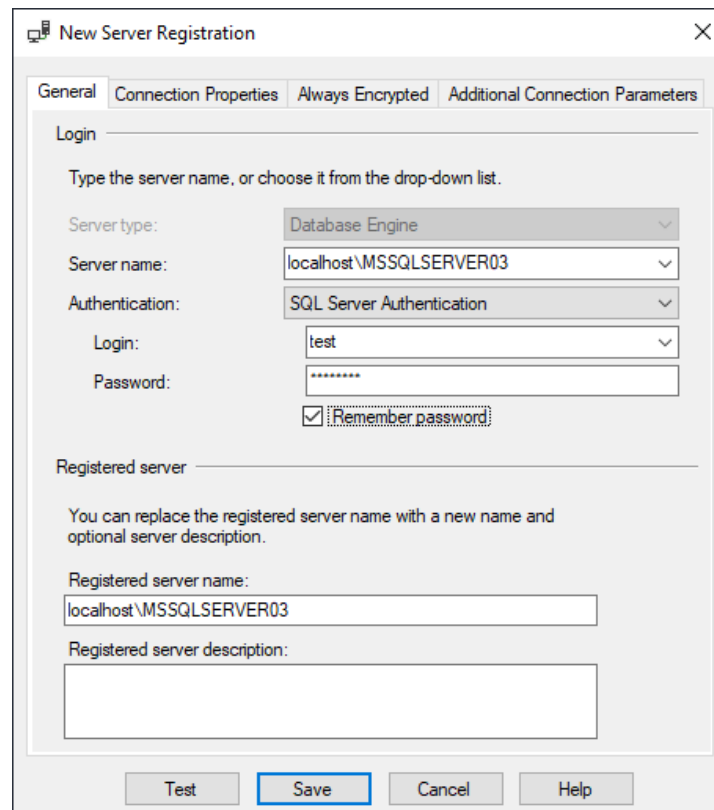
Installing server.



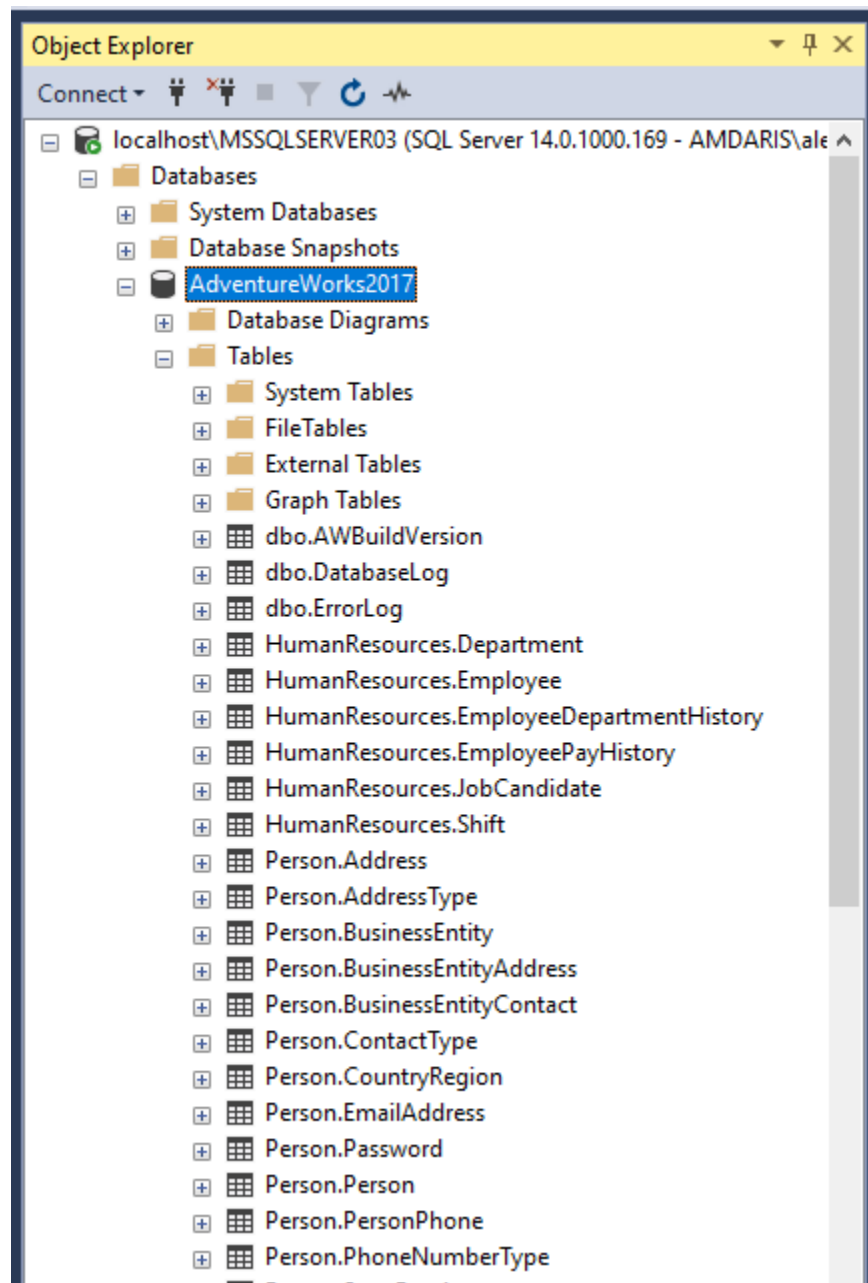


Task 2:

Register server:



Restore AdventureWorks2017 database:



Task 3:

Create user with access to HumanResources scheme:

Login - New

Select a page

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

Connection

Server: MDDSK40265\MSSQLSERVER0

Connection: AMDARIS\alexandru.rosca

[View connection properties](#)

Progress

Ready

Script ? Help

Login name: User1 Search...

☐ Windows authentication
☒ SQL Server authentication

Password:

Confirm password:

☐ Specify old password
 Old password:

☒ Enforce password policy
☒ Enforce password expiration
☒ User must change password at next login

☐ Mapped to certificate
☐ Mapped to asymmetric key
☐ Map to Credential

Mapped Credentials

Credential	Provider

Add Remove

Default database: master

Default language: <default>

OK Cancel

Login - New

Select a page

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

Connection

Server: MDDSK40265\MSSQLSERVER0

Connection: AMDARIS\alexandru.rosca

[View connection properties](#)

Progress

Ready

Script ? Help

Users mapped to this login:

Map	Database	User	Default Schema
<input checked="" type="checkbox"/>	AdventureWorks2017	User1	HumanResources
<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_ddladmin
- ☐ db_denydatareader
- ☐ db_denydatawriter
- ☒ db_owner
- ☐ db_securityadmin
- ☒ public

OK Cancel

Create user read-only permission for **Sales** scheme:

Login - New

Select a page

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

Connection

Server: MDDSK40265\MSSQLSERVER0

Connection: AMDARIS\alexandru.rosca

[View connection properties](#)

Progress

Ready

Script ? Help

Login name: User2 Search...

☐ Windows authentication
☒ SQL Server authentication

Password:

Confirm password:

☐ Specify old password

Old password:

☒ Enforce password policy
☒ Enforce password expiration
☒ User must change password at next login

☐ Mapped to certificate
☐ Mapped to asymmetric key
☐ Map to Credential

Mapped Credentials

Credential	Provider

Add Remove

Default database: master

Default language: <default>

OK Cancel

Adding roles:

Login - New

Select a page

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

Connection

Server: MDDSK40265\MSSQLSERVER0

Connection: AMDARIS\alexandru.rosca

[View connection properties](#)

Progress

Ready

Script ? Help

Users mapped to this login:

Map	Database	User	Default Schema
<input checked="" type="checkbox"/>	AdventureWorks2017	User2	Sales
<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

OK Cancel

Create user with ability to create databases and change security settings:

Login - New

Select a page: General, Server Roles, User Mapping, Securables, Status

Script Help

Login name: User3 Search...

☐ Windows authentication
☒ SQL Server authentication

Password:
Confirm password:
☐ Specify old password
Old password:

☒ Enforce password policy
☒ Enforce password expiration
☒ User must change password at next login

☐ Mapped to certificate
☐ Mapped to asymmetric key
☐ Map to Credential

Mapped Credentials

Credential	Provider
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Add Remove

Default database: master
Default language: <default>

OK Cancel

Connection
Server: MDDSK40265\MSSQLSERVER0
Connection: AMDARIS\alexandru.rosca
[View connection properties](#)

Progress
Ready

Login - New

Select a page: General, Server Roles, User Mapping, Securables, Status

Script Help

Server role is used to grant server-wide security privileges to a user.

Server roles:

- ☐ bulkadmin
- ☒ dbcreator
- ☐ diskadmin
- ☐ processadmin
- ☒ public
- ☐ securityadmin
- ☐ serveradmin
- ☐ setupadmin
- ☐ sysadmin

OK Cancel

Connection
Server: MDDSK40265\MSSQLSERVER0
Connection: AMDARIS\alexandru.rosca
[View connection properties](#)

Progress
Ready

Conclusion: in this work I installed SQL Server 2017 and SSMS. I've got basic knowledge on how to create an instance of SQL Server, which type of users it maintains and what security tools it can afford. Also, I got knowledge on restoring a database from backup, as well as assigning different security restrictions for database users.