This project is funded by the European Union

ITDA
Internal Trade Development Authority
جهاز تنمية التجارة الداخلية

ETiDOP®
Egyptian Trademarks and Industrial Designs Office Project

DB and SQL

Training courses

LUVENT CONSULTING
Specialists in International Development

suez

Day 1

Agenda

What and why DB and RDB

RDBMS

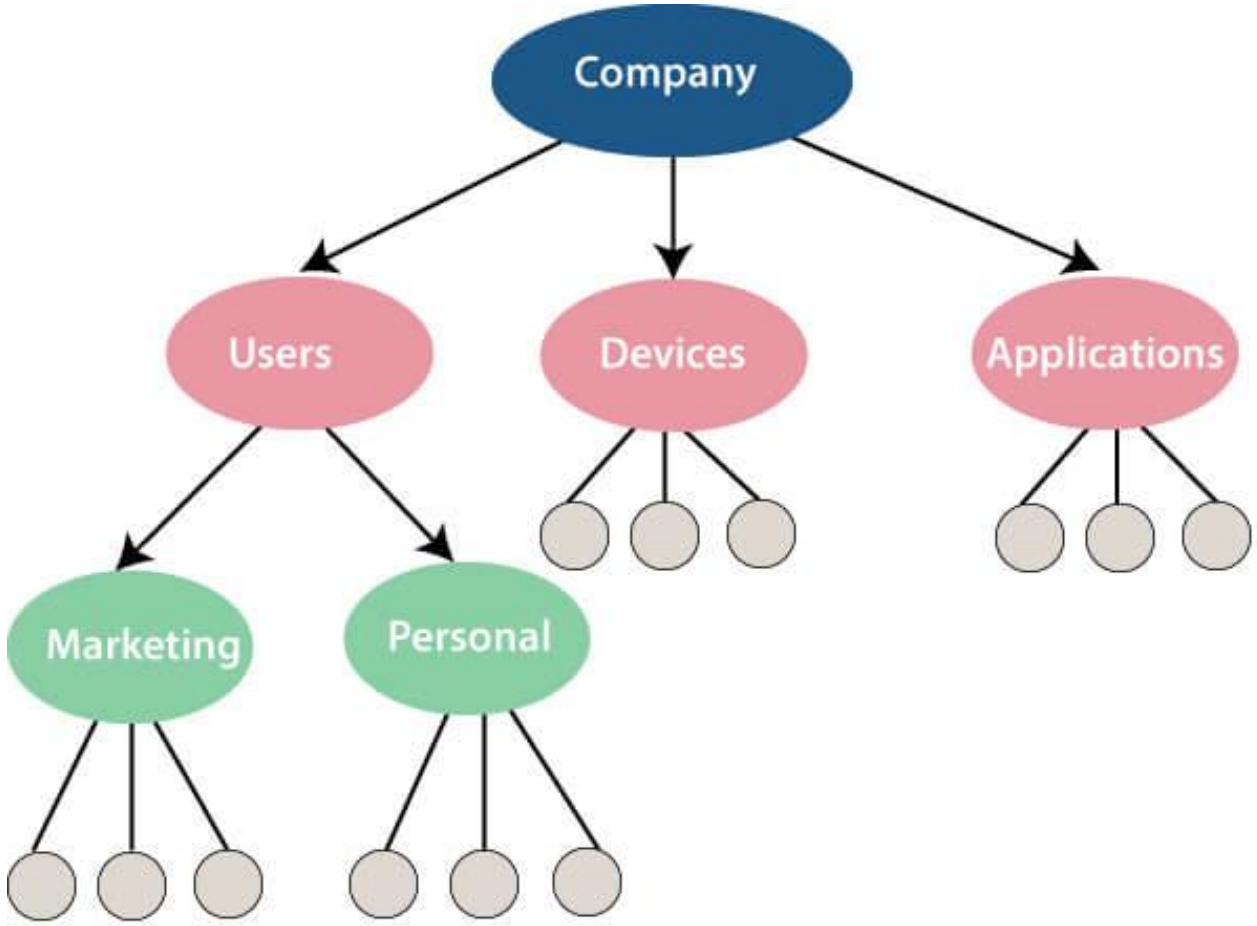
Tables, Fields

Datatypes

Contsraints

What is DB?

- A **database** is an organized collection of structured information, or data, typically stored electronically in a computer system. ... The data can then be easily accessed, managed, modified, updated, controlled, and organized. Most **databases** use structured query language (SQL) for writing and querying data.



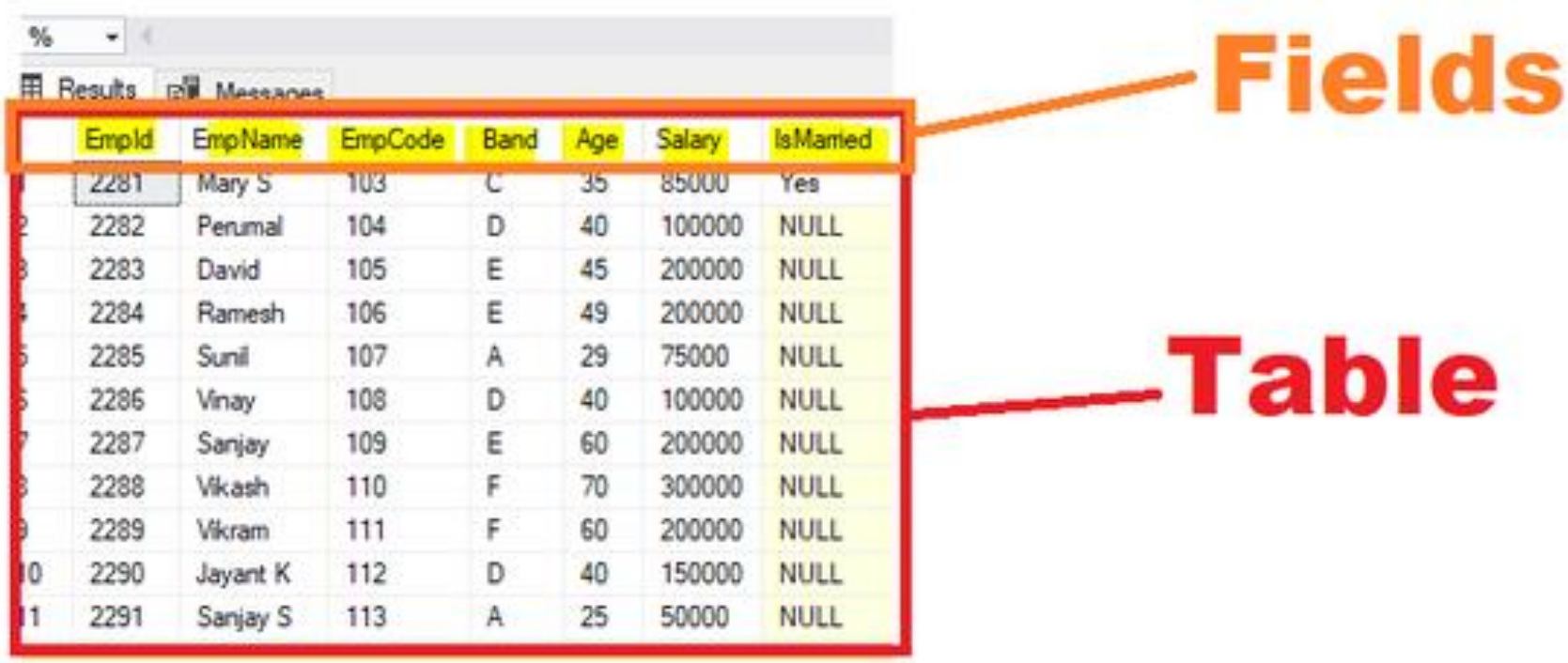
What is RDB?

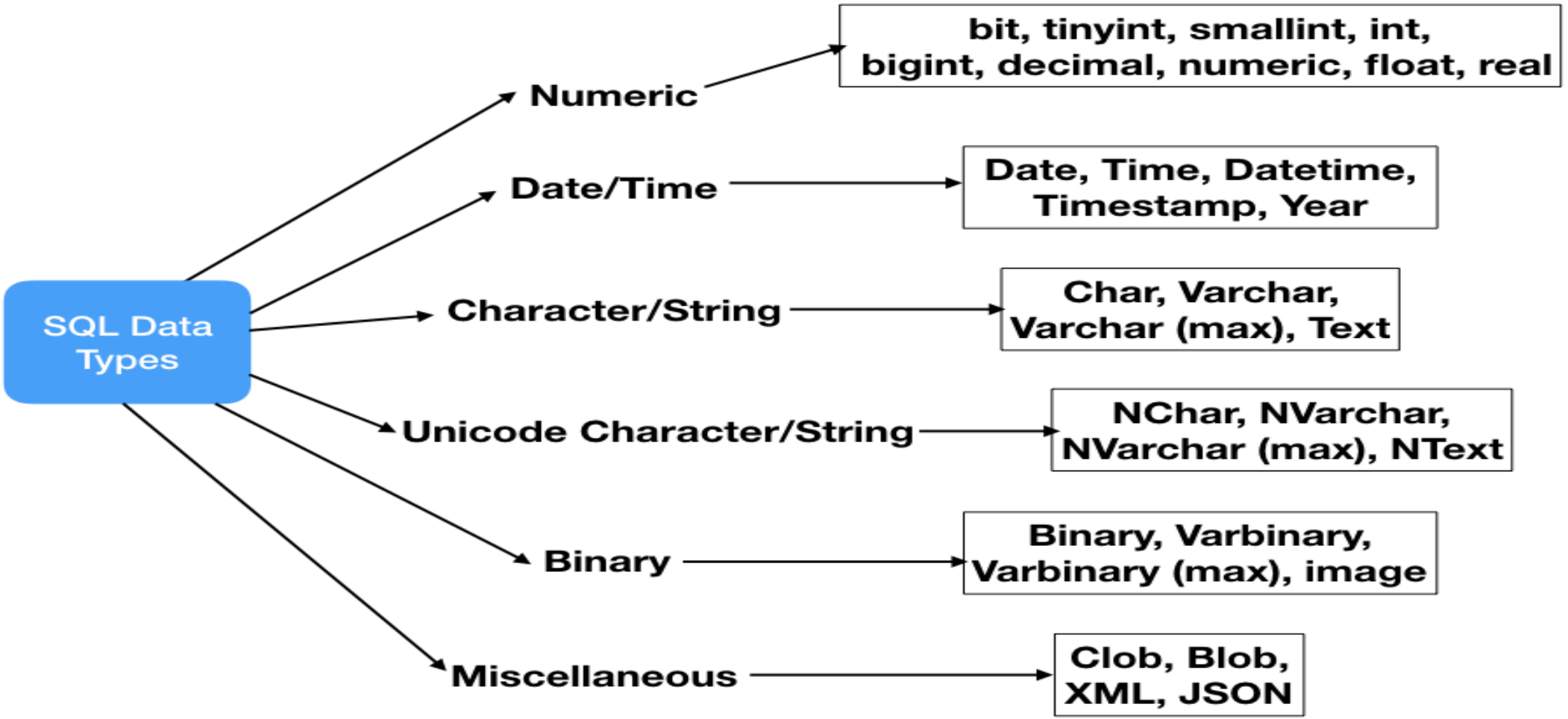
- A **relational database management system** (**RDBMS** or just RDB) is a common type of **database** that stores **data** in tables, so it can be used in **relation** to other stored datasets. ... The **data** is often stored in many tables, also called 'relations'. These tables are divided into rows, also called records and columns (fields).

What is CRUD?

- **In computer programming, create, read, update and delete[1] (as an acronym CRUD or possibly a backronym) (Sometimes called SCRUD with an "S" for Search) are the four basic functions of persistent storage.**

Tables and Fields




SQL Data Types
Numeric
bit, tinyint, smallint, int, bigint, decimal, numeric, float, real
Date/Time
Date, Time, Datetime, Timestamp, Year
Character/String
Char, Varchar, Varchar (max), Text
Unicode Character/String
NChar, NVarchar, NVarchar (max), NText
Binary
Binary, Varbinary, Varbinary (max), image
Miscellaneous
Clob, Blob, XML, JSON

SQL Constraints

- NOT NULL Constraint
- CHECK Constraint
- UNIQUE Constraint
- PRIMARY KEY Constraint
- FOREIGN KEY Constraint
- DEFAULT Constraint

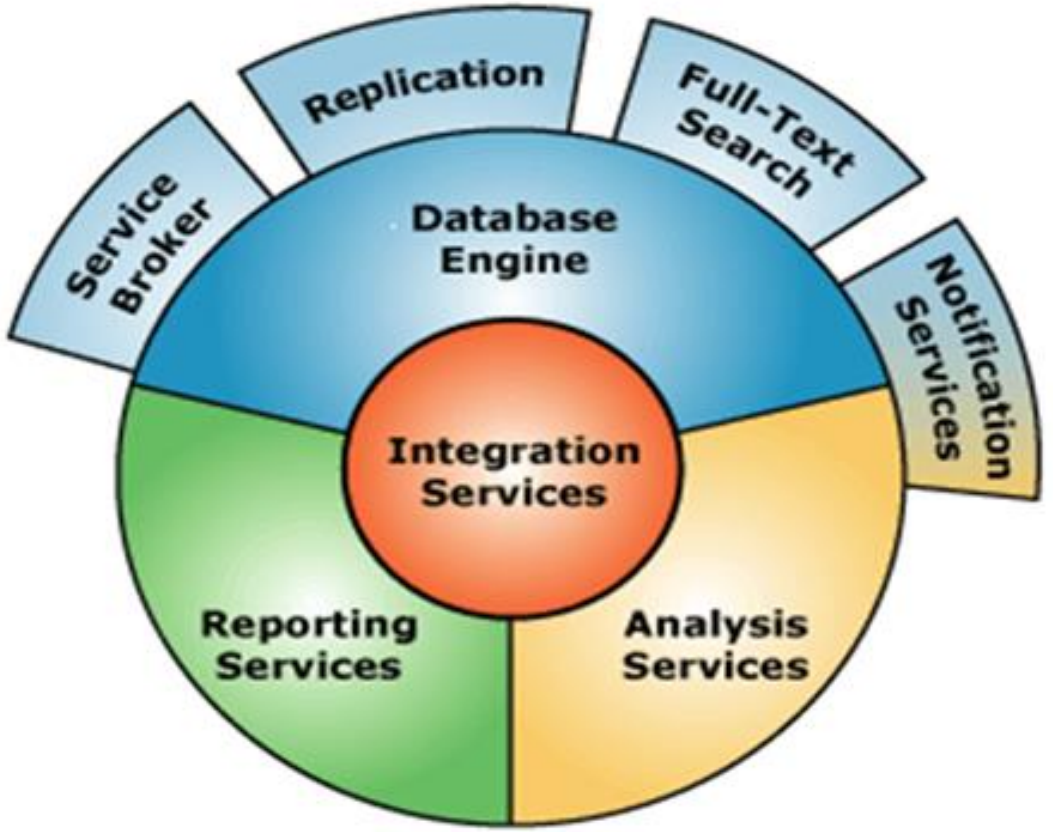
www.educba.com

Day 2

Agenda

- overview of SQL Server 2008 components
- Getting Started with Microsoft SQL Server 2008
- Designing Databases
- (create DB, Create tables, fields and indeces)

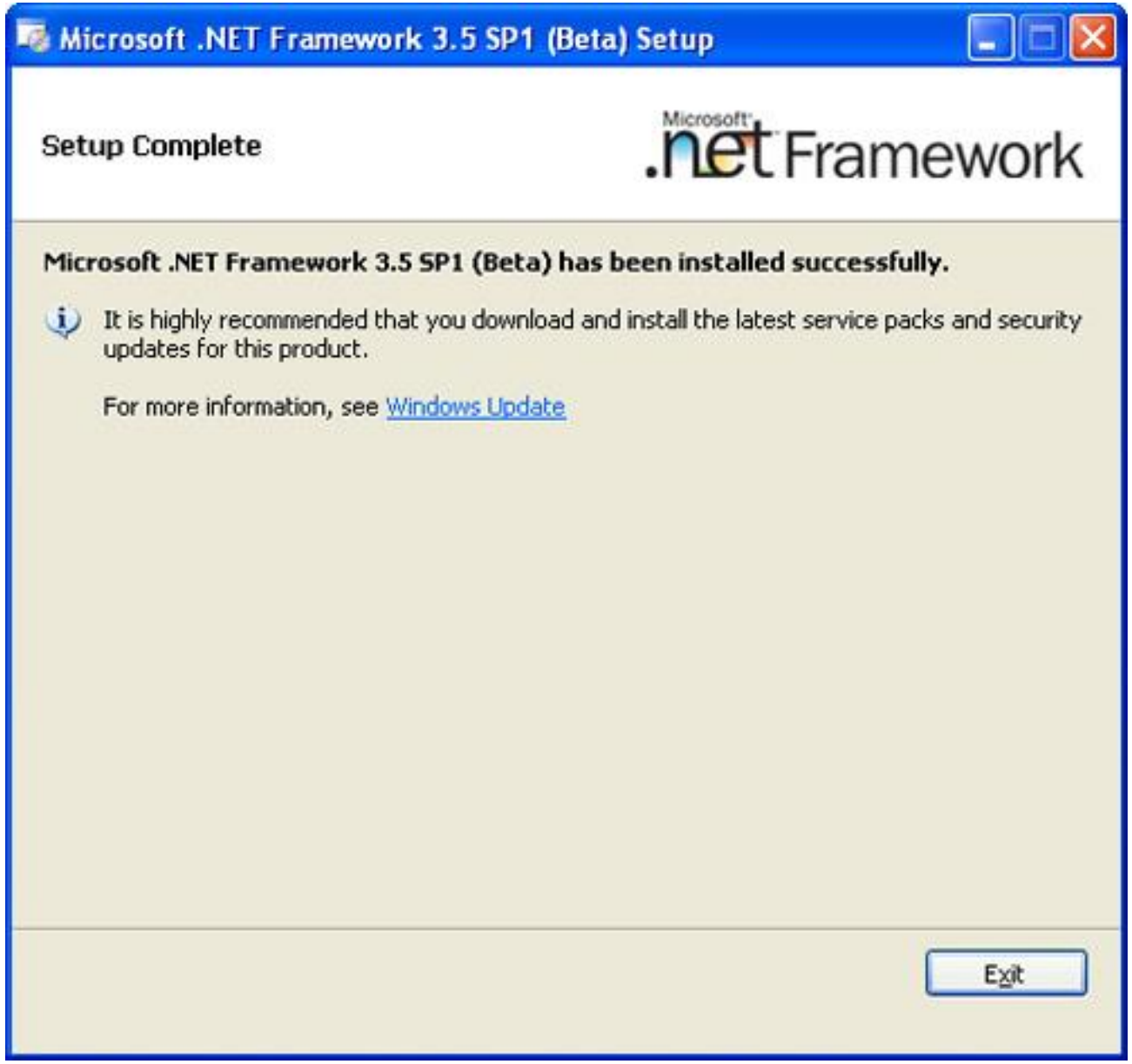
SQL Server 2008 Components



Getting started with SQL Server 2008

how to install

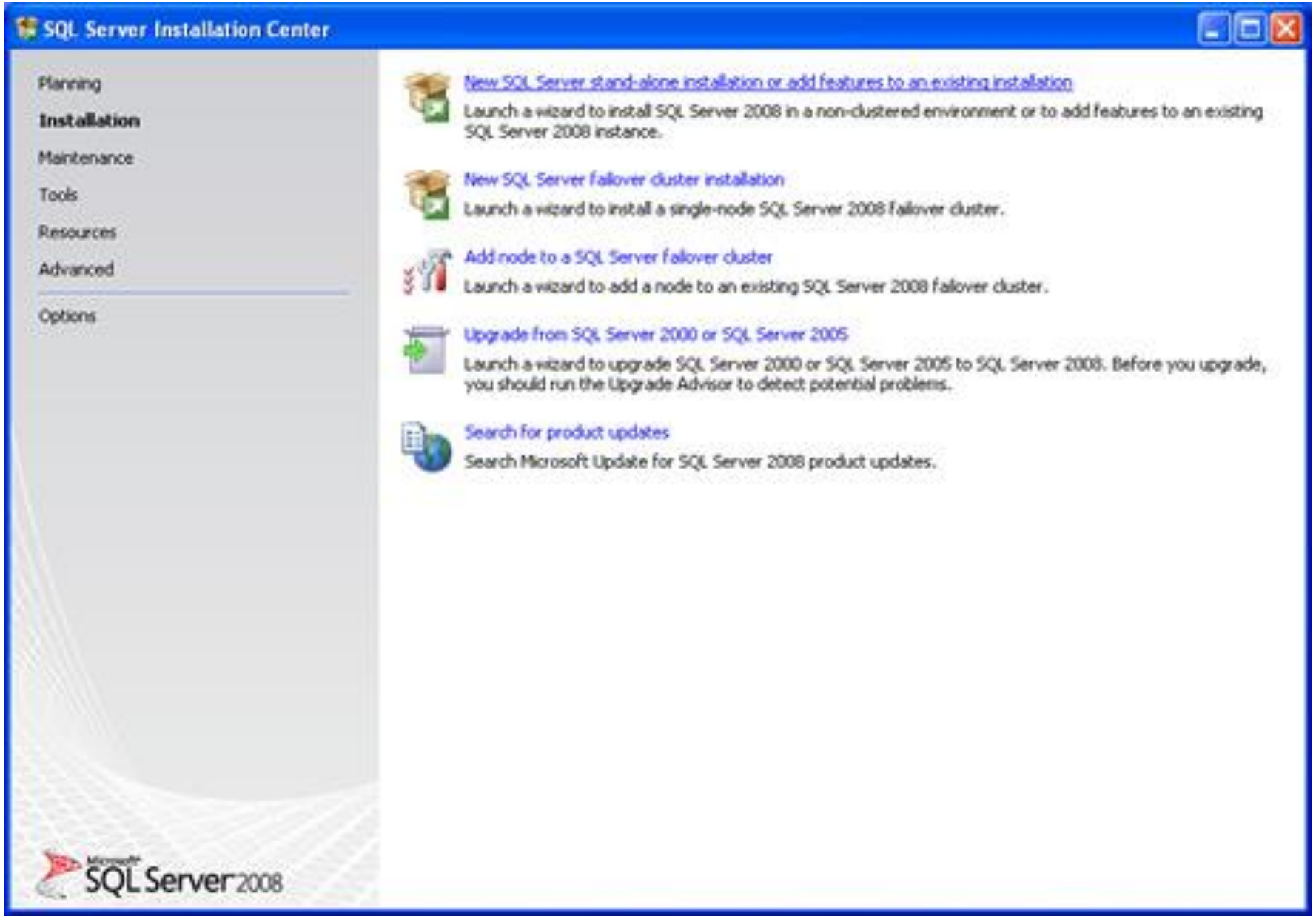
https://blog.sqlauthority.com/2008/06/12/sql-server-2008-step-by-step-installation-guide-with-images/

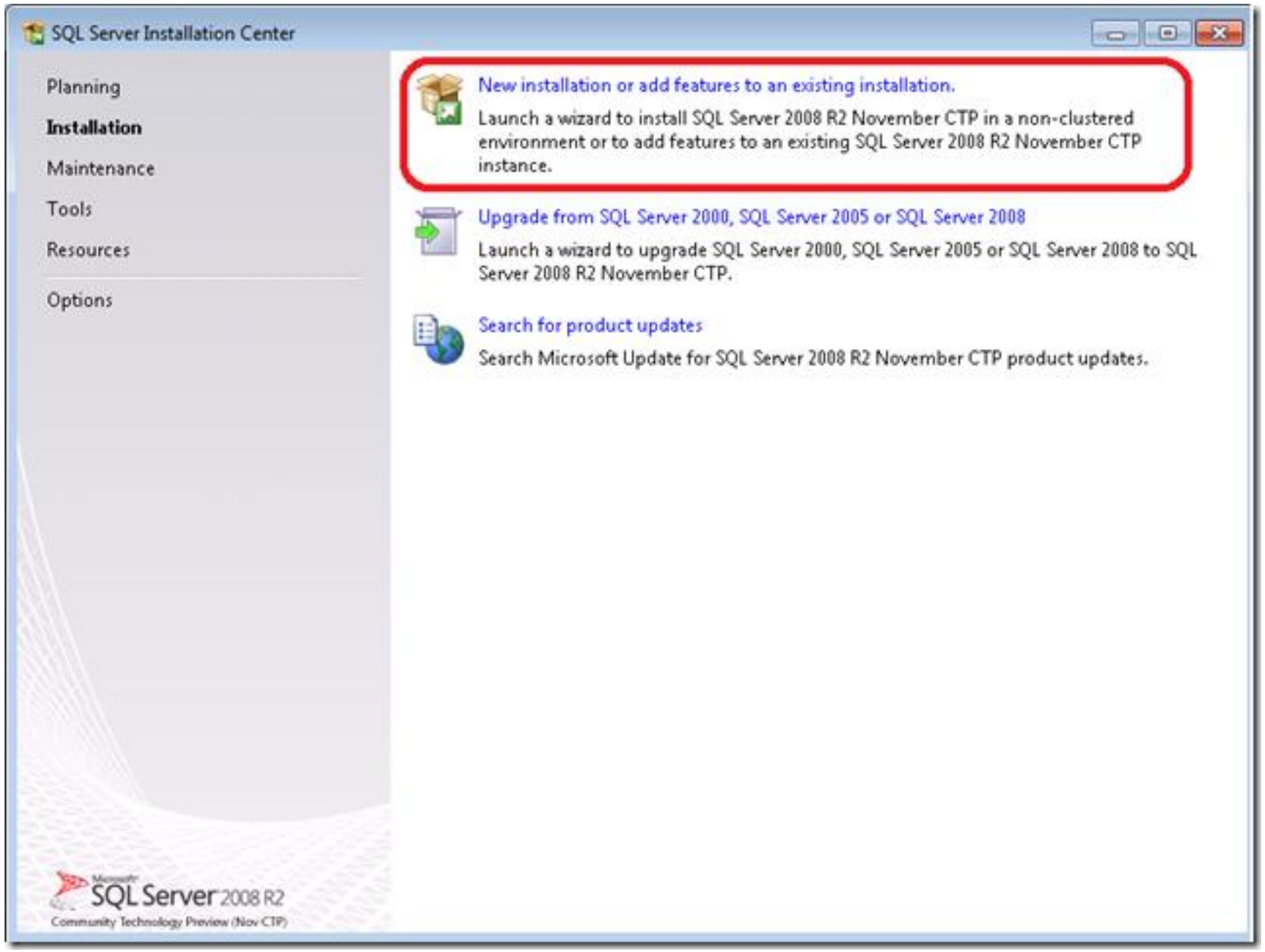

Microsoft .NET Framework 3.5 SP1 (Beta) Setup
Setup Complete
Microsoft .net Framework
Microsoft .NET Framework 3.5 SP1 (Beta) has been installed successfully.
It is highly recommended that you download and install the latest service packs and security updates for this product.
For more information, see Windows Update
Exit

Step 1: Open explorer and you'll see setup file as shown .

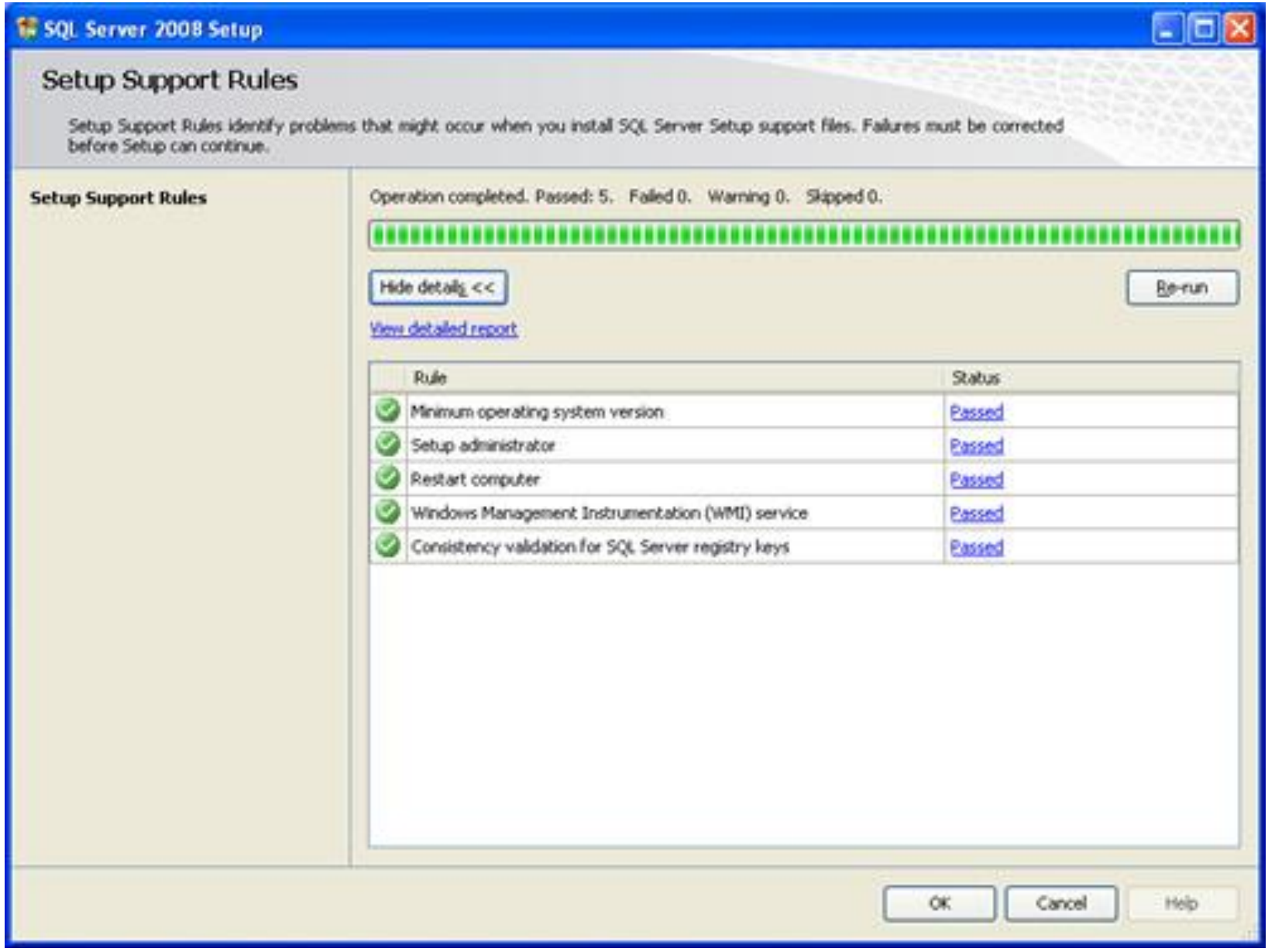
Right click on the setup and run it as Administrator.

Step 2: SQL Server Installation Center.

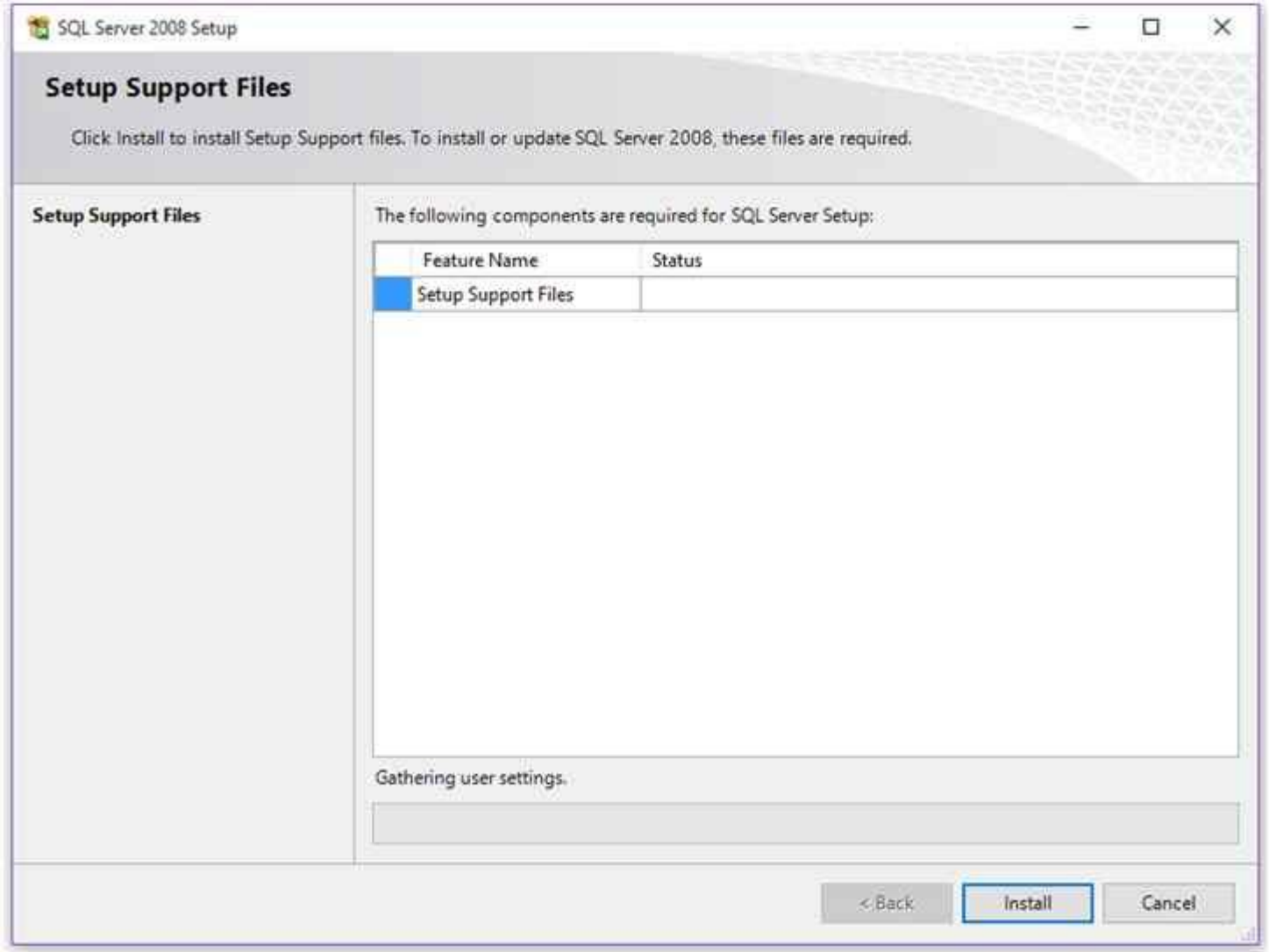



SQL Server Installation Center
Planning
Installation
Maintenance
Tools
Resources
Options
New installation or add features to an existing installation.
Launch a wizard to install SQL Server 2008 R2 November CTP in a non-clustered environment or to add features to an existing SQL Server 2008 R2 November CTP instance.
Upgrade from SQL Server 2000, SQL Server 2005 or SQL Server 2008
Launch a wizard to upgrade SQL Server 2000, SQL Server 2005 or SQL Server 2008 to SQL Server 2008 R2 November CTP.
Search for product updates
Search Microsoft Update for SQL Server 2008 R2 November CTP product updates.
SQL Server 2008 R2
Community Technology Preview (Nov CTP)

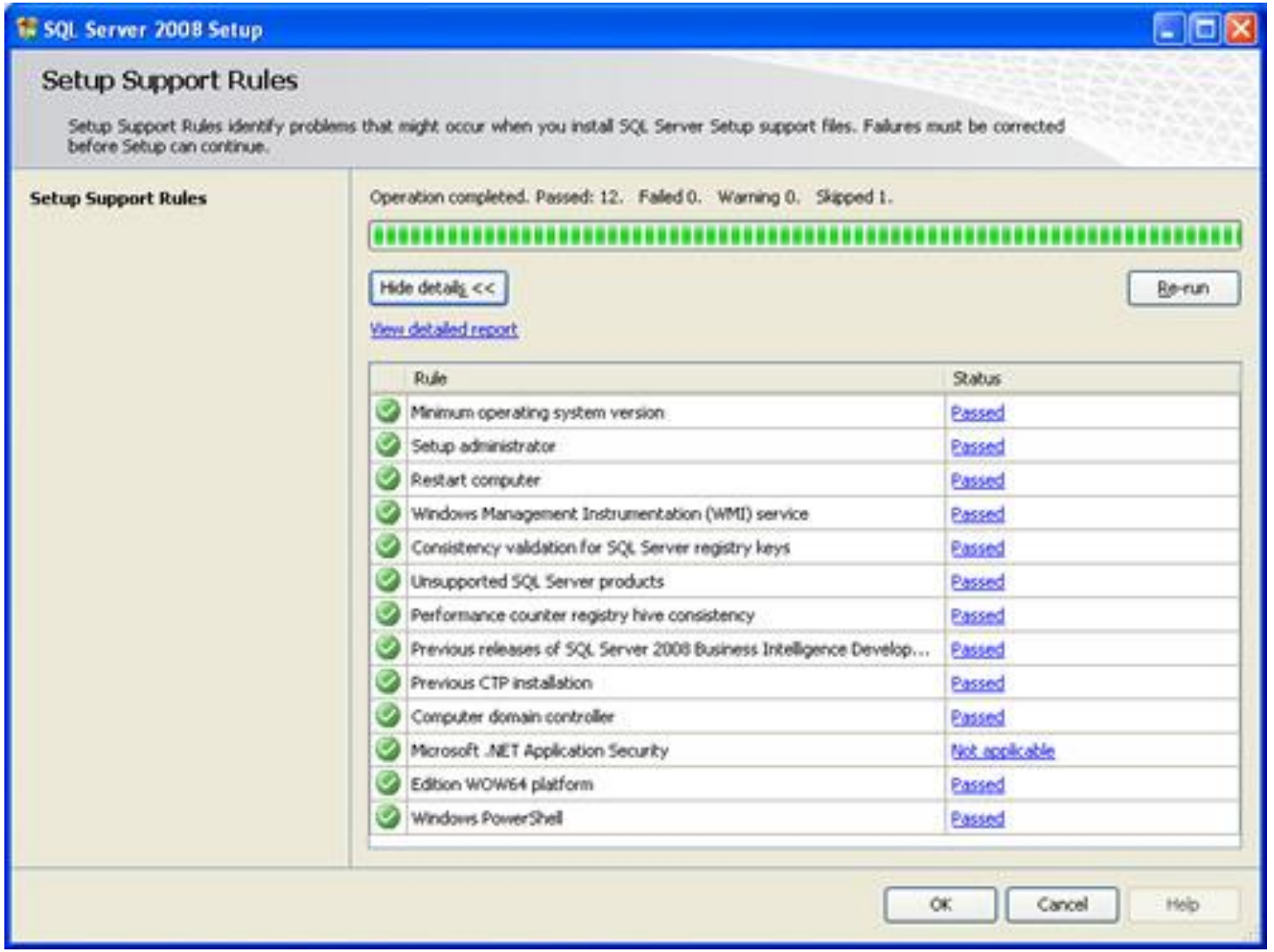
Step 3: Setup Support Rules



Step 4: Setup Support Files.

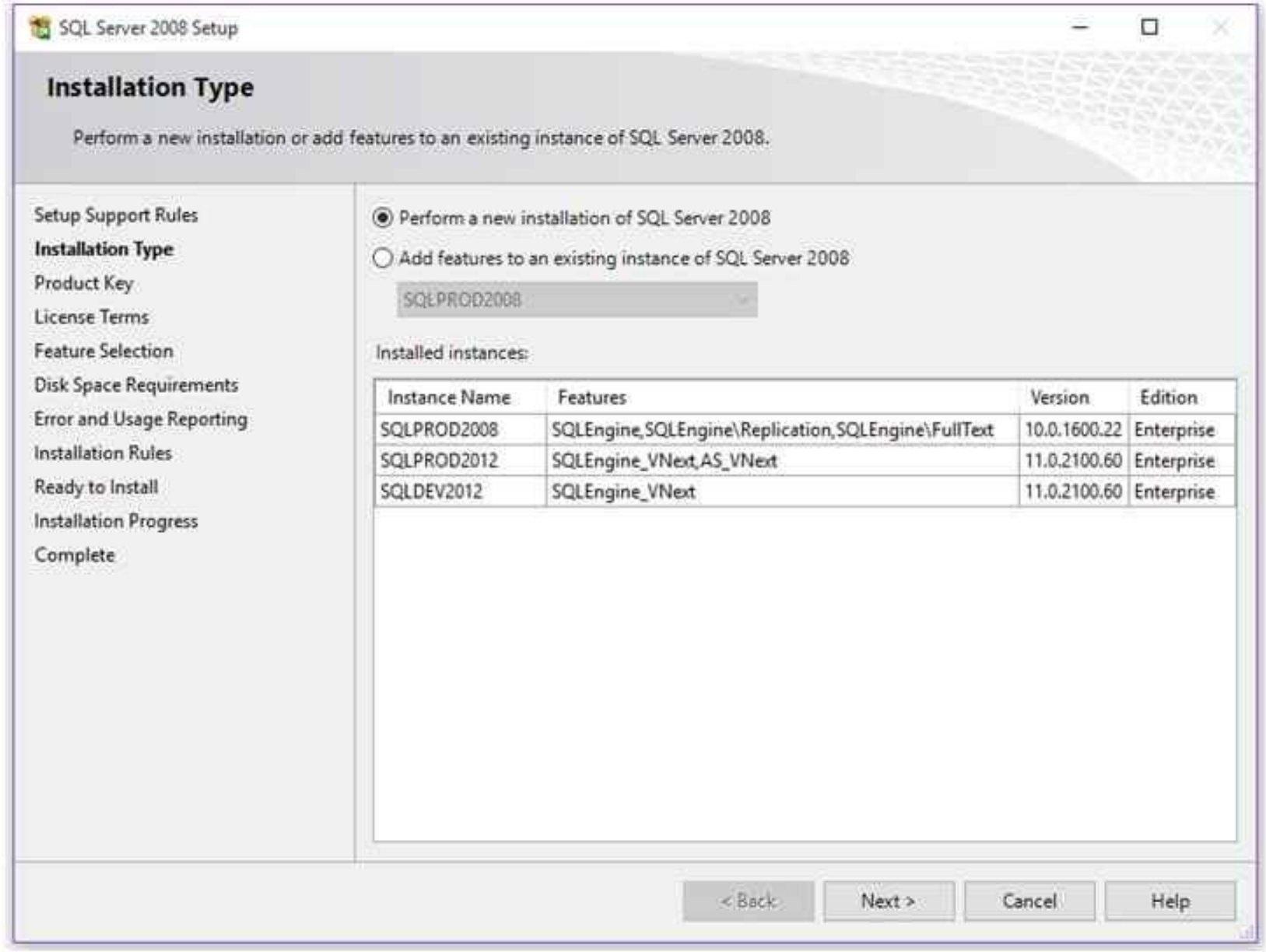


Step 5: Setup Support Rules.

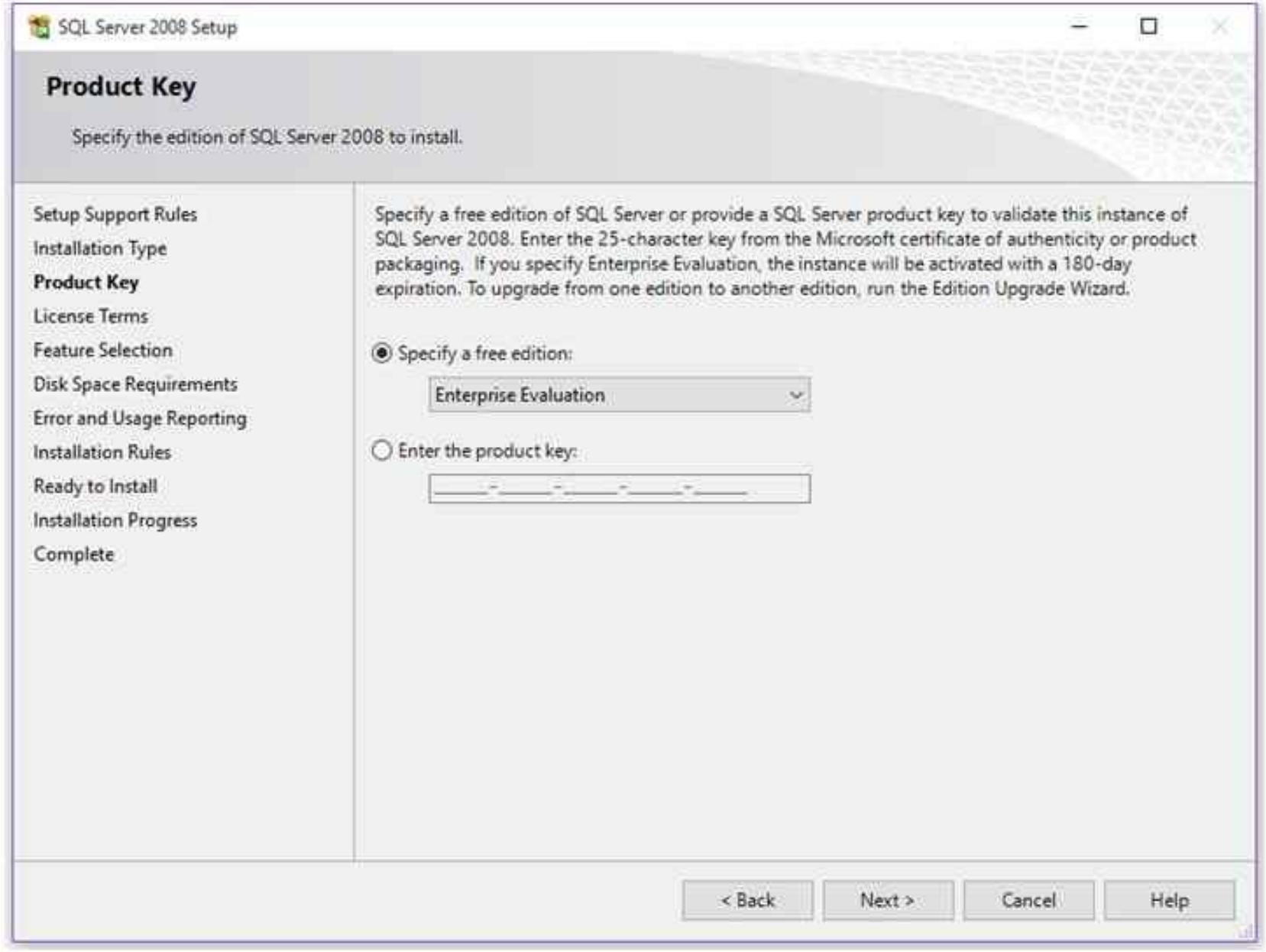


Step 6: Installation Type

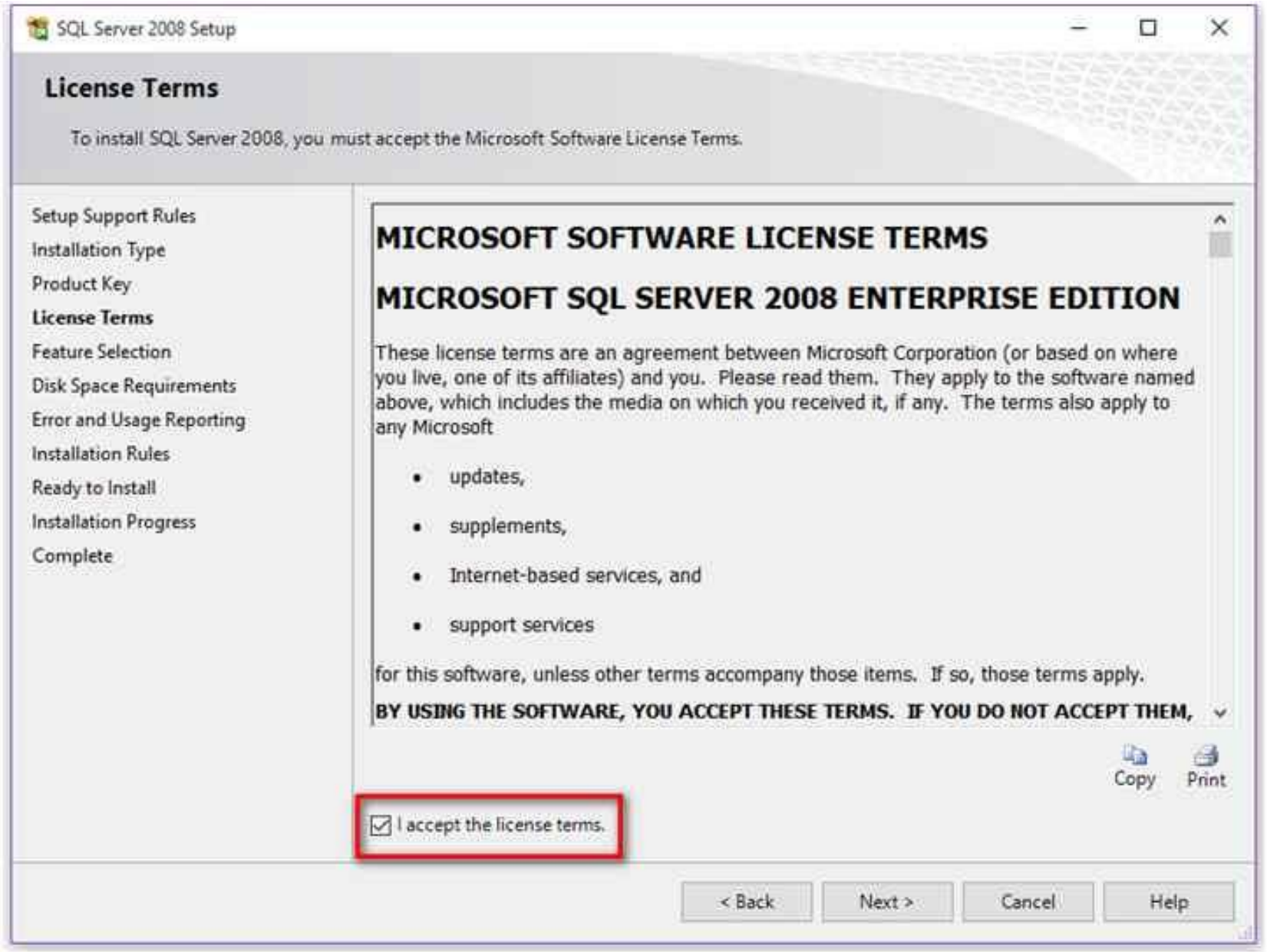
You find this step only if you previously installed any instances of SQL Server on your machine. At this step, you'll find 2 options i.e.
•Perform a new Installation
•Add features to an existing instance.



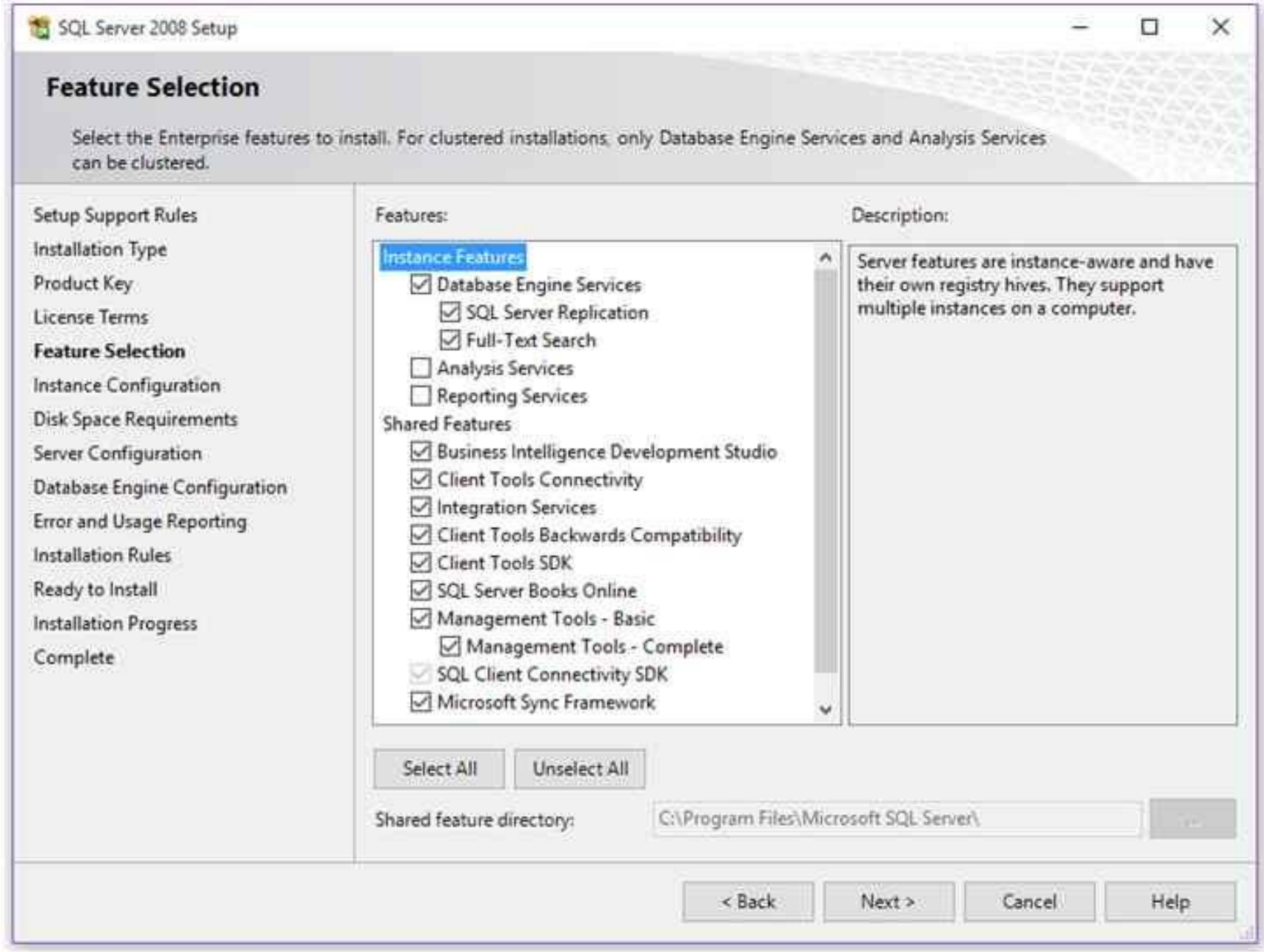
Step 7: Editions and Product Key



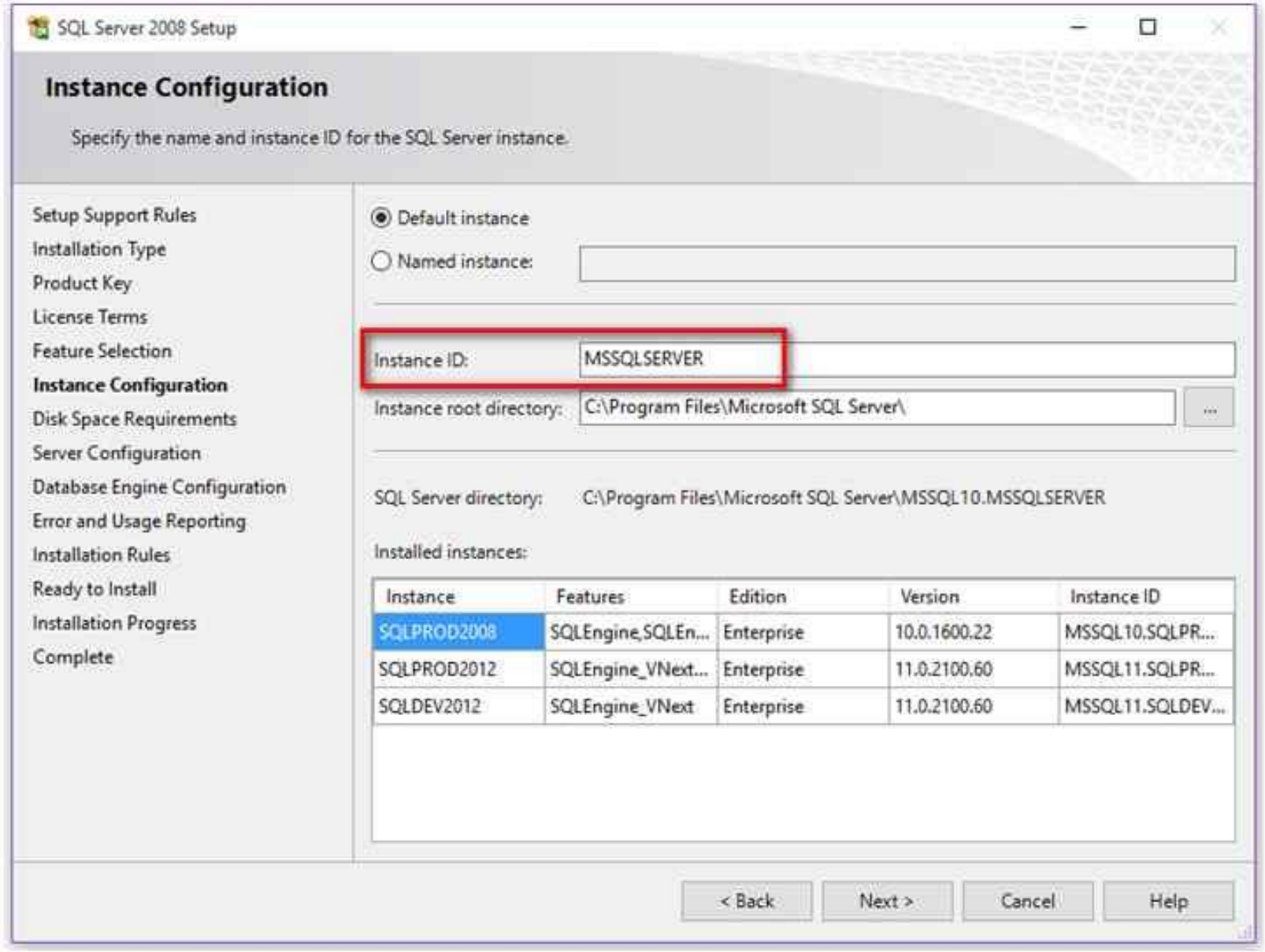
Step 8: License Term.



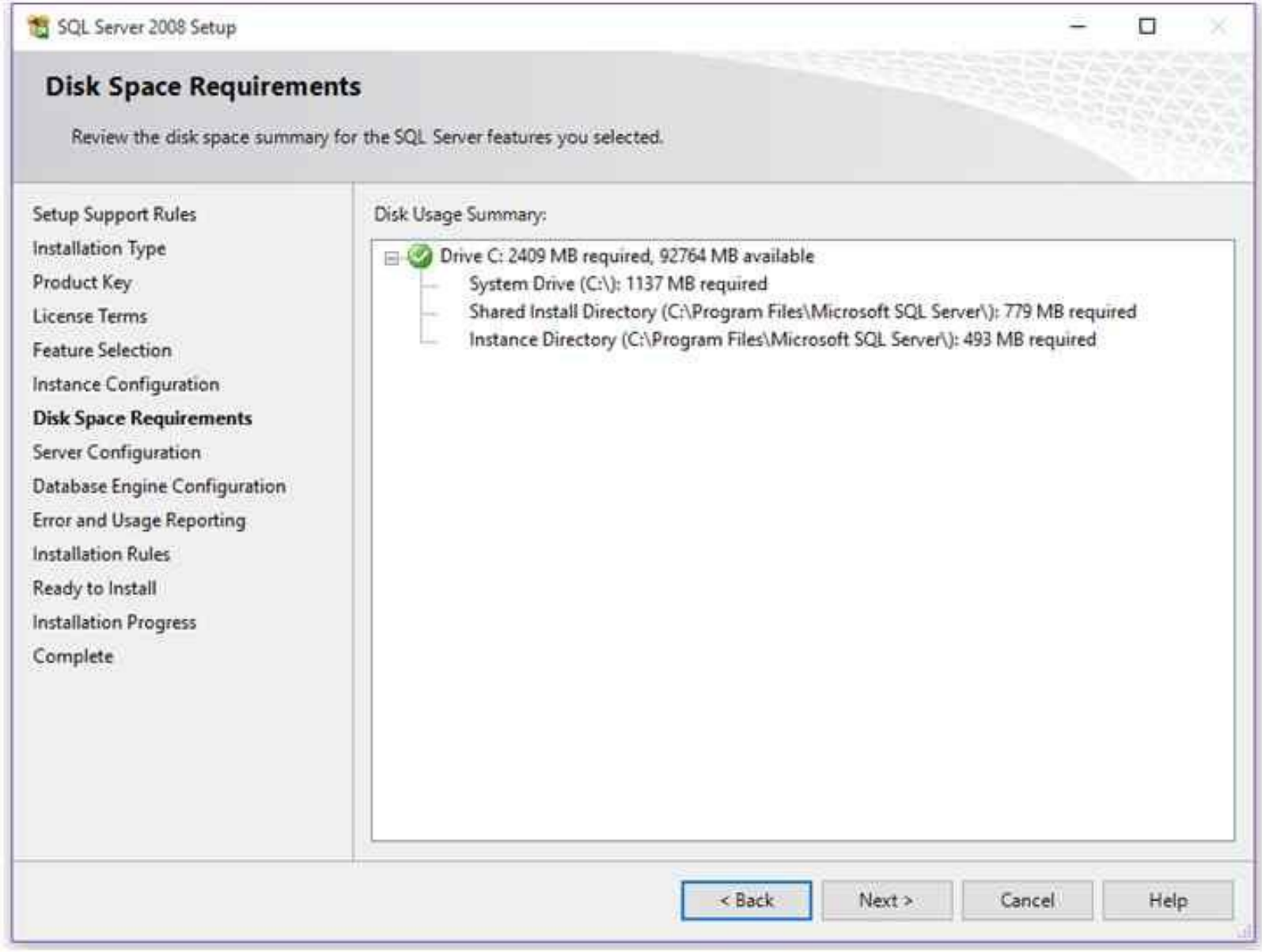
Step 9: Feature Selection.



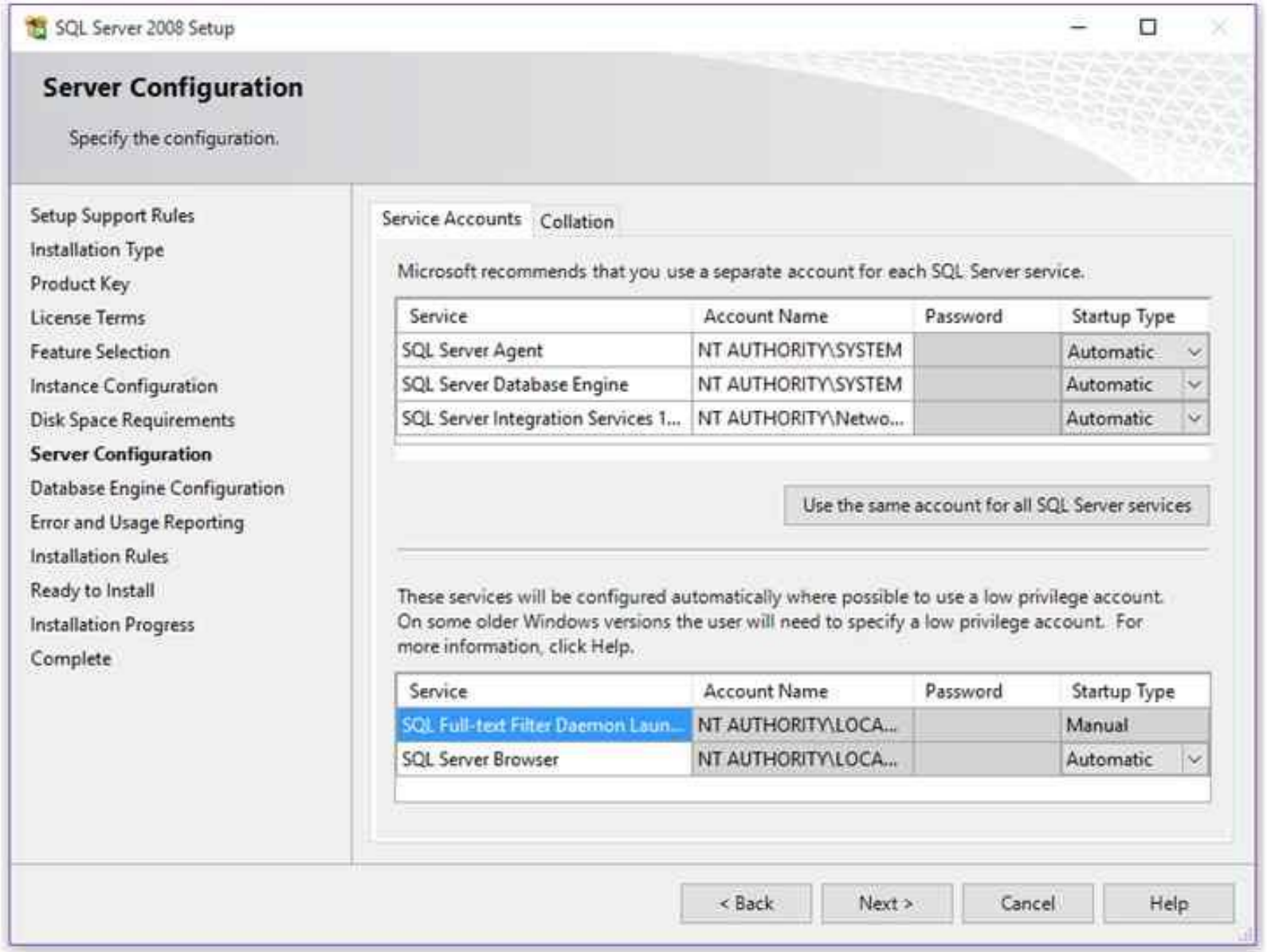
Step 10: Instance Configuration



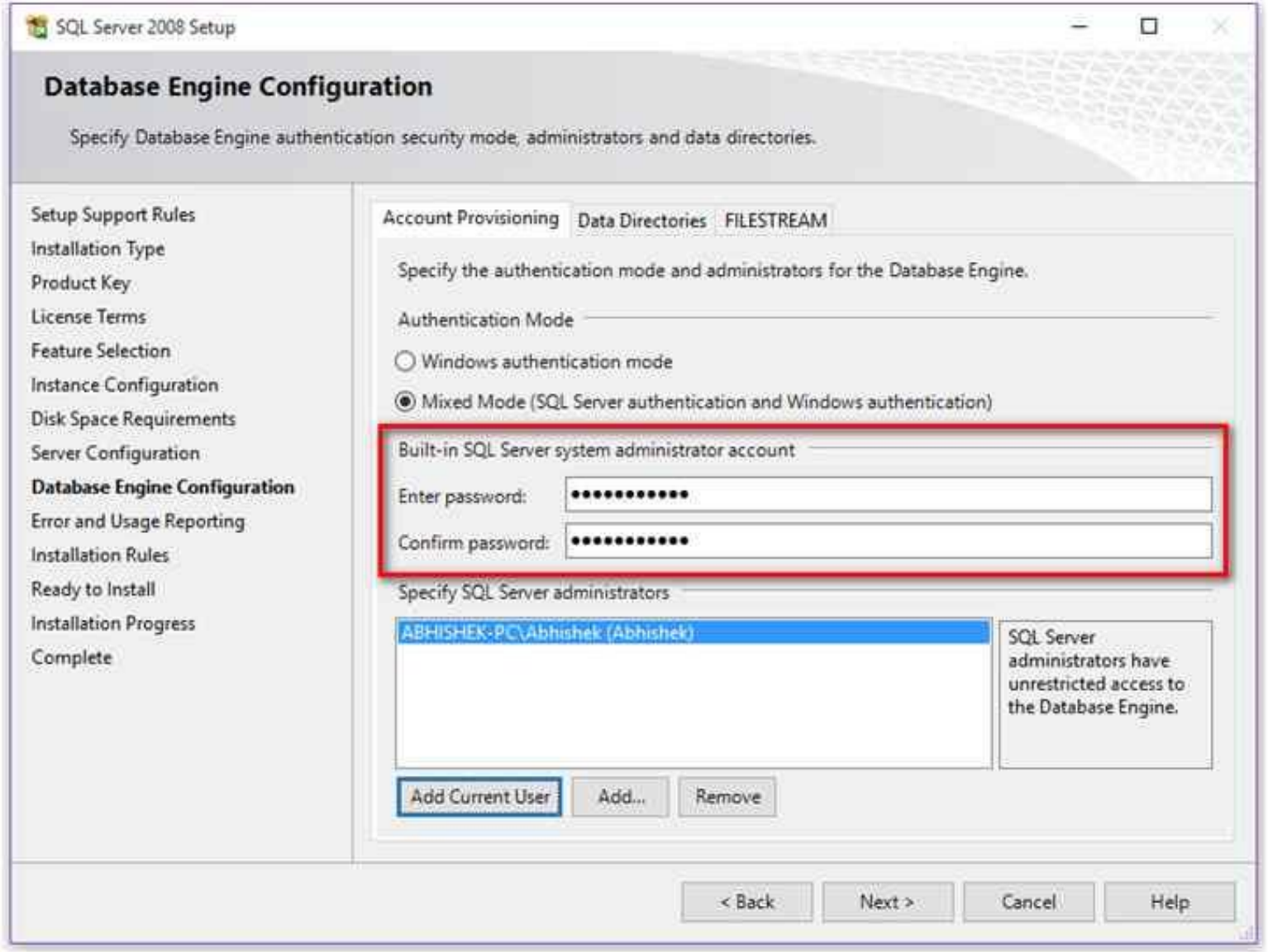
Step 11: Disk Space Requirement.



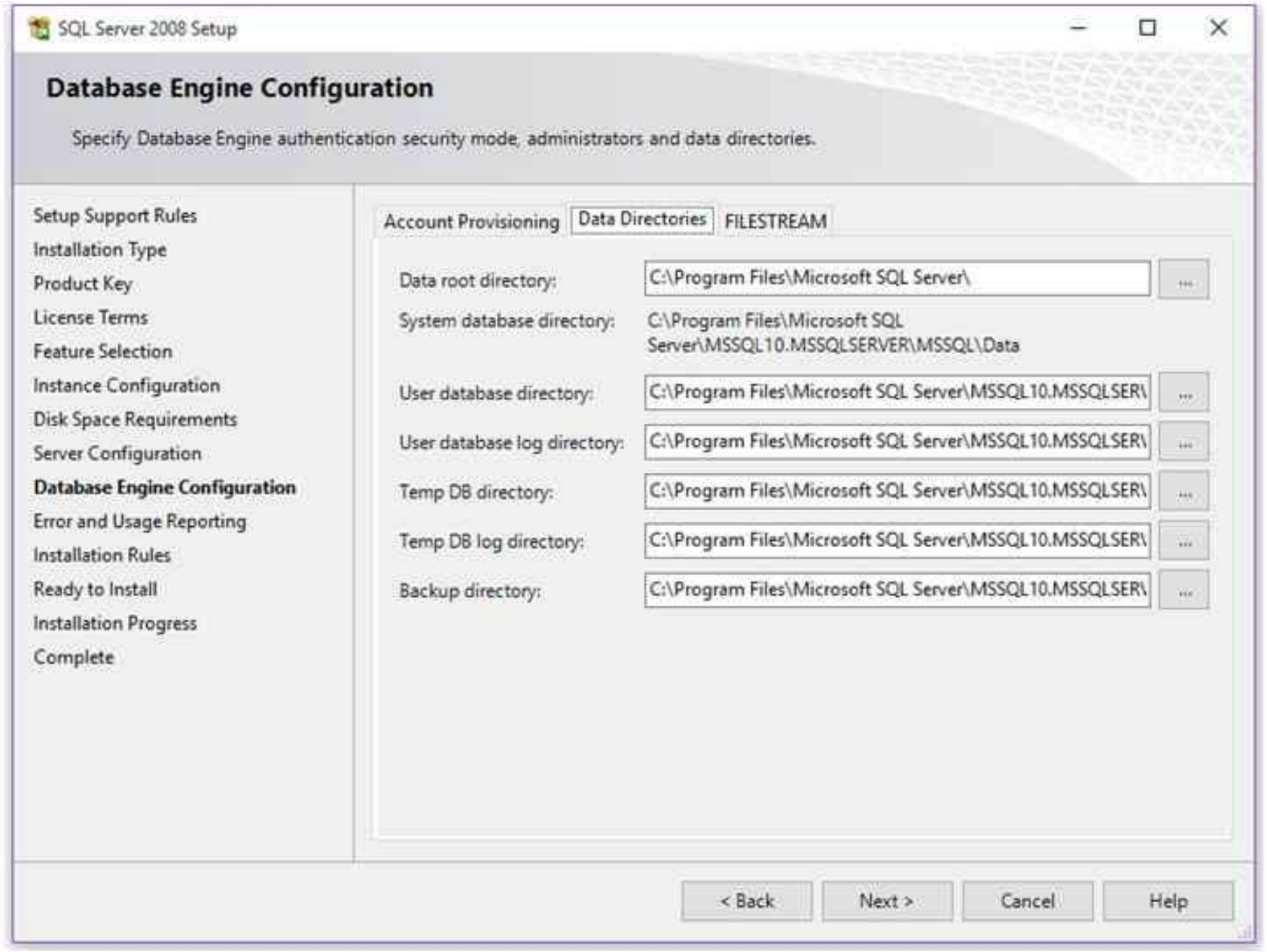
Step 12: Server Configuration.



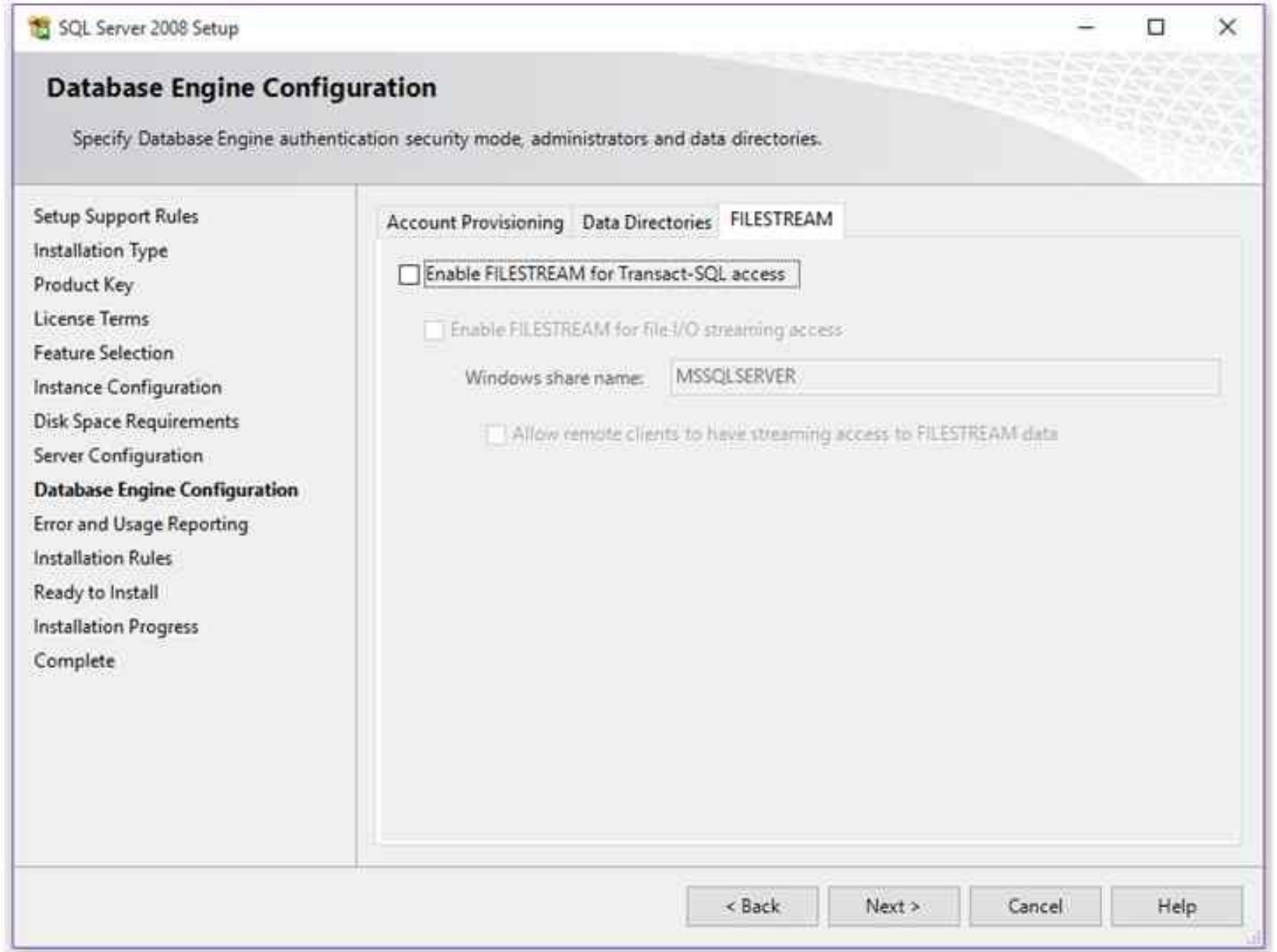
Step 13: Database Engine Configuration



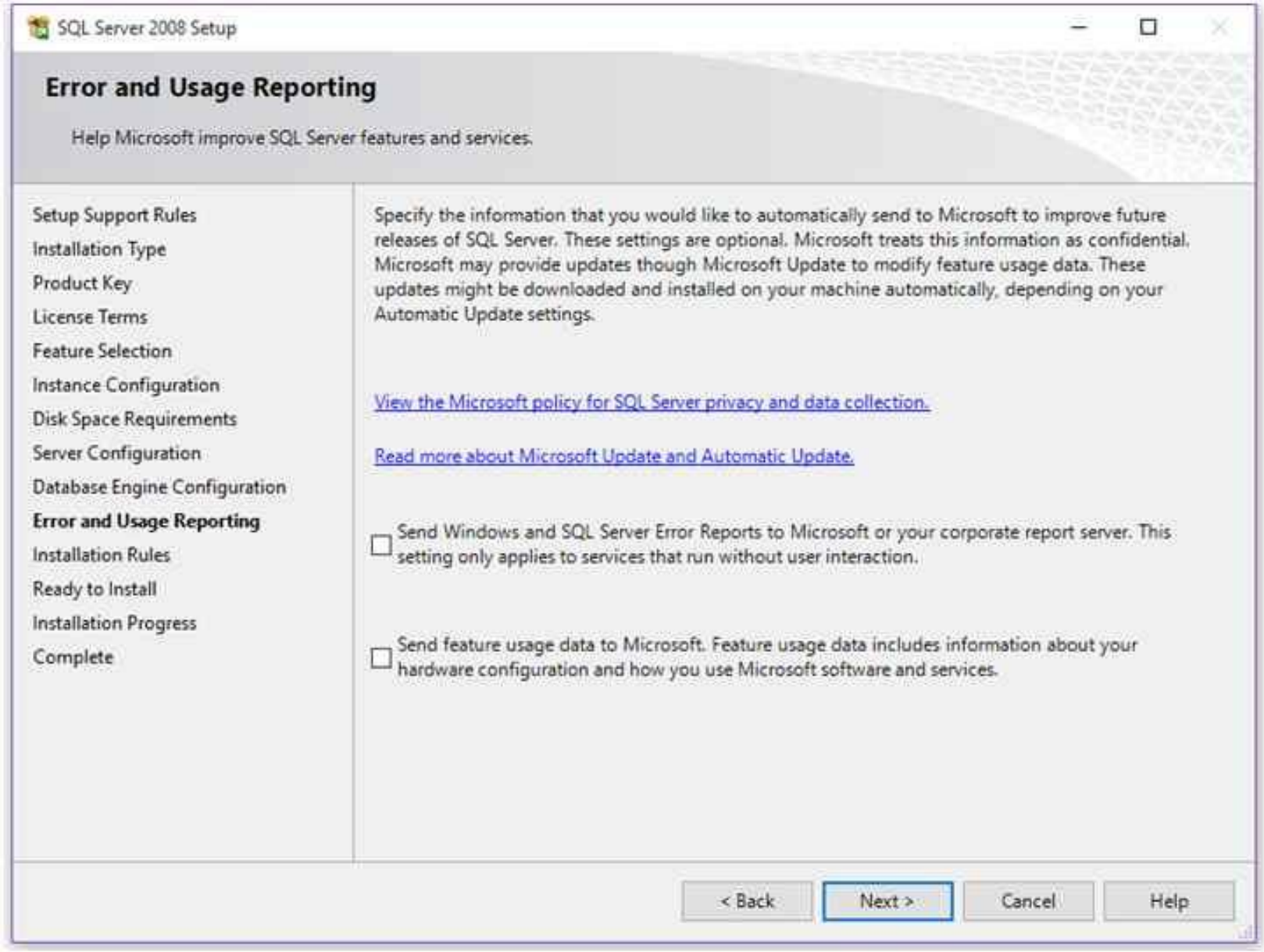
Data Directories:



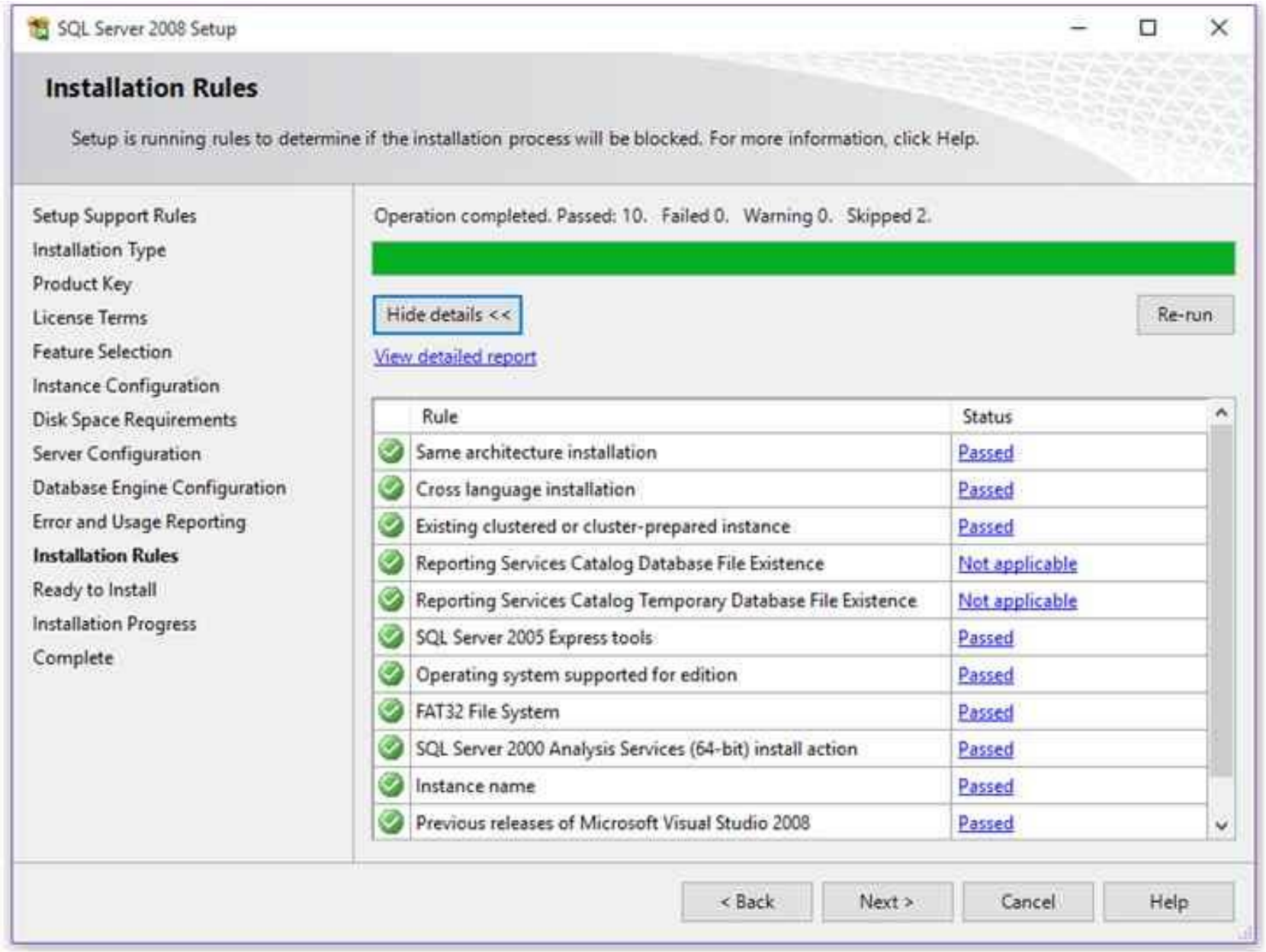
FileStream


SQL Server 2008 Setup
Database Engine Configuration
Specify Database Engine authentication security mode, administrators and data directories.
Setup Support Rules
Installation Type
Product Key
License Terms
Feature Selection
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error and Usage Reporting
Installation Rules
Ready to Install
Installation Progress
Complete
Account Provisioning
Data Directories
FILESTREAM
Enable FILESTREAM for Transact-SQL access
Enable FILESTREAM for file I/O streaming access
Windows share name:
MSSQLSERVER
Allow remote clients to have streaming access to FILESTREAM data
< Back
Next >
Cancel
Help

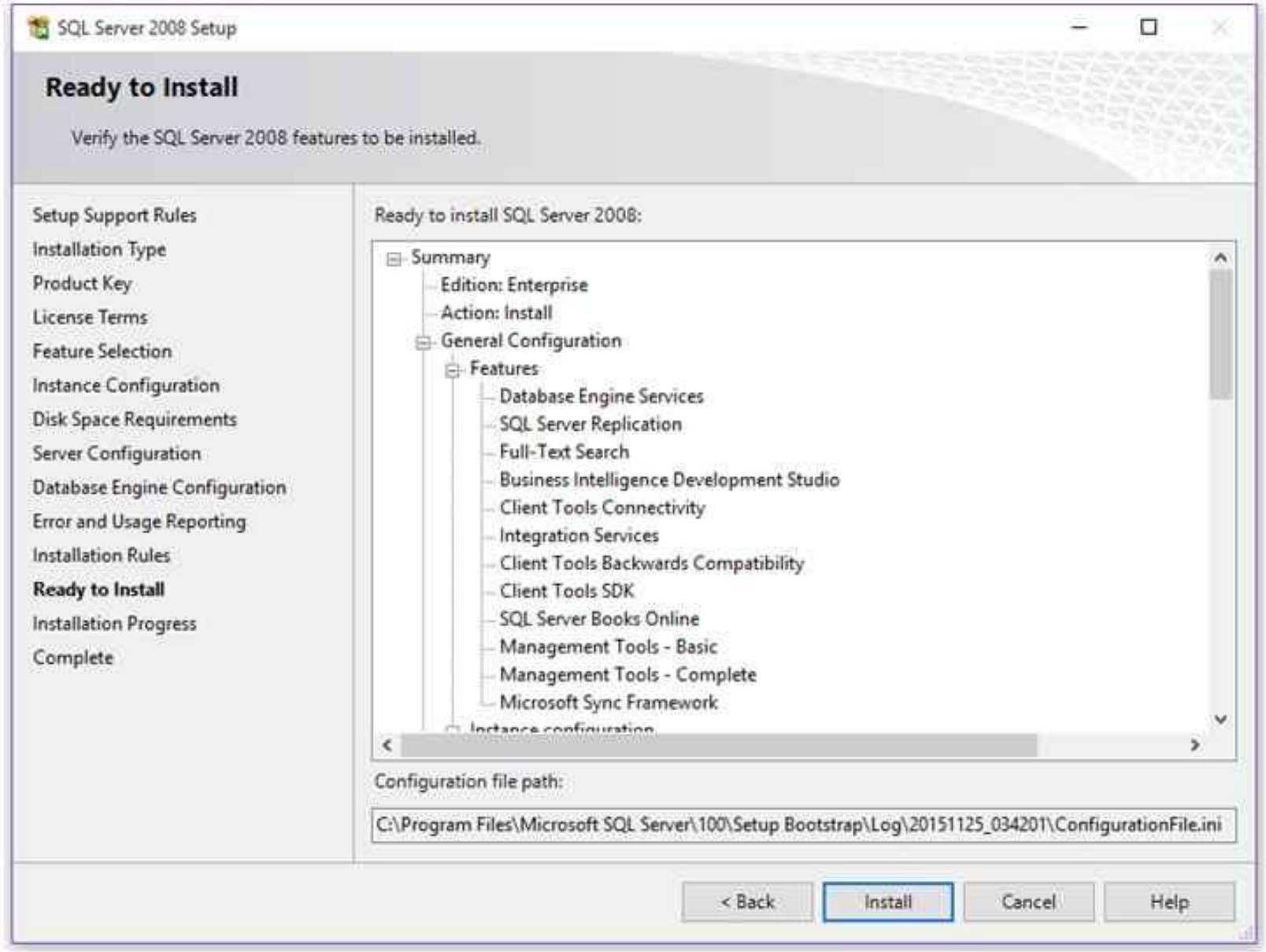
Step 14: Error and Usage Reporting

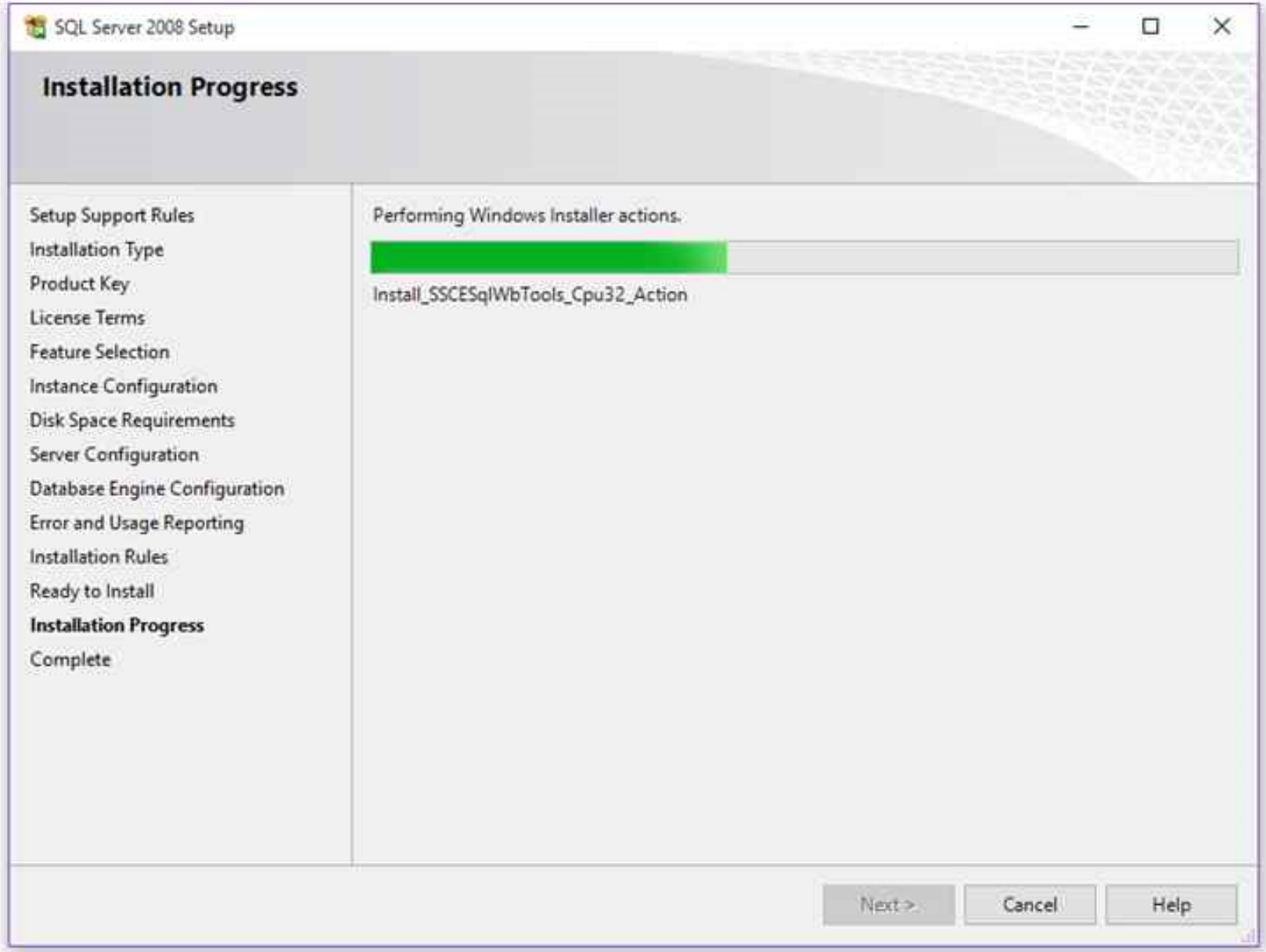


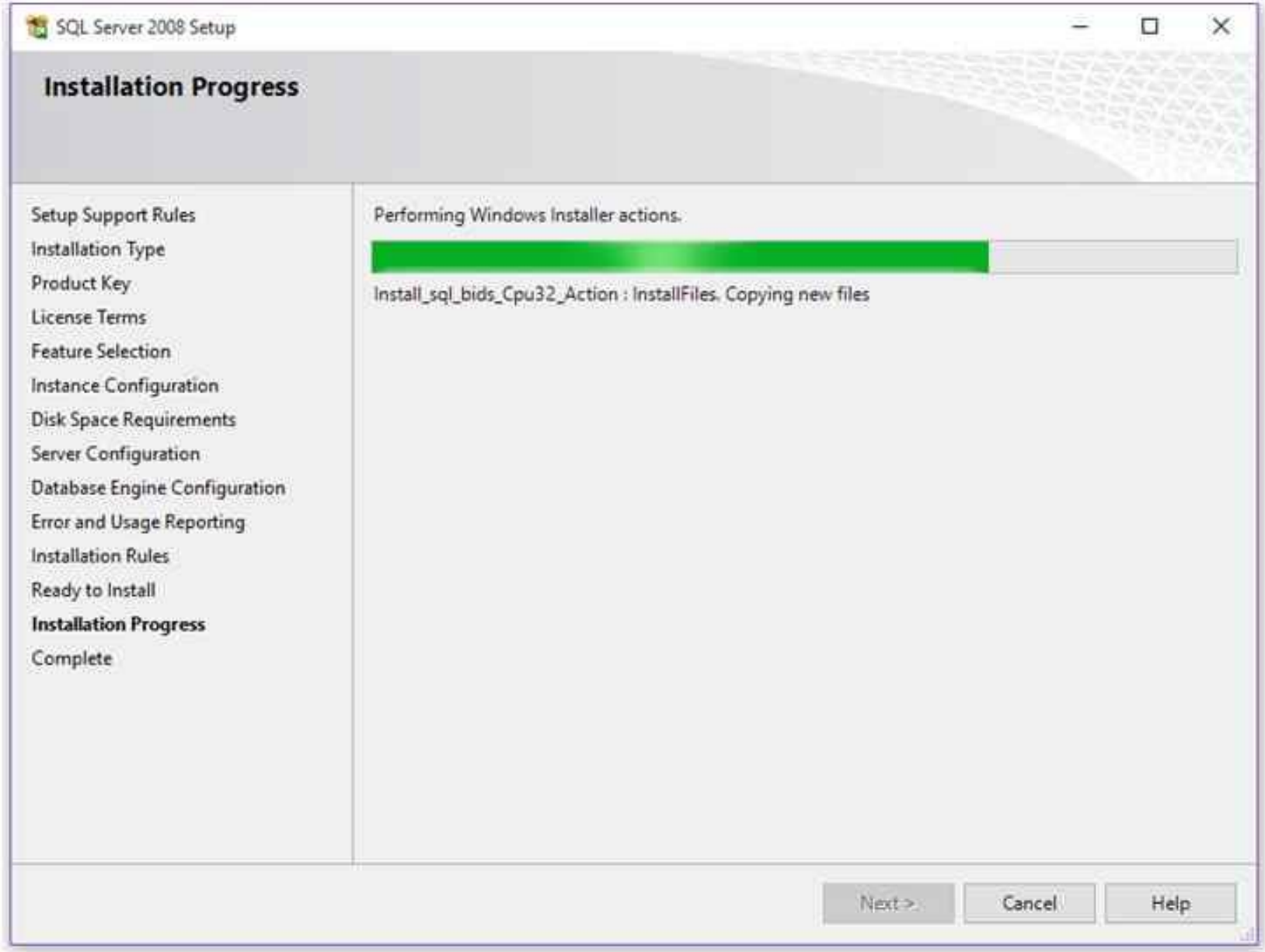
Step 15: Installation Rules

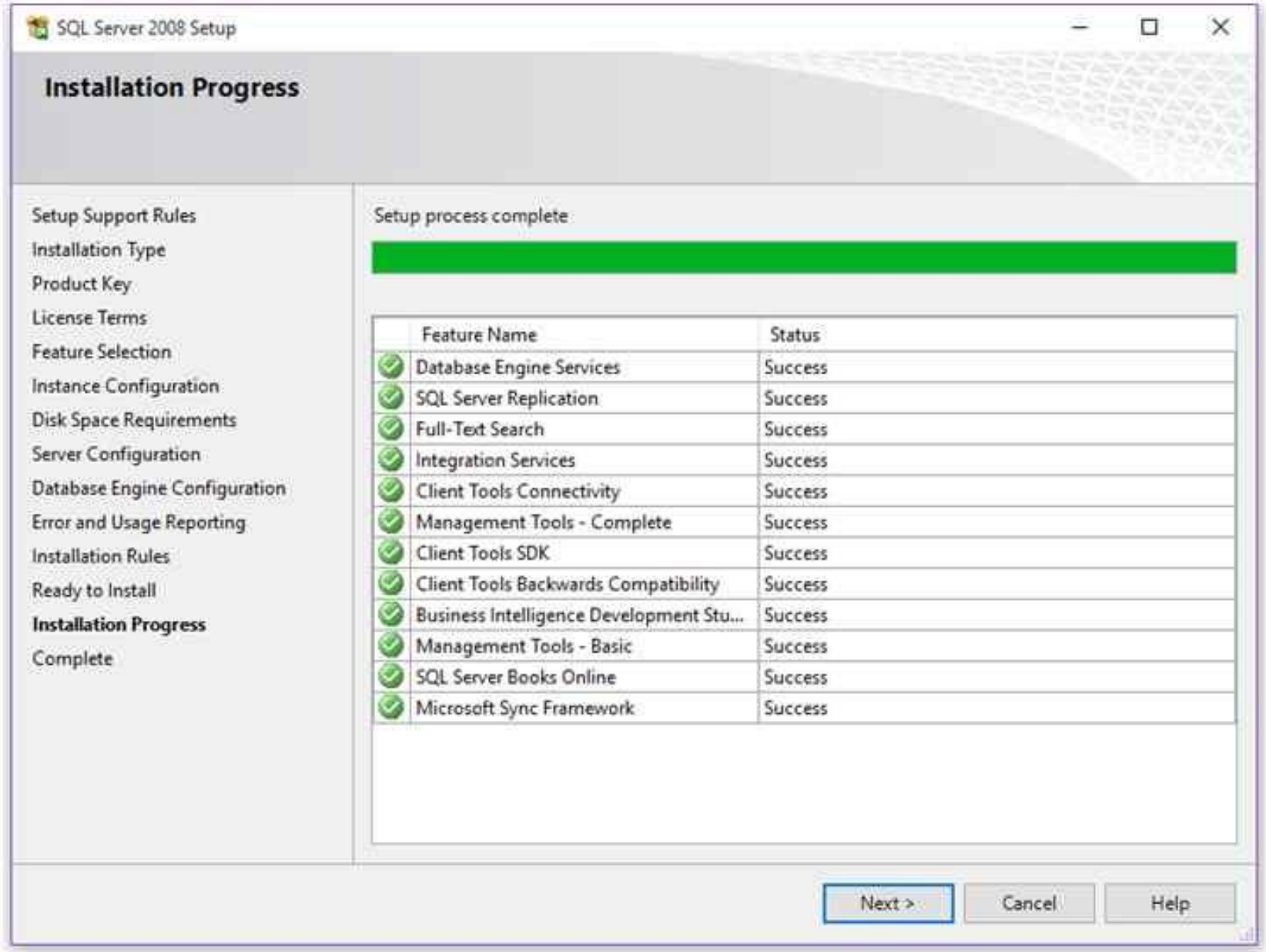


Step 16: Ready to Install

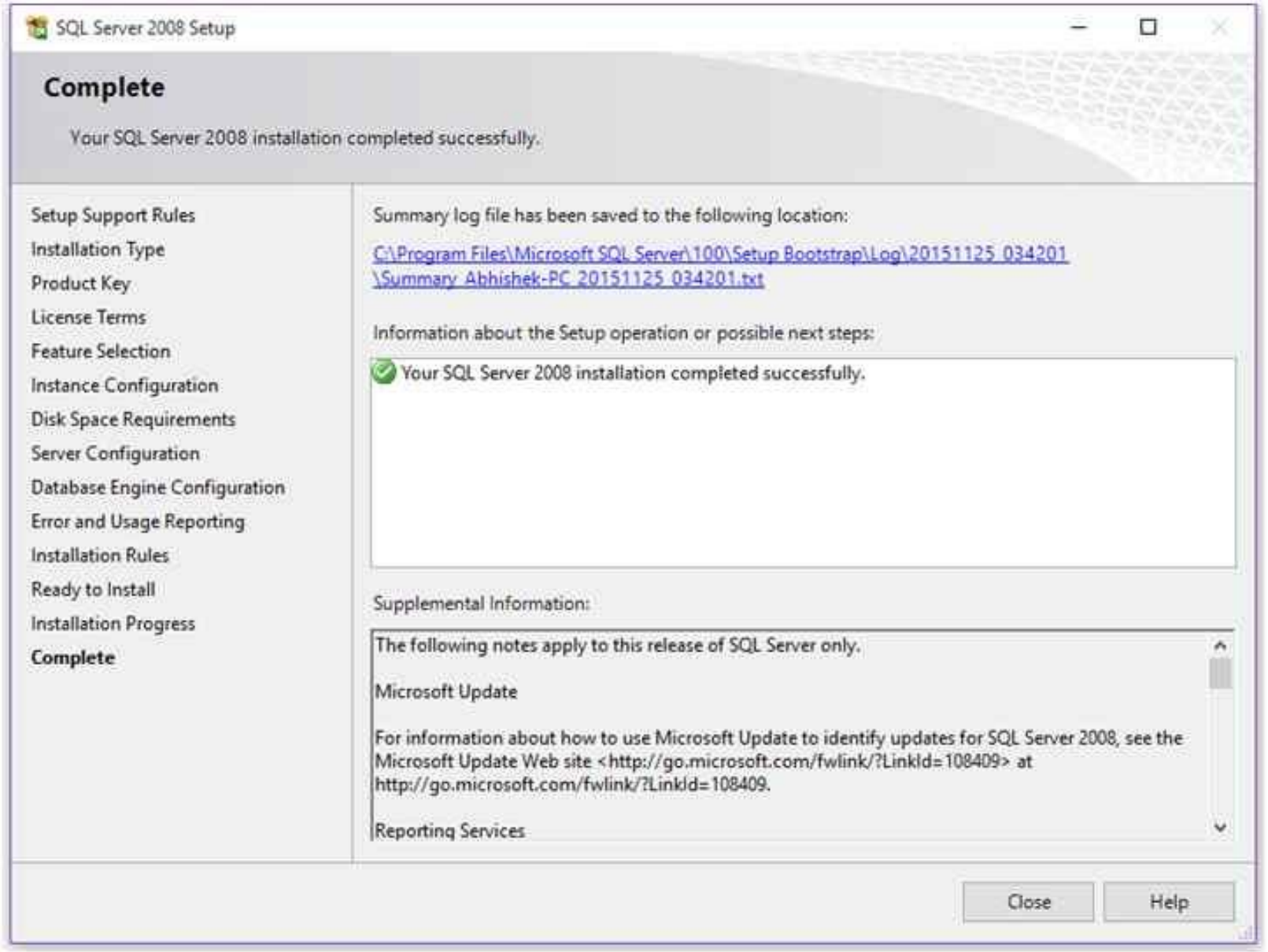



SQL Server 2008 Setup
Installation Progress
Setup Support Rules
Installation Type
Product Key
License Terms
Feature Selection
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error and Usage Reporting
Installation Rules
Ready to Install
Installation Progress
Complete
Performing Windows Installer actions.
Install_SSCESqlWbTools_Cpu32_Action
Next >
Cancel
Help

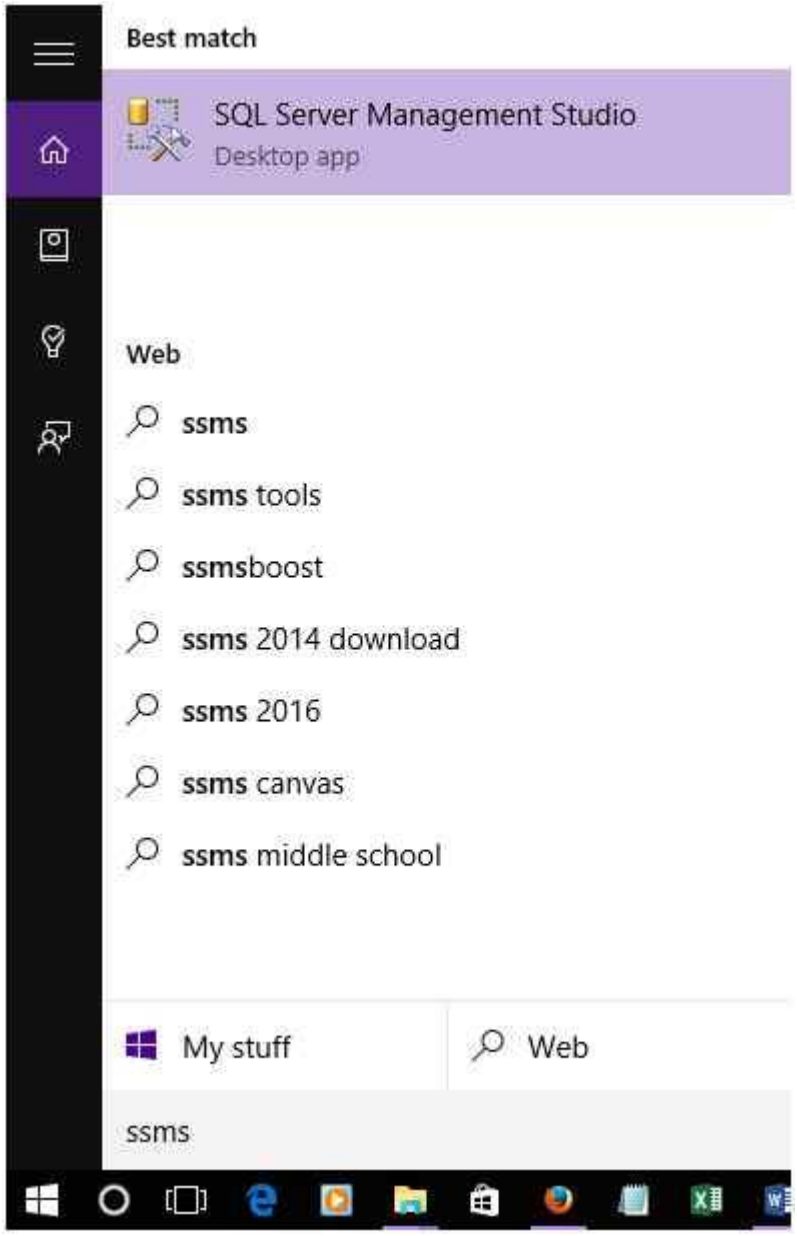

SQL Server 2008 Setup
Installation Progress
Setup Support Rules
Installation Type
Product Key
License Terms
Feature Selection
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error and Usage Reporting
Installation Rules
Ready to Install
Installation Progress
Complete
Performing Windows Installer actions.
Install_sql_bids_Cpu32_Action : InstallFiles. Copying new files
Next >
Cancel
Help


SQL Server 2008 Setup
Installation Progress
Setup Support Rules
Installation Type
Product Key
License Terms
Feature Selection
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error and Usage Reporting
Installation Rules
Ready to Install
Installation Progress
Complete
Setup process complete
Feature Name
Status
Database Engine Services
Success
SQL Server Replication
Success
Full-Text Search
Success
Integration Services
Success
Client Tools Connectivity
Success
Management Tools - Complete
Success
Client Tools SDK
Success
Client Tools Backwards Compatibility
Success
Business Intelligence Development Stu...
Success
Management Tools - Basic
Success
SQL Server Books Online
Success
Microsoft Sync Framework
Success
Next >
Cancel
Help

Step 17: Installation completed



Hit Start button and type SSMS as shown below and it'll open the **SQL Server Management Studio**.




Microsoft
Microsoft
SQL Server 2008
Management Studio

Connect to your default instance name by entering you SYSTEM name or by just putting DOT (.) in server name box as shown below.

Test server and have fun

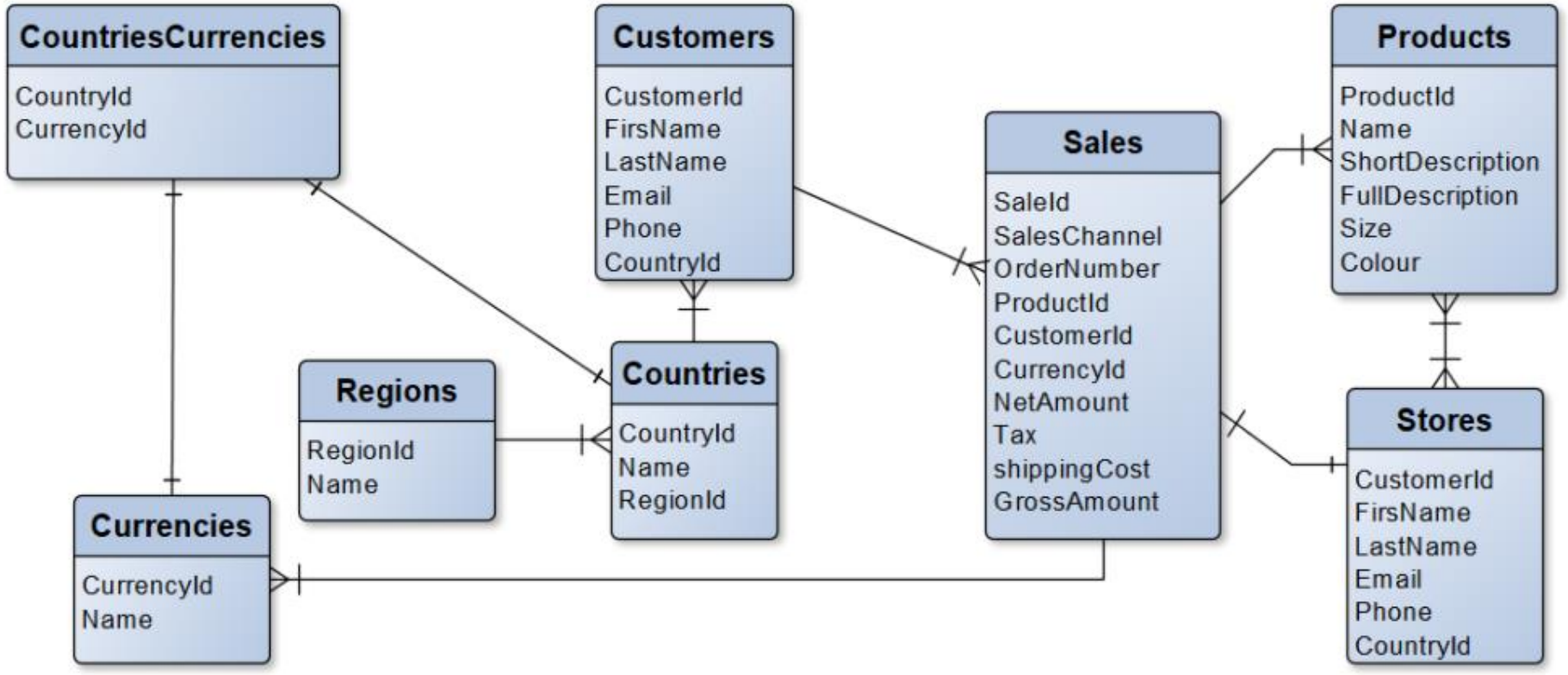
SQLQuery1.sql - A...PC\Abhishek (51))*

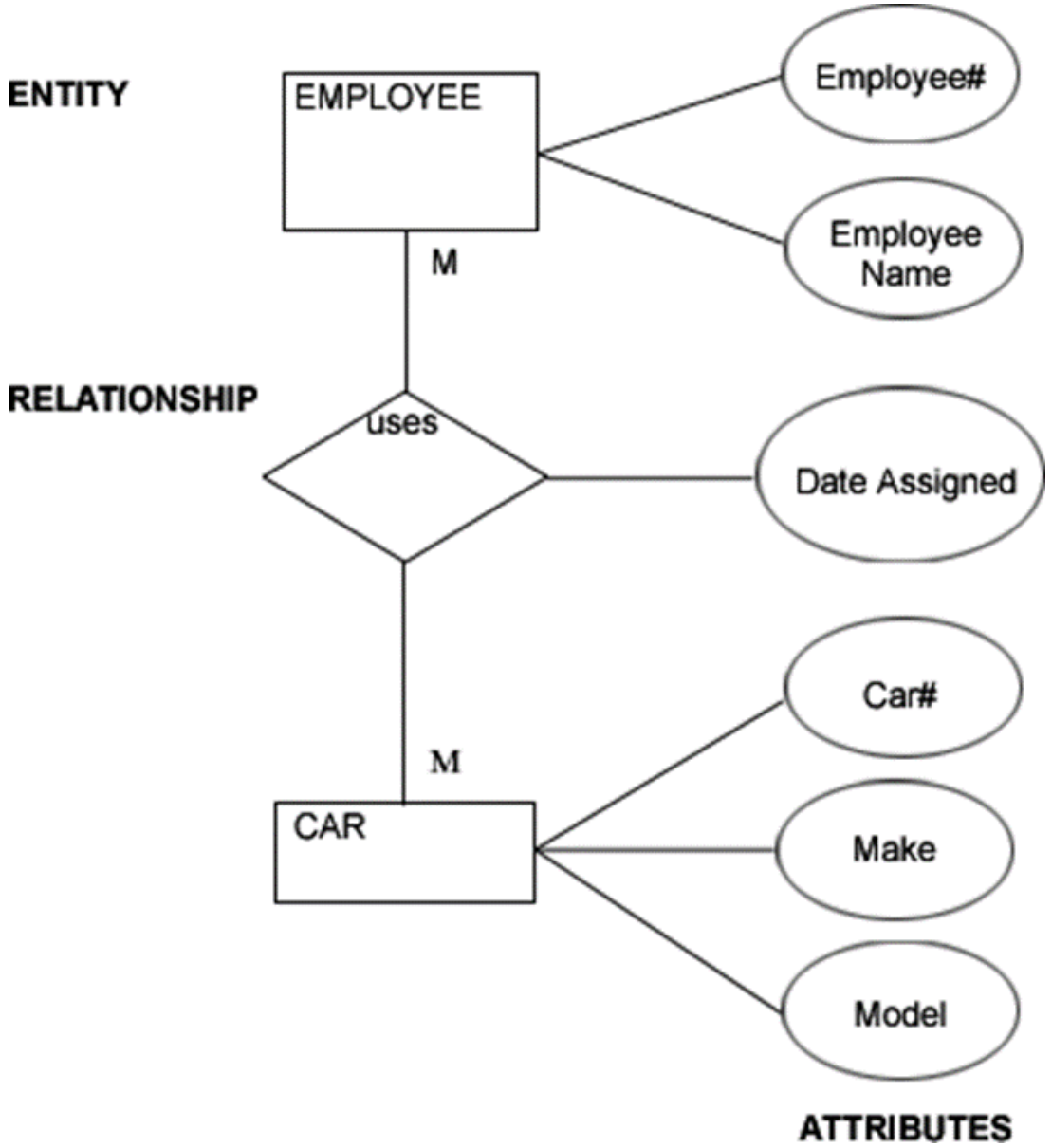
```
1  Select @@SERVERNAME
2  GO
3  print ' Hello World!!!!'
```

Results

```
-----------------------------------------------------------------------
ABHISHEK-PC

(1 row(s) affected)

 Hello World!!!!
```

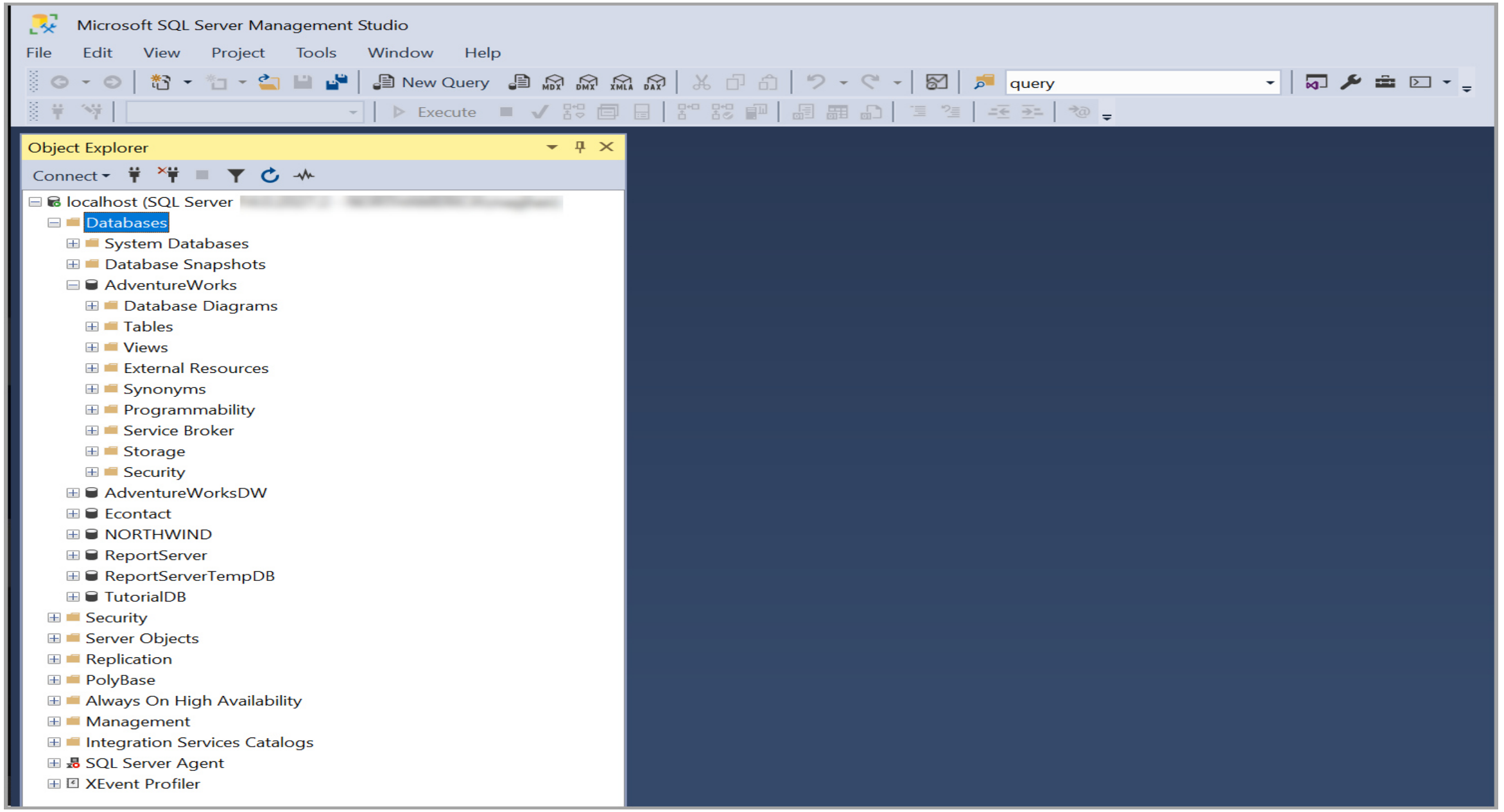
Designing DB




ENTITY
EMPLOYEE
Employee#
Employee Name
M
RELATIONSHIP
uses
Date Assigned
M
CAR
Car#
Make
Model
ATTRIBUTES

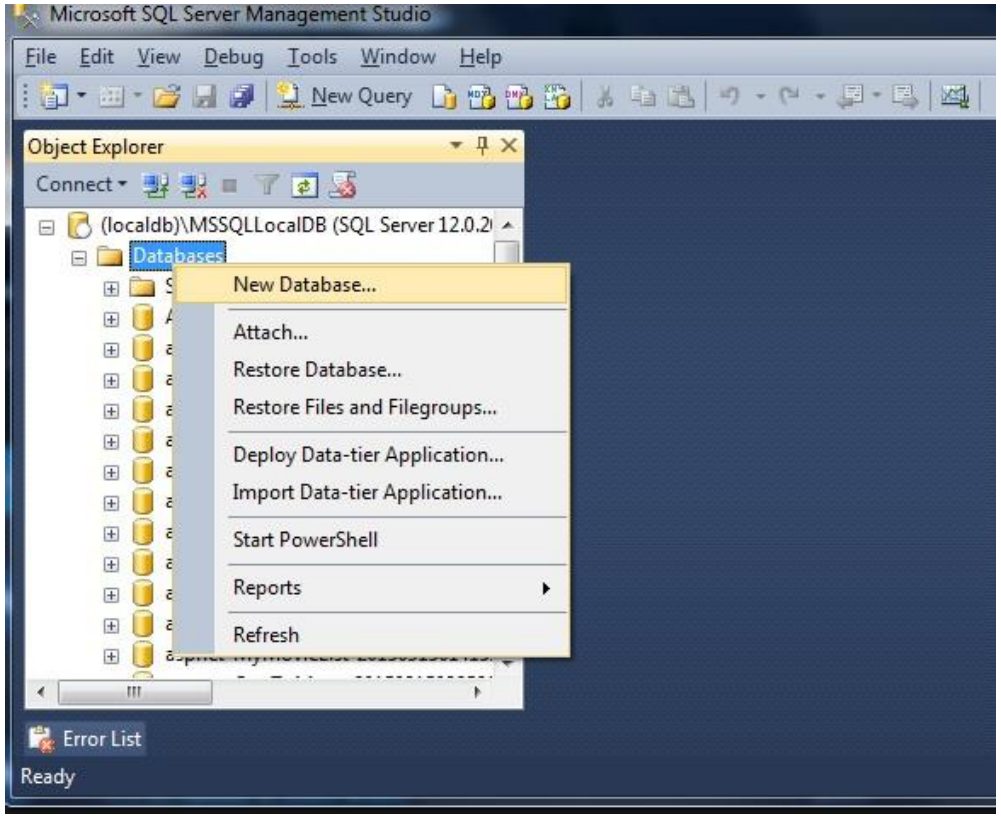
What is SSMS

- SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure. Use SSMS to access, configure, manage, administer, and develop all components of SQL Server, Azure SQL Database, and Azure Synapse Analytics.


Microsoft SQL Server Management Studio
File
Edit
View
Project
Tools
Window
Help
New Query
query
Execute
Object Explorer
Connect
localhost (SQL Server
Databases
System Databases
Database Snapshots
AdventureWorks
Database Diagrams
Tables
Views
External Resources
Synonyms
Programmability
Service Broker
Storage
Security
AdventureWorksDW
Econtact
NORTHWIND
ReportServer
ReportServerTempDB
TutorialDB
Security
Server Objects
Replication
PolyBase
Always On High Availability
Management
Integration Services Catalogs
SQL Server Agent
XEvent Profiler

Create Database

Using SSMS



Using Script

```
Create Database mydb;
Create Table mydb.dbo.Customers
(
ID int,
FirstName varchar(255),
LastName varchar(255),
);
```

100 %

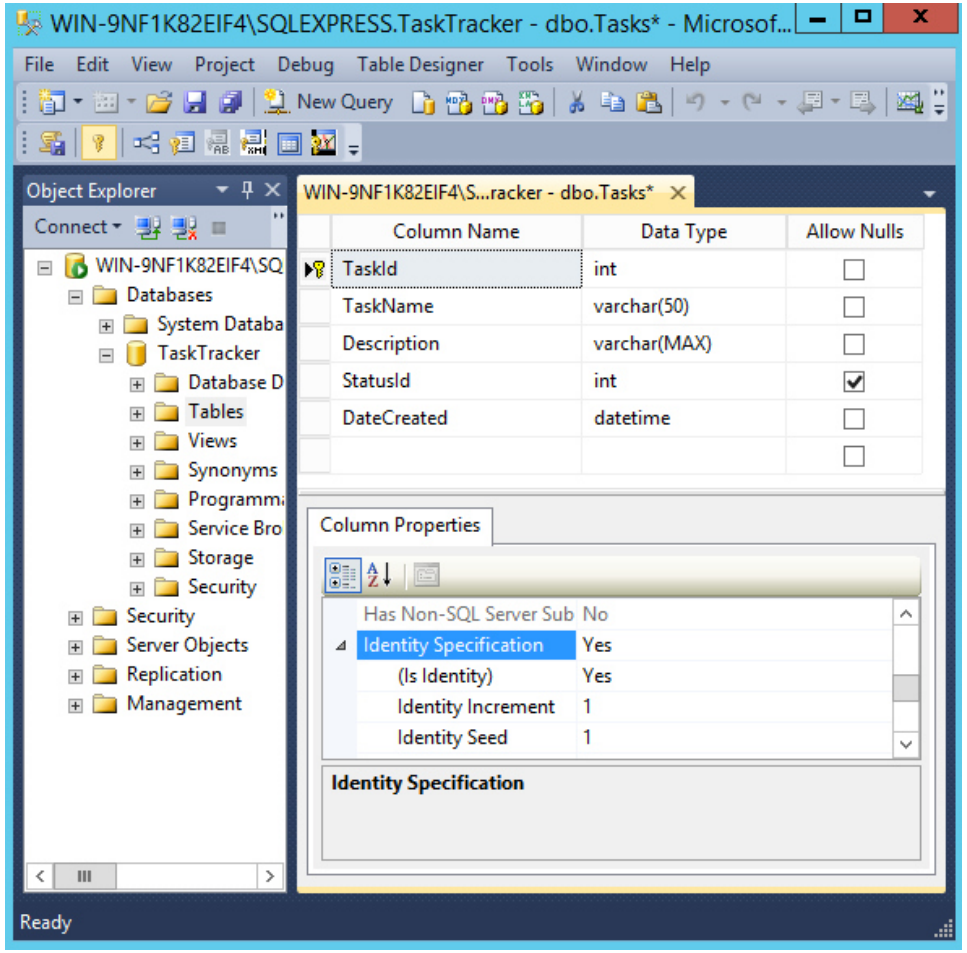
Create tables

Using Script

```
DROP TABLE IF EXISTS Grade3Students
CREATE TABLE Grade3Students
(
StudentId int,
FirstName varchar(20) NOT NULL,
LastName varchar(20) NOT NULL,
DateOfBirth date NOT NULL,
Address varchar(30) NULL,
PhoneNumber nvarchar(10) NULL,
DepartmentId int NOT NULL
)
```

```
0 %
Messages
Commands completed successfully.
```

Using SSMS



Indeceis

Using Script

Index.sql - PIN...rks (dev (56))*

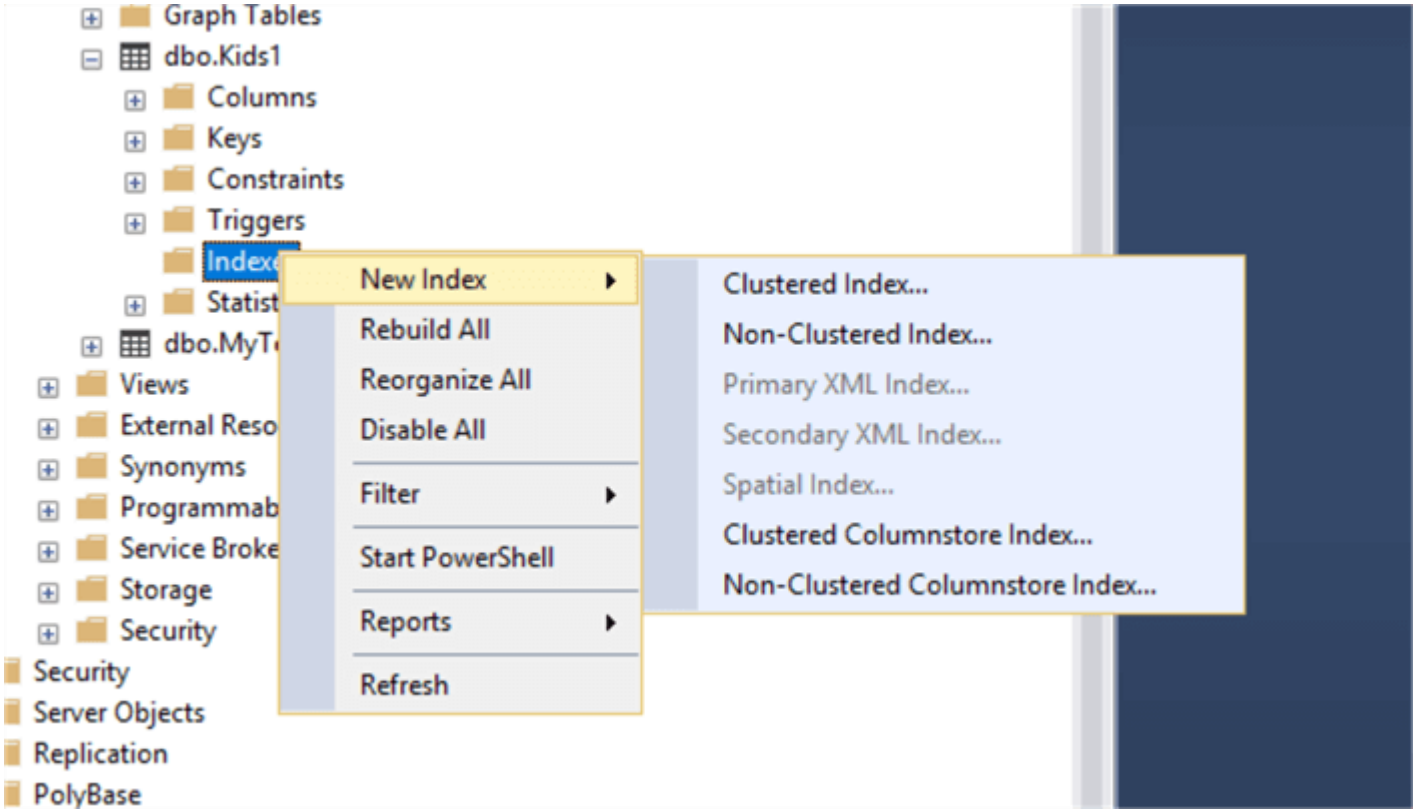
```
SELECT he.EmployeeID,he.LoginID,he.Title
FROM HumanResources.Employee he
WHERE he.Title = 'Marketing Manager'

CREATE NONCLUSTERED INDEX NCI_Department
ON HumanResources.Employee(EmployeeID)
WHERE Title= 'Marketing Manager'

SELECT he.EmployeeID,he.LoginID,he.Title
FROM HumanResources.Employee he
WHERE he.Title = 'Marketing Manager'
```

Results | Messages | Execution plan

	EmployeeID	LoginID	Title
1	6	adventure-works\david0	Marketing Manager

	EmployeeID	LoginID	Title
1	6	adventure-works\david0	Marketing Manager

Using SSMS



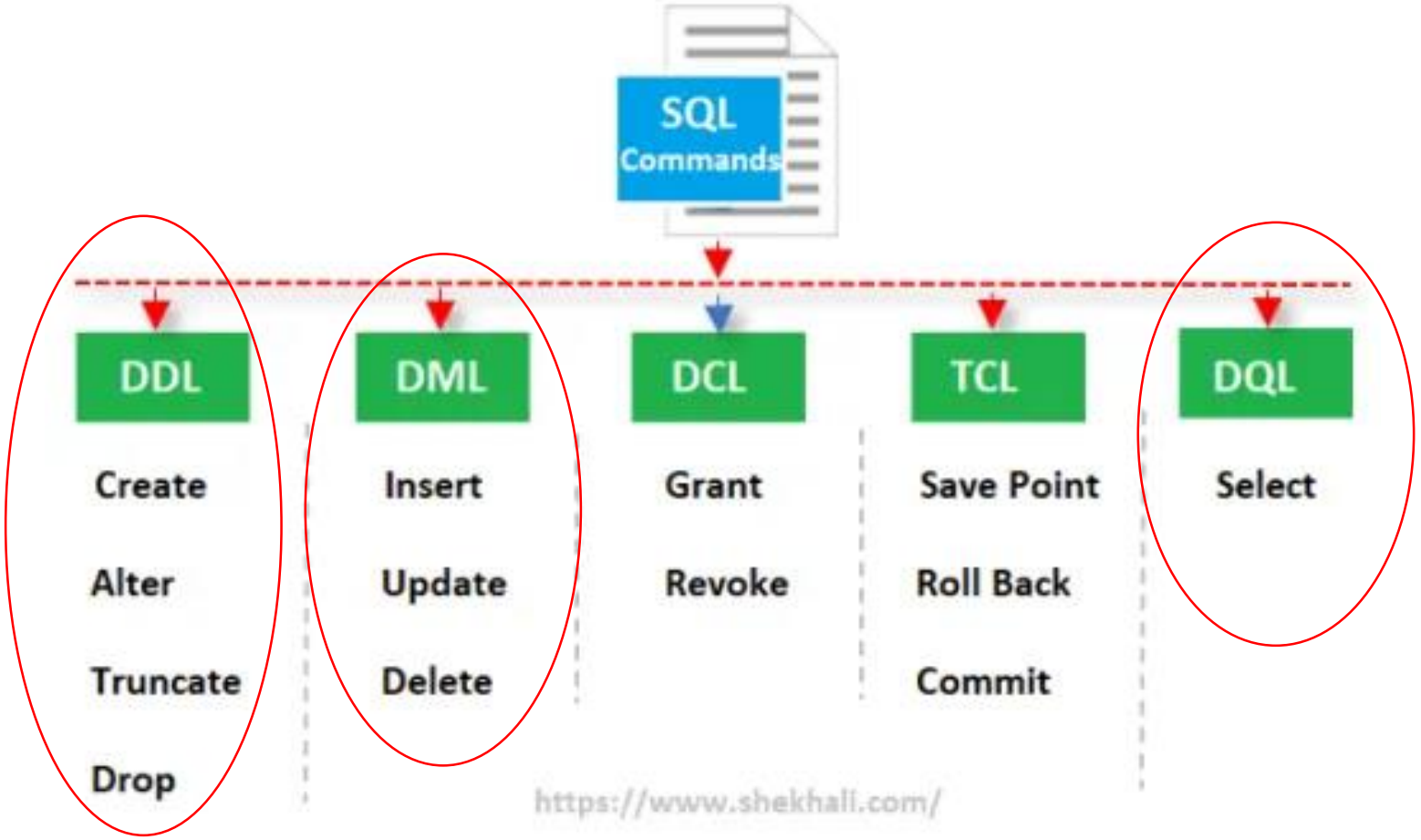
Day 3

Agenda

- **Retrieving and Manipulating Data**
  - **Data manipulation**
  - **Data Retrieval**
  - **Advanced data retrieval**

Data Manipulation

Data Manipulation



DQL (Data Retrieval)

Select statement

SQLQuery4.sql - L...p1\Jeremyk (57))* | SQLQuery3.sql - L...p1\Jeremyk (54))* | SQLQuery1.sql - L...p1\Jeremyk (52))*

```
SELECT CustomerID,
       FirstName,
       LastName,
       PhoneNumber,
       EmailAddress,
       Priority,
       CreateDate
FROM dbo.Customer;
GO
```

Results | Messages

	CustomerID	FirstName	LastName	PhoneNumber	EmailAddress	Priority	CreateDate
1	1	Jonah	Hook	777-777-7777	jonah@neverdull.com	1	2011-09-01 00:00:00.000
2	2	Ethan	Monkey	111-111-1111	ethan@banana.com	1	2011-09-15 08:18:27.940
3	3	Lindy	Landlover	222-222-2222	NULL	1	2011-09-02 00:00:00.000

Distinct and Top

SQLQuery1.sql - KA...-LAPTOP\Kris (52))*

```
SELECT   DISTINCT FirstName,
         LastName
FROM     Person.Person
ORDER BY LastName
```

100 %

Results | Messages

	FirstName	LastName
1	Syed	Abbas
2	Catherine	Abel
3	Kim	Abercrombie
4	Hazem	Abolrous
5	Sam	Abolrous
6	Humberto	Acevedo
7	Gustavo	Achong
8	Pilar	Ackerman
9	Aaron	Adams
10	Adam	Adams
11	Alex	Adams
12	Alexandra	Adams
13	Allison	Adams

SQLQuery1.sql - Q2...ROD\BPetrovi (53))*

```
1  CREATE VIEW vTop3SalesByQuantity
2  AS
3      SELECT TOP 3 --will only return first 3 records from query
4      Sales.ProductID,
5      Name AS ProductName,
6      SUM(Sales.Quantity) AS TotalQuantity
7      FROM Sales
8           JOIN Products ON Sales.ProductID = Products.ProductID
9      GROUP BY Sales.ProductID,
10              Name
11     ORDER BY SUM(Sales.Quantity) DESC;
```

100 %

Results | Messages

	ProductID	ProductName	TotalQuantity
1	1	Long-Sleeve Logo Jersey, S	4
2	3	Long-Sleeve Logo Jersey, L	3
3	2	Long-Sleeve Logo Jersey, M	3

Using naming

```
3   SELECT TOP 3 --will only return first 3 records from query
4   Sales.ProductID,
5   Name AS ProductName,
6   SUM(Sales.Quantity) AS TotalQuantity
7   FROM Sales
8       JOIN Products ON Sales.ProductID = Products.ProductID
9   GROUP BY Sales.ProductID,
10          Name
11  ORDER BY SUM(Sales.Quantity) DESC;
```

100 %

Results | Messages

	ProductID	ProductName	TotalQuantity
1	1	Long-Sleeve Logo Jersey, S	4
2	3	Long-Sleeve Logo Jersey, L	3
3	2	Long-Sleeve Logo Jersey, M	3

Select , where and order by

```
-- SQL Server WHERE Example
USE [SQL Tutorial]
GO
SELECT [EmpID]
      ,[FirstName]
      ,[LastName]
      ,[Education]
      ,[Occupation]
      ,[YearlyIncome]
      ,[Sales]
  FROM [Customer]
  WHERE [YearlyIncome] >= (SELECT AVG([YearlyIncome])
                           FROM [Customer])
  ORDER BY  [YearlyIncome] DESC
```

100 %

tutorialgateway.org

Results | Messages

	EmpID	FirstName	LastName	Education	Occupation	YearlyIncome	Sales
1	15	Tutorial	Gateway	Masters Degree	Management	125000	1290
2	11	Gail	Erickson	Education	Professional	90000	4319.99
3	1	John	Yang	Bachelors	Professional	90000	3578.27
4	2	Rob	Johnson	Bachelors	Management	80000	3399.99
5	4	Christy	Zhu	Bachelors	Professional	80000	3078.27
6	7	John	Miller	Masters Degree	Management	80000	2320.49
7	12	Barry	Johnson	Education	Management	80000	4968.59

Query executed successfully. | PRASAD (12.0 SP1) | PRASAD\suresh (52) | SQL Tutorial | 00:00:00 | 7 rows

Group by and Having

```
-- SQL Server Group By Example
USE [SQL Tutorial]
GO
SELECT [Occupation],
    Education,
    SUM(YearlyIncome) AS [Total Income],
    SUM(Sales) AS [Total Sales]
FROM [Customer]
WHERE [Education] <> 'Partial High School'
GROUP BY Occupation, Education
HAVING SUM([YearlyIncome]) > 60000
ORDER BY Occupation, Education
```

100 %

tutorialgateway.org

Results | Messages

	Occupation	Education	Total Income	Total Sales
1	Management	Bachelors	80000	3399.99
2	Management	Education	80000	4968.59
3	Management	Graduate Degree	70000	2234.99
4	Management	Masters Degree	205000	3610.49
5	Professional	Bachelors	240000	7196.53
6	Professional	Education	90000	4319.99

Query executed successfully. | PRASAD (12.0 SP1) | PRASAD\suresh (52) | SQL Tutorial | 00:00:00 | 6 rows

Sum and Average functions

```
1
2  SELECT  [name]
3        ,sum([Sales]) as 'Total Sales', avg([Sales]) as 'Average Sales'
4        ,sum([Bonus]) as 'Total Bonus', Avg([Bonus]) as 'Average Bonus'
5    FROM [Data_Lab].[dbo].[tblSales]
6    group by name
```

100 %

Results | Messages

	name	Total Sales	Average Sales	Total Bonus	Average Bonus
1	Canada	500000.00	250000.000000	5000.00	5000.000000
2	Central	NULL	NULL	2500.00	2500.000000
3	Northeast	300000.00	300000.000000	4100.00	4100.000000
4	Northwest	550000.00	275000.000000	8500.00	4250.000000
5	Southeast	300000.00	300000.000000	6700.00	6700.000000
6	Southwest	500000.00	250000.000000	2000.00	2000.000000

Into Clause

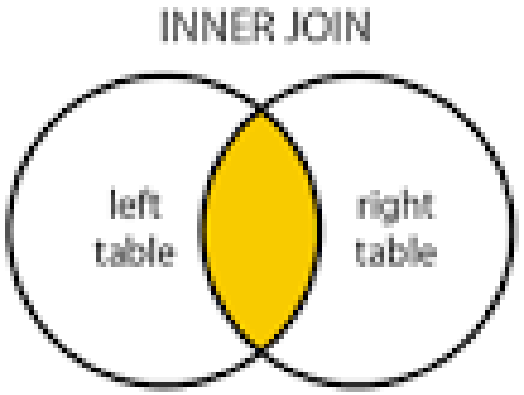
```
SELECT [FirstName]
      ,[LastName]
      ,[DepartID]
  INTO [SQL Server Tutorials].[dbo].[Employee]
  FROM [SQLTEST].[dbo].[Employee]
  WHERE [DepartID] = 1
```

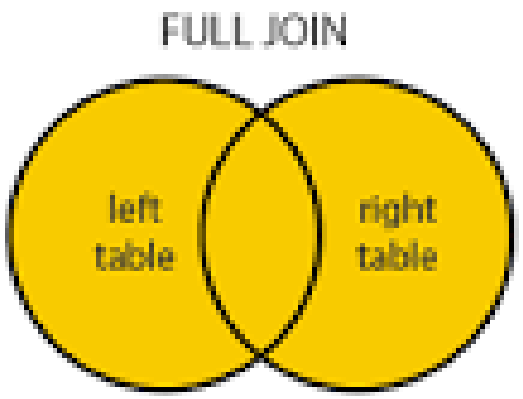
100 %

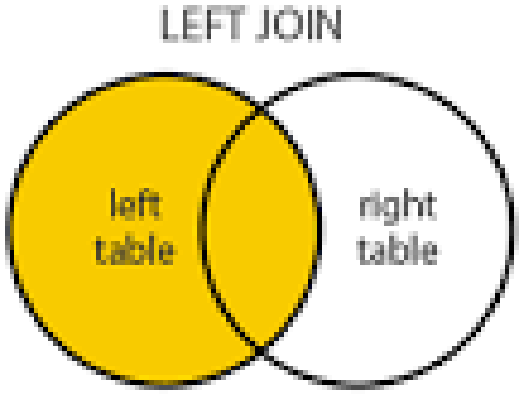
Messages

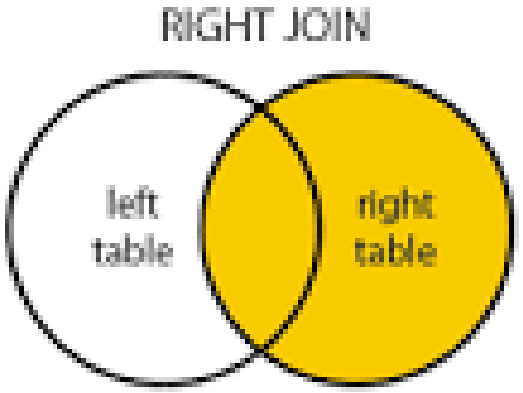
(4 row(s) affected)

UNION and JOIN









DQL (Advanced Data Retrieval)

General Functions in SQL server

Date and Time functions

Return Date and time Parts	• Getdate() • Day(@date), Month(@date), Year(@date) • Datepart(datepart,@date)
Construct date and time	• Format(@date,'dd/mm/yyyy') • Convert(smalldatetime,@date,113)
Validate	• IsDate(@date)
Modify	• DateAdd(datepart, number, @date1,) • Datediff(datepart, @startdate,@enddate)

Trim, Ltrim and Rtrim

```
DECLARE @i VARCHAR(50)
SET @i = 'Tutorial Gateway      '

SELECT RTRIM(@i) AS Result;

SELECT RTRIM('Welcome to T-SQL          ') AS Result;

SELECT RTRIM('      SQL Server Tutorials at Tutorial Gateway
```

100 %

Results | Messages

	Result
1	Tutorial Gateway

©tutorialgateway.org

	Result
1	Welcome to T-SQL

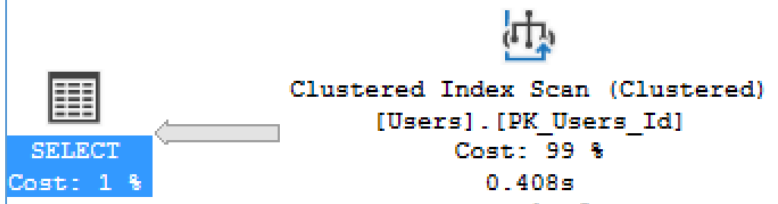
	Result
1	SQL Server Tutorials at Tutorial Gateway

```
SELECT *
  FROM dbo.Users
  WHERE LTRIM(RTRIM(DisplayName)) = 'Brent Ozar';
GO
```

50 %

Results | Messages | Execution plan

```
Query 1: Query cost (relative to the batch): 100%
SELECT * FROM dbo.Users WHERE LTRIM(RTRIM(DisplayName)) = 'Brent Ozar'
```



LEN Function

```
SELECT LEN('Hello  '),
       LEN('Hello');
SELECT SDU_Tools.StringLength('Hello   '),
       SDU_Tools.StringLength('Hello');
```

100 %

Results | Messages

	(No column name)	(No column name)
1	5	5

	(No column name)	(No column name)
1	8	5

LEF and RIGHT Function

```
1
2  SELECT LEFT('abcedf',3) as leftResult;
3  SELECT RIGHT('abcedf',3) as rightResult;
```

100 %

结果 消息

	leftResult
1	abc

	rightResult
1	edf

```
select substring('hello world', 1, 5)
select substring('hello world', -2, 5)
```

100 %

Results Messages

	(No column name)
1	hello

	(No column name)
1	he

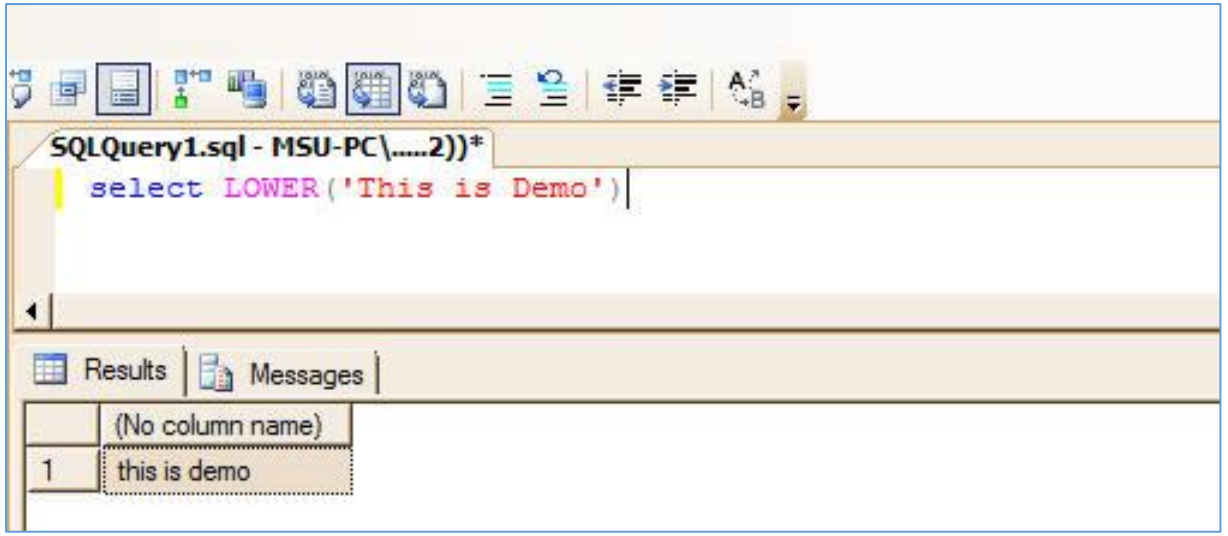
Upper and Lower Function

```
Select UPPER('SQL Server'),lower('SQL Server')
```

100 %

Results | Messages

	(No column name)	(No column name)
1	SQL SERVER	sql server



ASCII, CHAR, NCHAR, UNICODE

ASCII	The **ASCII**() **function** accepts a character expression and returns the **ASCII** code value of the leftmost character of the character expression
CHAR	**CHAR**() **function** converts an int ASCII code to **a character** value.
NCHAR	This **function in SQL Server** is used to return the Unicode character that is based on the number code. For **example**, if the specified number is 65 then this **function** will return A.
UNICODE	The SQL **UNICODE** is one of the SQL String **Function**, which is used to return an integer value, as defined in **Unicode** standards.

DML (Insert, Update , Delete)

Insert

SQLQuery1.sql - TE...(TEAM\Suree (52))*

```
8          DEPARTMENT VARCHAR (25),
9          PRIMARY KEY (WORKER_ID),
10 ); */
11 INSERT INTO WORKER (FIRST_NAME, LAST_NAME, SALARY, JOINING_DATE, DEPARTMENT)
12 VALUES ( 'Monika', 'Arora', 100000, '14-02-20 09.00.00', 'HR');
13
14
```

100 %

Bulk Insert

```
BULK
INSERT Employee
FROM 'F:\\MyPublis\\TestToInsert.txt' --location with filename
WITH
(
FIELDTERMINATOR = ',',
ROWTERMINATOR = '\n'
)
GO
SELECT *FROM Employee
```

Results | Messages

	Id	Name	Designation
1	1	Arvind	Software developer
2	2	Mans	Developer
3	3	Risha	Developer
4	4	John	Tester
5	5	Vivek	Tester
6	6	Atul	Junior Developer

Update

Object Explorer | SQLQuery1.sql - W...DOWS2\admin (56))

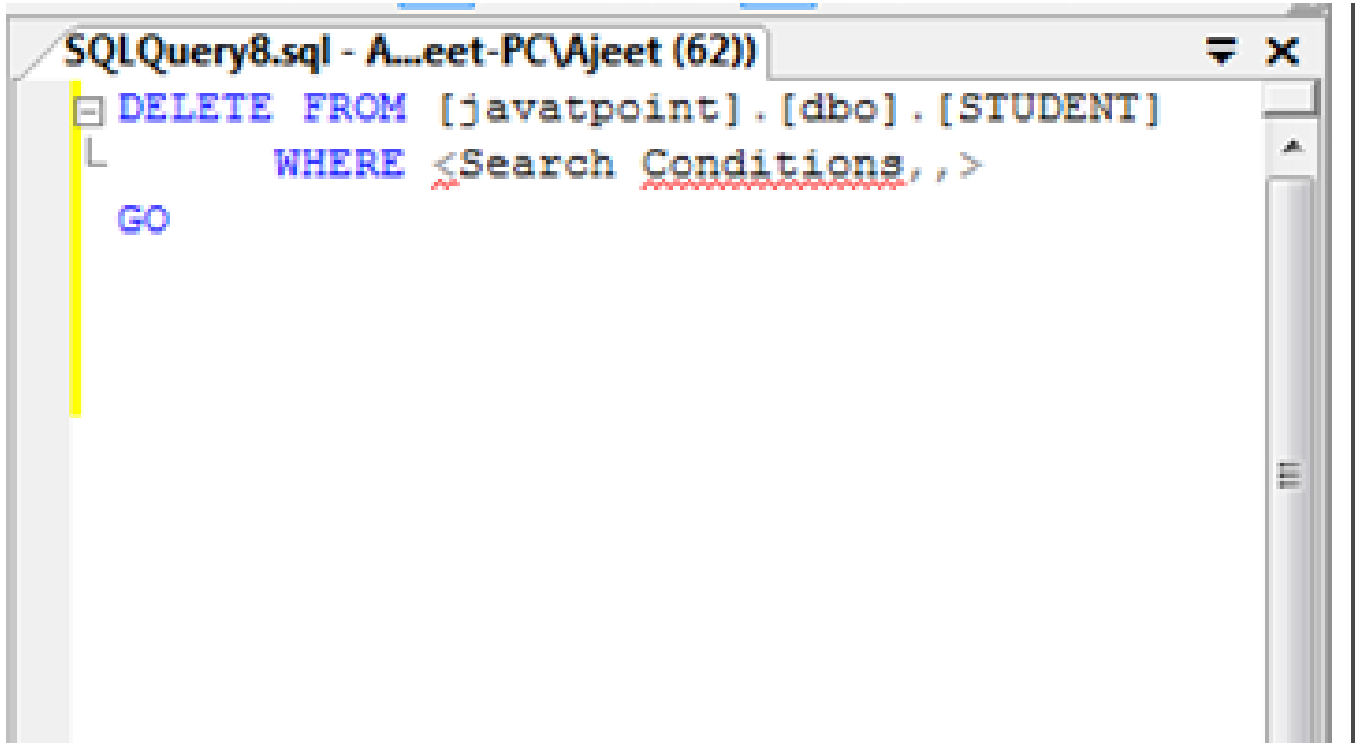
```
UPDATE schoolold
SET studentname = schoolnew.studentname,
class = schoolnew.class
FROM schoolold
INNER JOIN schoolnew ON schoolold.studentid = schoolnew.studentid
WHERE schoolold.studentid IN (3, 4)
GO

SELECT * FROM schoolold
```

100 %

Results | Messages

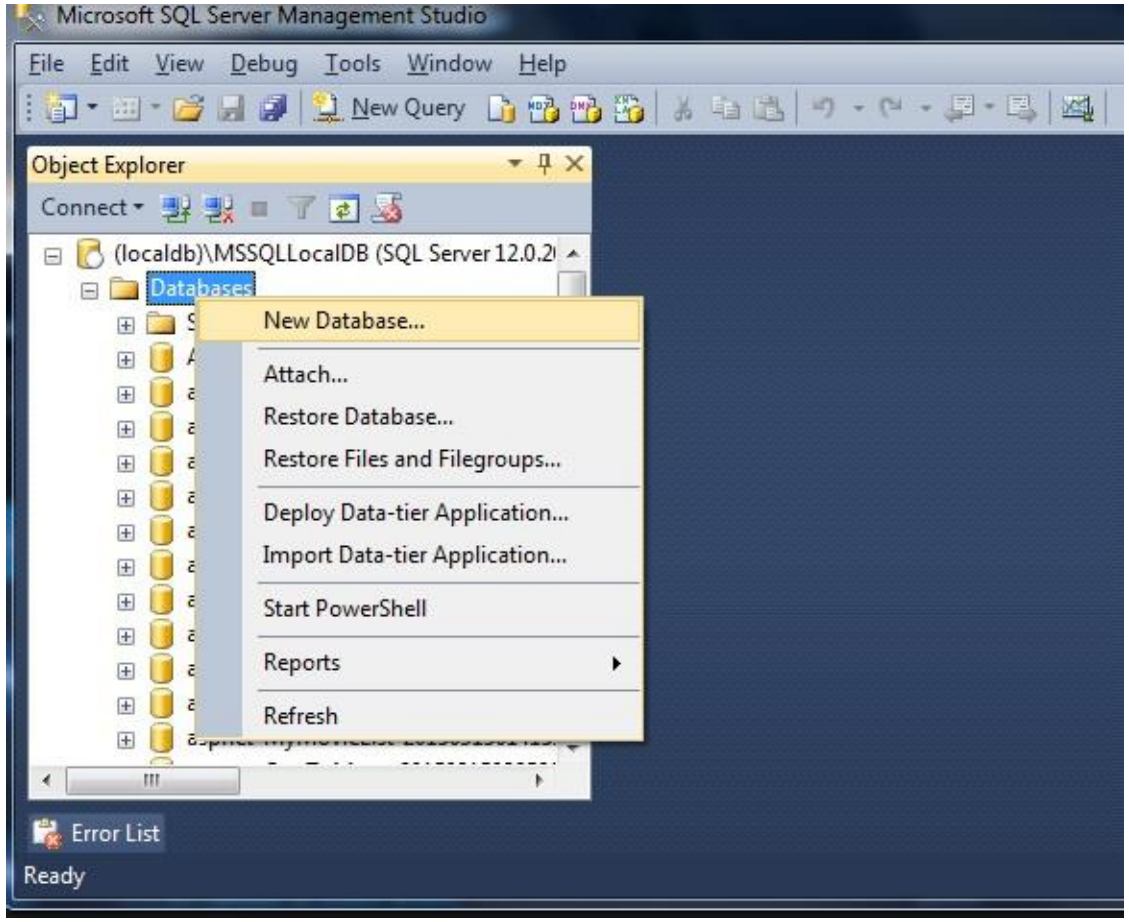
	studentid	studentname	class
1	1	James	one
2	2	peter	two
3	3	mike	third
4	4	john	fourth

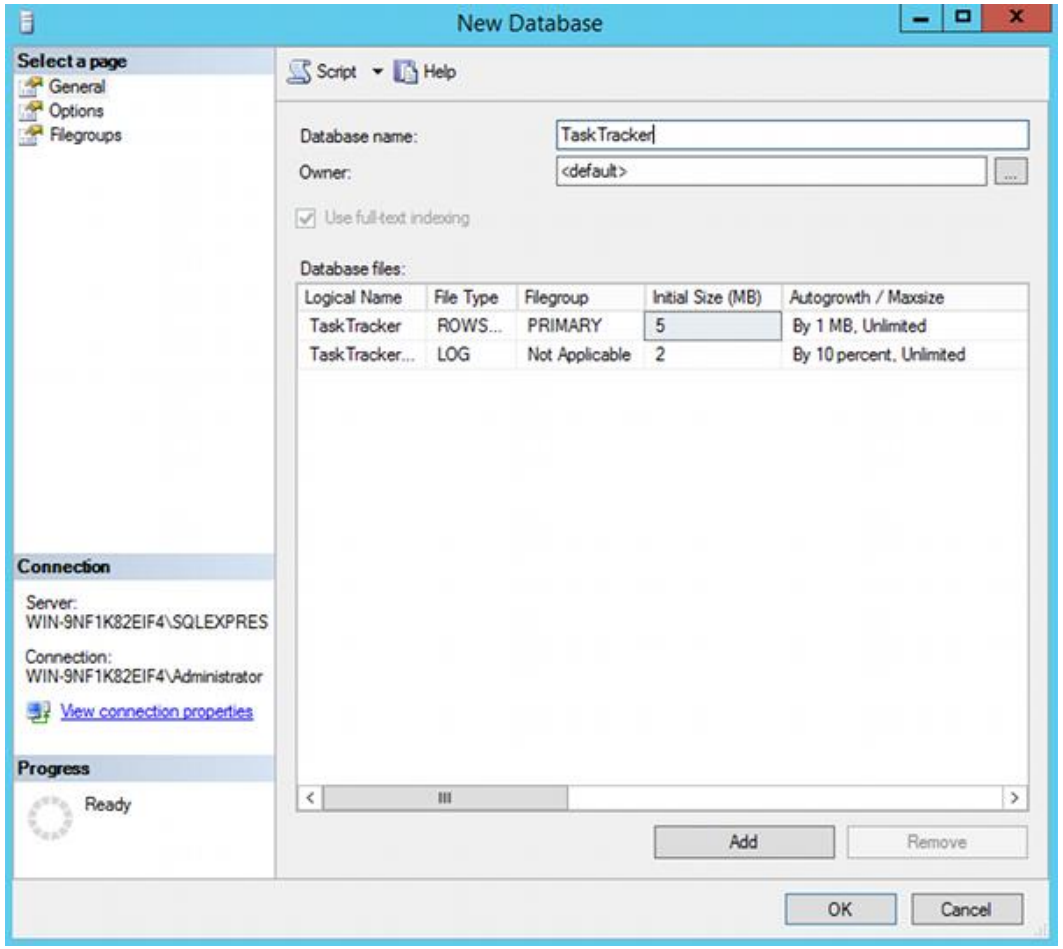
Delete


SQLQuery8.sql - A...eet-PC\Ajeet (62))
DELETE FROM [javatpoint].[dbo].[STUDENT]
WHERE <Search Conditions,,>
GO

DDL (Create, Alter , Drop , Truncate,)

Create DB from Management studio





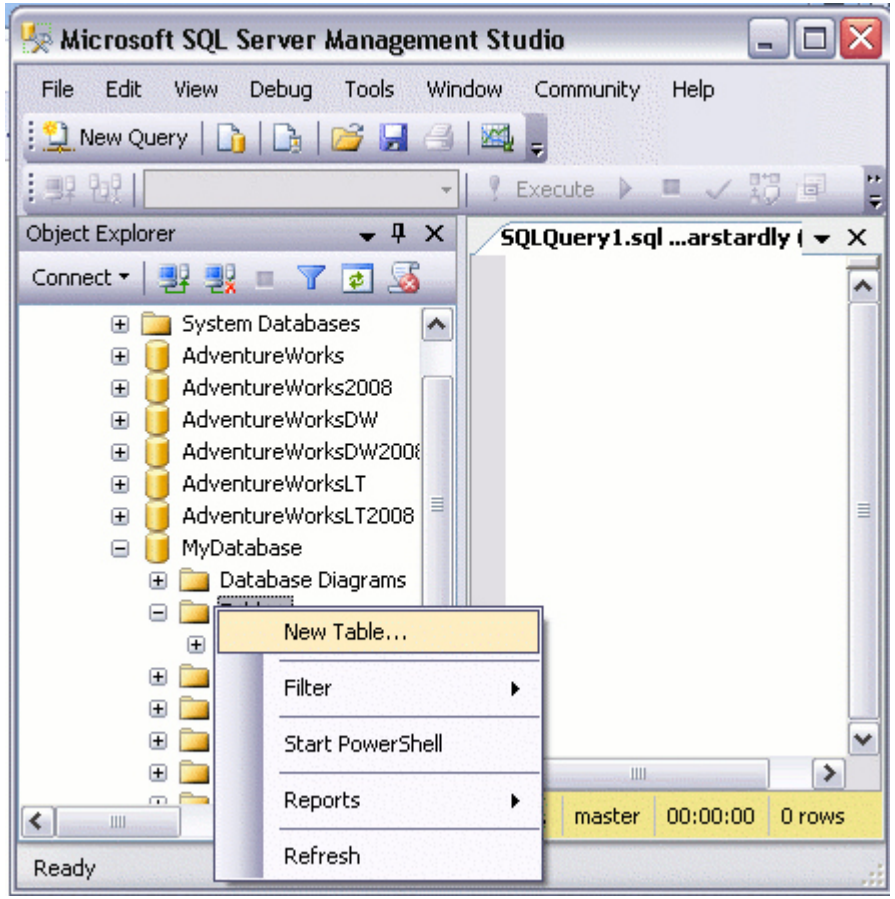
Create DB using script

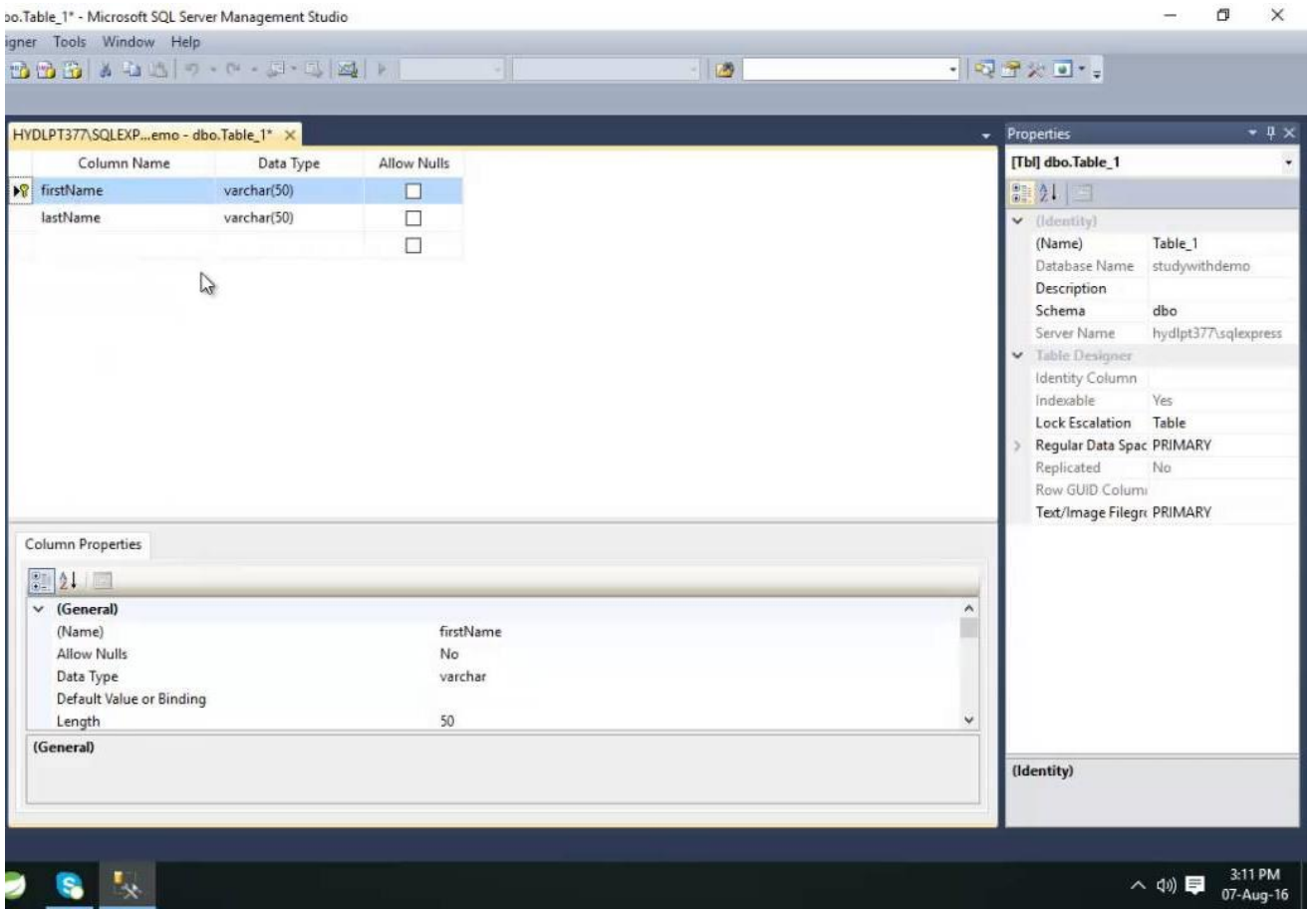
Changing Metadata

Compile SQL

```
CREATE DATABASE [new_db]
ON PRIMARY
  ( NAME = [TestDB],
    FILENAME = N'C:\Program Files\Microsoft SQL Server\MSS
    SIZE = 3 MB,
    MAXSIZE = UNLIMITED,
    FILEGROWTH = 10 % )
LOG ON
  ( NAME = [TestDB],
    FILENAME = N'C:\Program Files\Microsoft SQL Server\MSS
    SIZE = 3 MB,
    MAXSIZE = UNLIMITED,
    FILEGROWTH = 10 % )
GO

ALTER DATABASE [new_db]
SET RECOVERY FULL
GO
```

Create Table from Management Studio





Create Table using script

temporary table.s...DOWS2\admin (52)) | Object Explorer

```
CREATE TABLE #LocalTemporaryTable(
UserID int,
UserName varchar(40),
UserAddress varchar(50));

Select * From #LocalTemporaryTable;
```

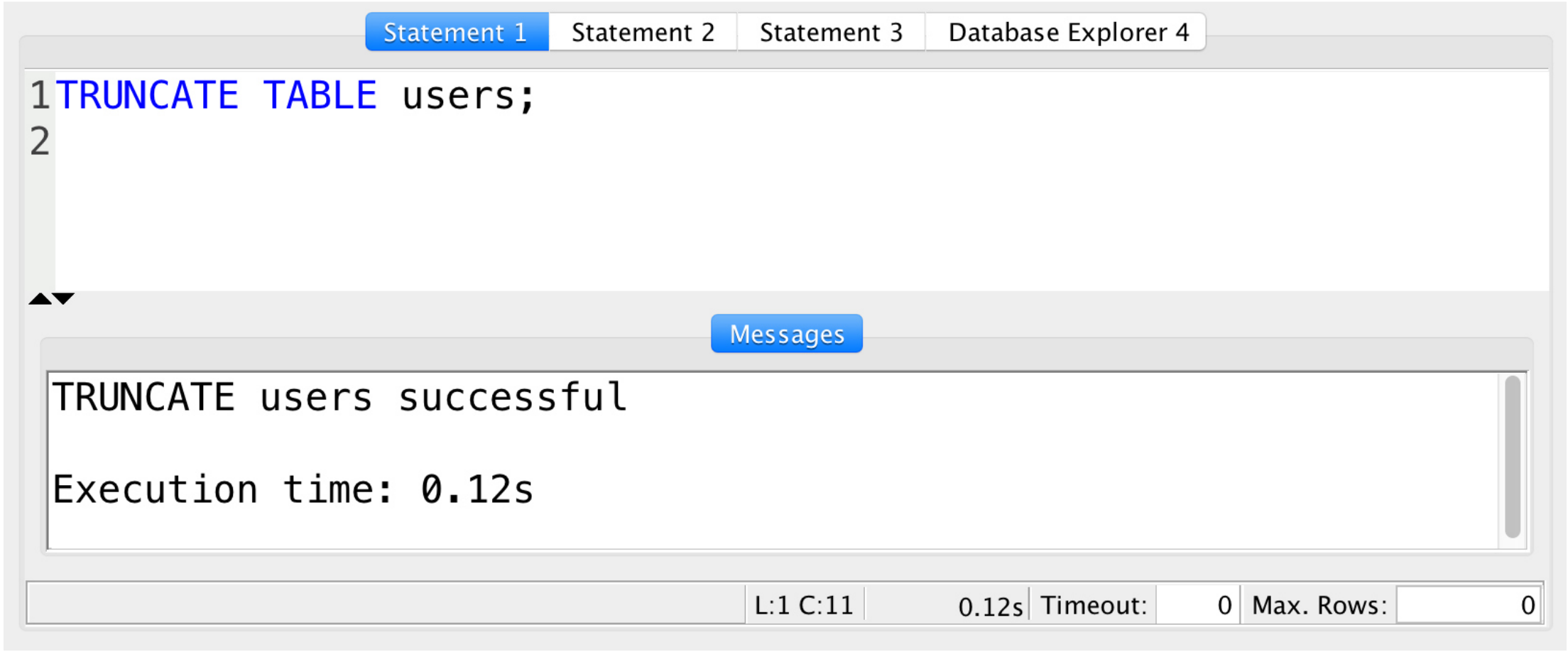
Alter Table

```
ALTER TABLE Student ALTER
COLUMN Stuhobby char(40)
```

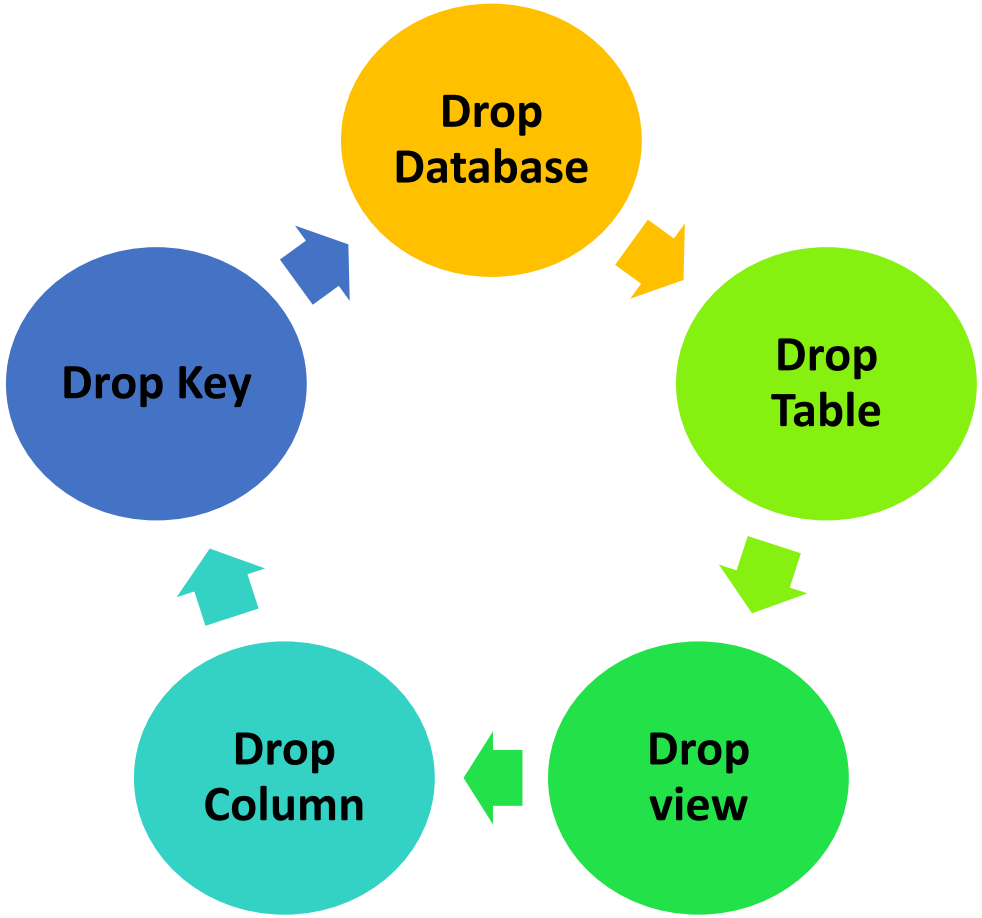
CRPER.FM - dbo.Student

StuID	int
StuName	varchar(20)
StuSex	char(2)
StuAge	varchar(10)
Stuhobby	char(40)

Truncate table



Drop Objects



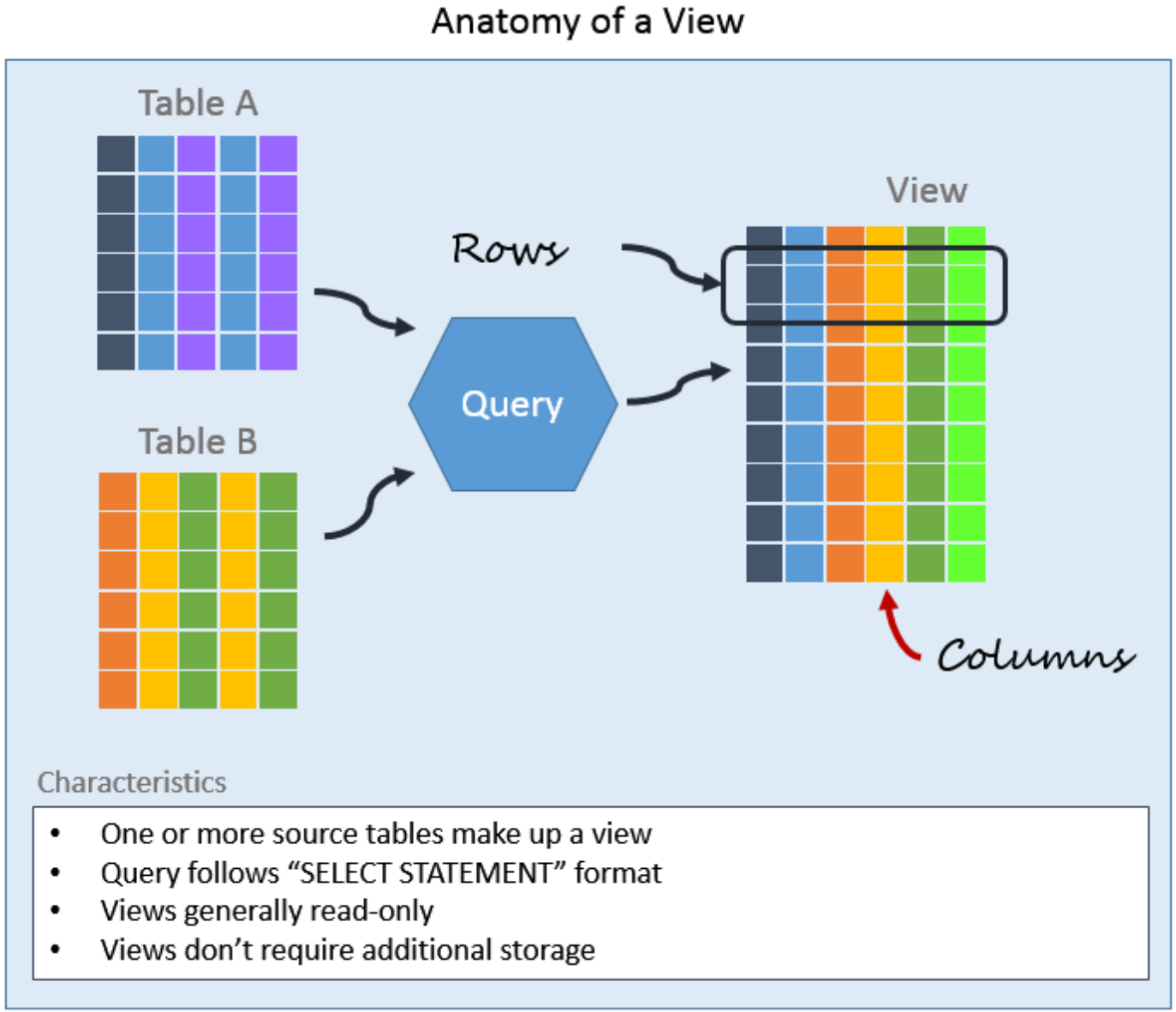
Day 4

Agenda

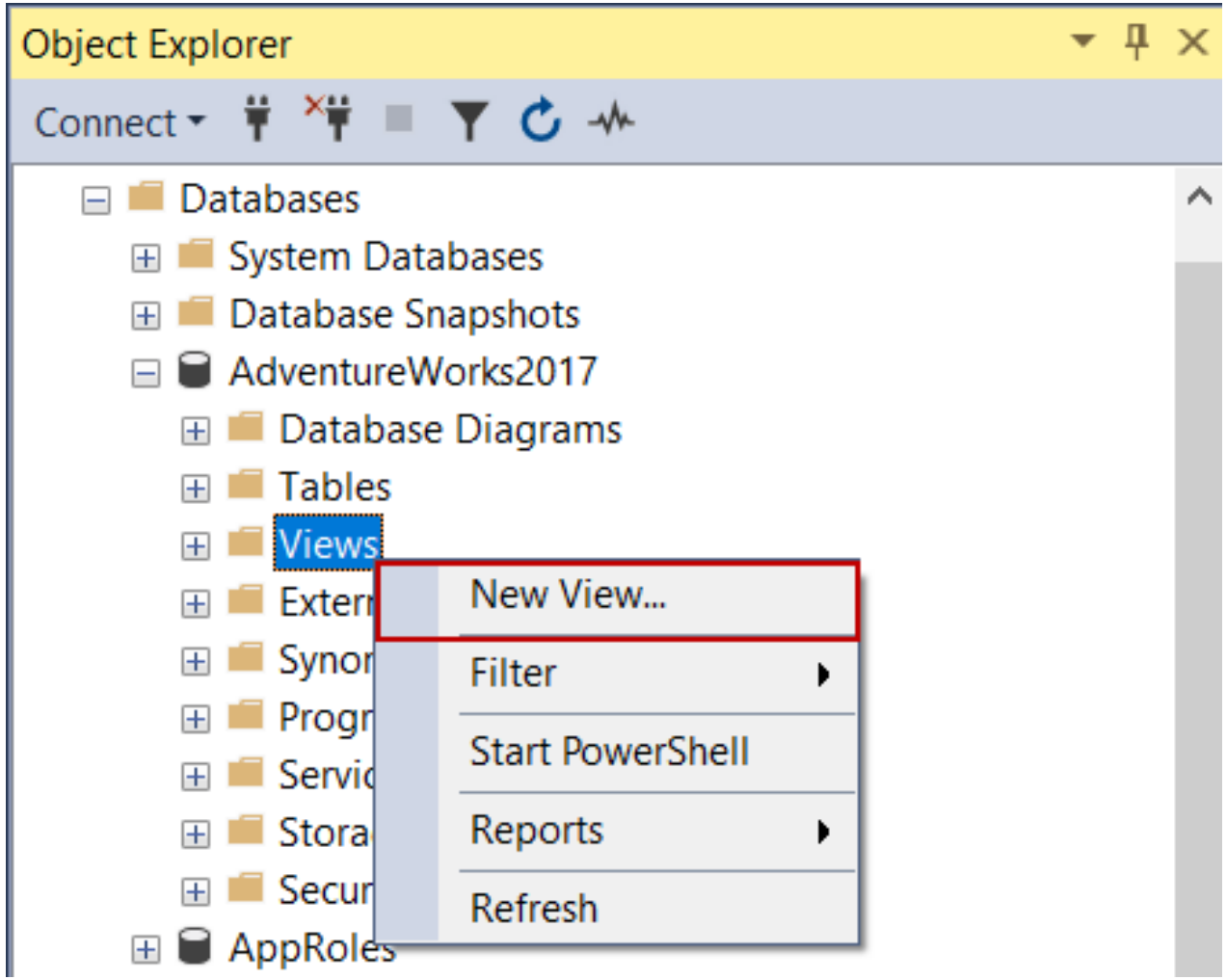
- **Designing Advanced Database Objects**
  - **Views**
  - **Stored Procedures**
  - **Triggers**

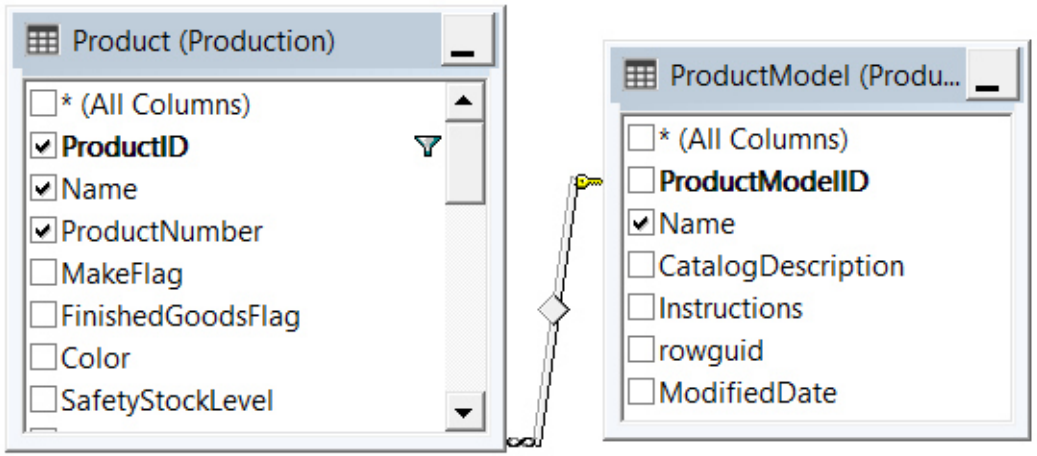
Views

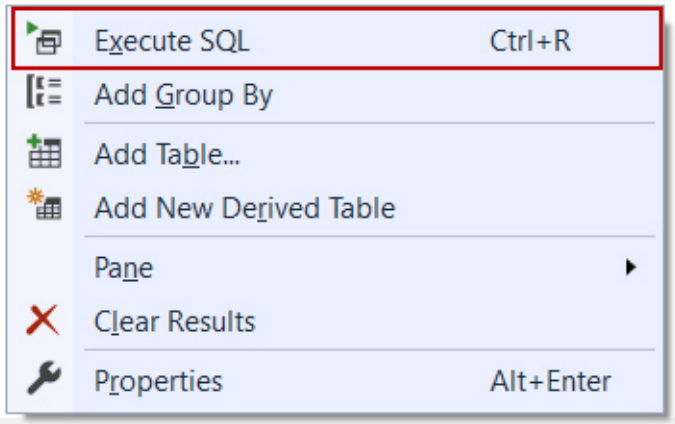
What Is View


Anatomy of a View
Table A
Table B
Rows
Query
View
Columns
Characteristics
One or more source tables make up a view
Query follows “SELECT STATEMENT” format
Views generally read-only
Views don’t require additional storage

Create View


Object Explorer
Connect
Databases
System Databases
Database Snapshots
AdventureWorks2017
Database Diagrams
Tables
Views
Extern
Synon
Progr
Servic
Stora
Secur
AppRoles
New View...
Filter
Start PowerShell
Reports
Refresh





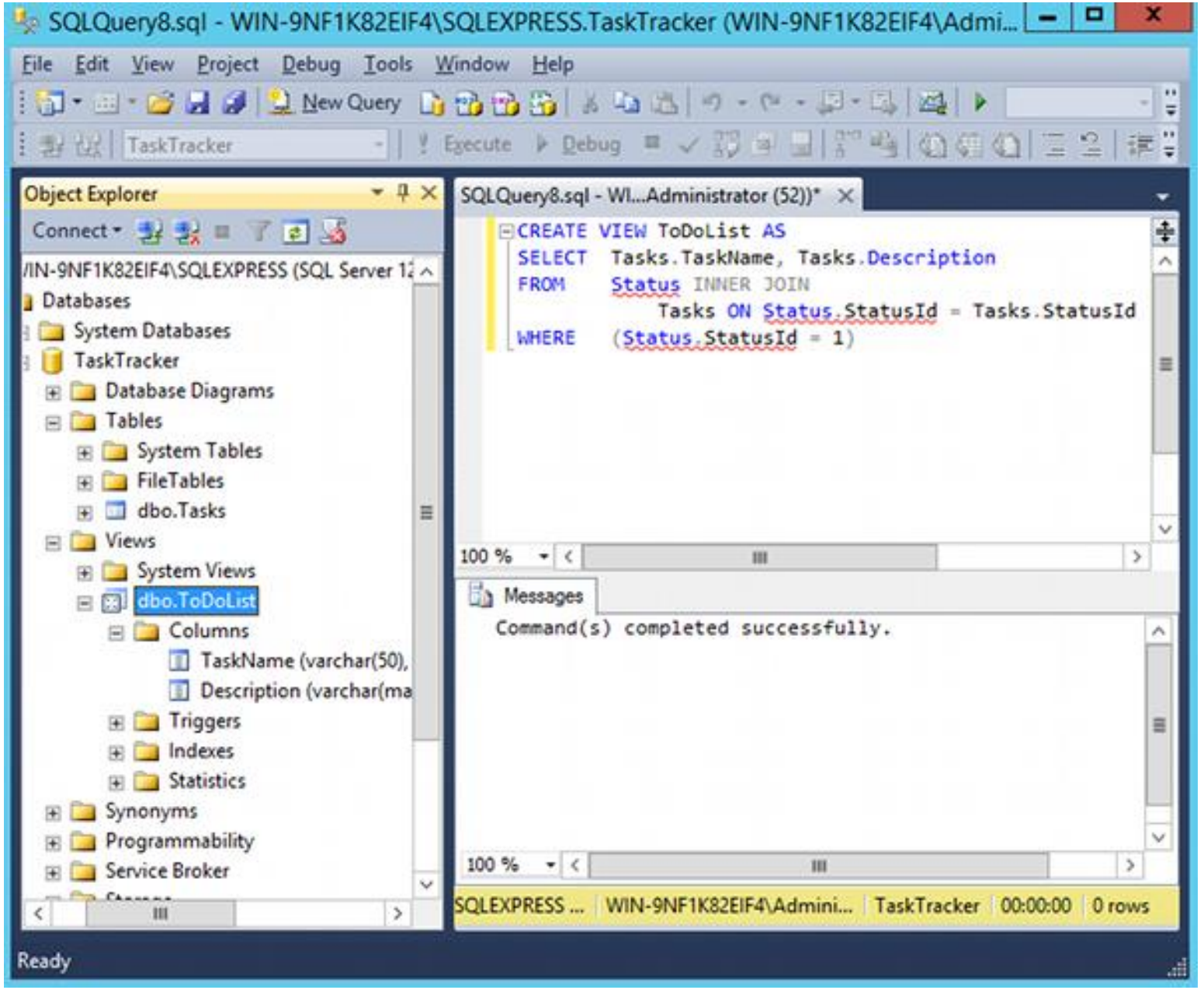
Column	Alias	Table	Output	Sort Type	Sort Order	Filter	Or...
ProductID	ProductIdNumber	Product (Production)	☑			> 900	
Name	ProductName	Product (Production)	☑				
ProductNumber	ProductMainNumber	Product (Production)	☑				
Name	ProductModelName	ProductModel (Production)	☑				

```
SELECT Production.Product.ProductID AS ProductIdNumber, Production.Product.Name AS ProductName, Production.Product.ProductNumber AS ProductMainNumber, P
FROM    Production.Product INNER JOIN
             Production.ProductModel ON Production.Product.ProductModelID = Production.ProductModel.ProductModelID
WHERE  (Production.Product.ProductID > 900)
```

ProductIdN...	ProductNa...	ProductMai...	ProductMo...
952	Chain	CH-0234	Chain
948	Front Brakes	FB-9873	Front Brakes
945	Front Derail...	FD-2342	Front Derail...

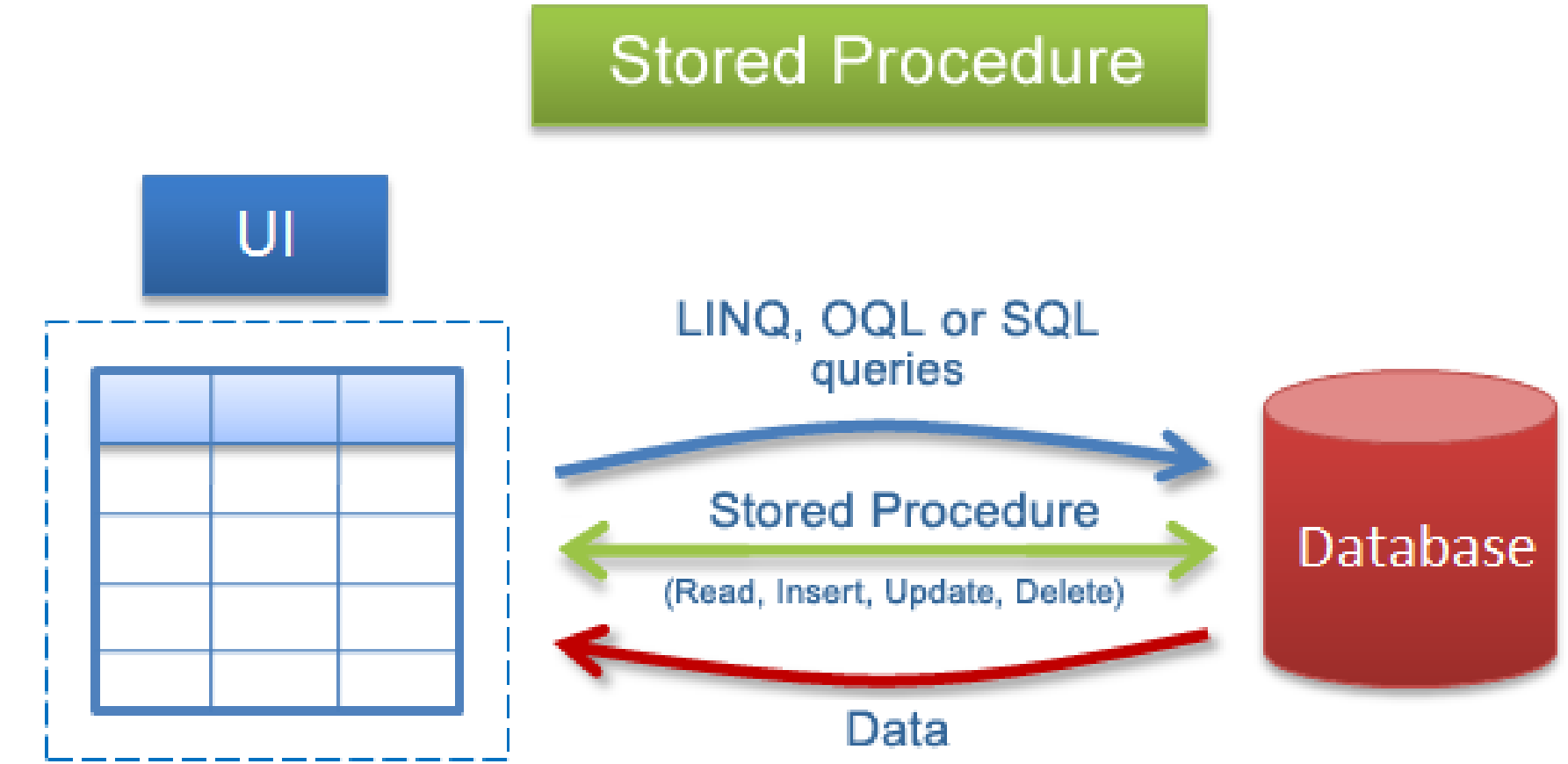
1 of 99 | Cell is Read Only.

Create View


SQLQuery8.sql - WIN-9NF1K82EIF4\SQLEXPRESS.TaskTracker (WIN-9NF1K82EIF4\Admi...
File Edit View Project Debug Tools Window Help
New Query
TaskTracker
Execute Debug
Object Explorer
Connect
/IN-9NF1K82EIF4\SQLEXPRESS (SQL Server 12
Databases
System Databases
TaskTracker
Database Diagrams
Tables
System Tables
FileTables
dbo.Tasks
Views
System Views
dbo.ToDoList
Columns
TaskName (varchar(50),
Description (varchar(ma
Triggers
Indexes
Statistics
Synonyms
Programmability
Service Broker
SQLQuery8.sql - WI...Administrator (52))*
CREATE VIEW ToDoList AS
SELECT Tasks.TaskName, Tasks.Description
FROM Status INNER JOIN
Tasks ON Status.StatusId = Tasks.StatusId
WHERE (Status.StatusId = 1)
100 %
Messages
Command(s) completed successfully.
100 %
SQLEXPRESS ... WIN-9NF1K82EIF4\Admini... TaskTracker 00:00:00 0 rows
Ready

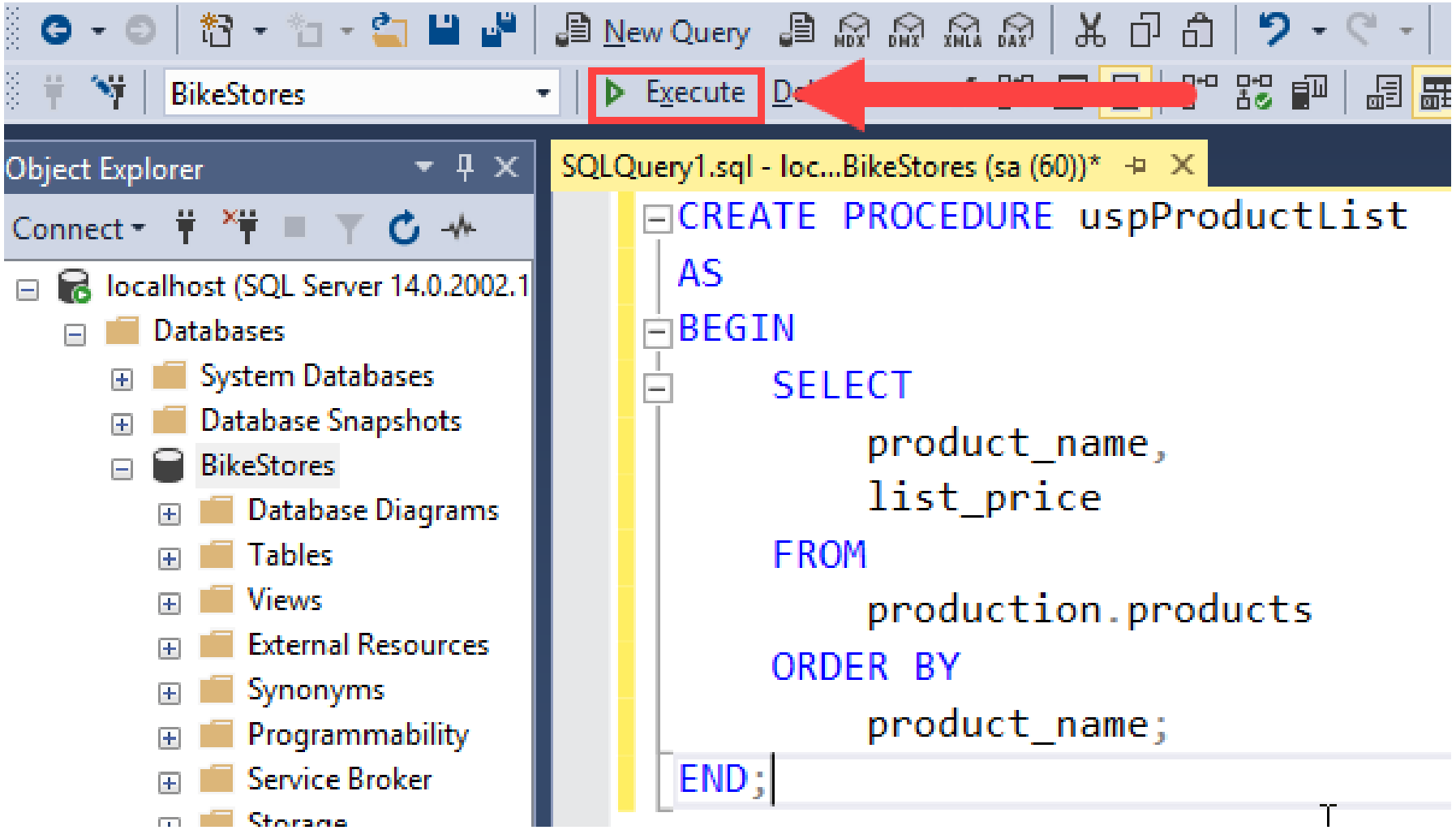
Stored Procedures

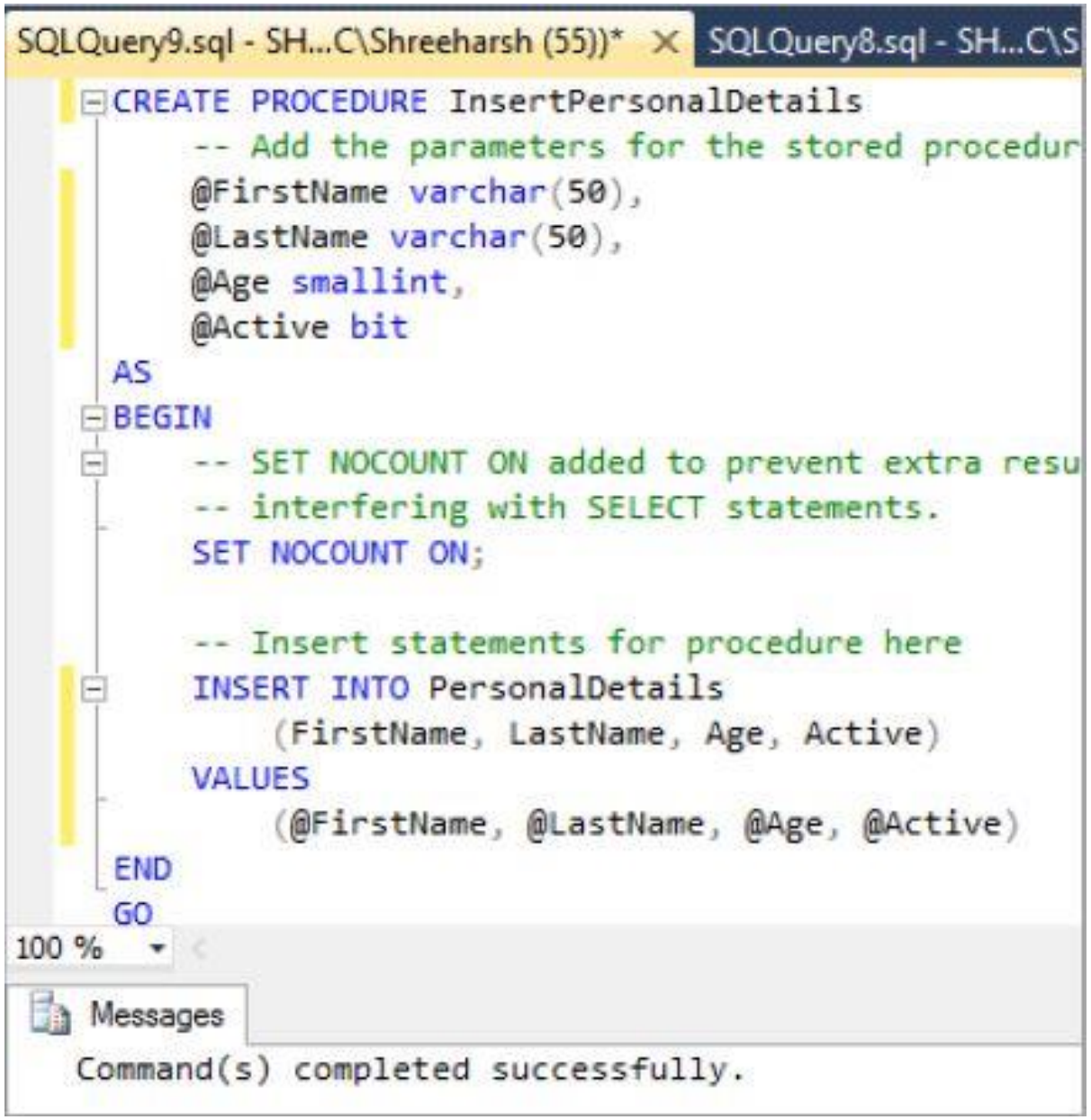
What Is Stored Procedures




Database
Store Procedure

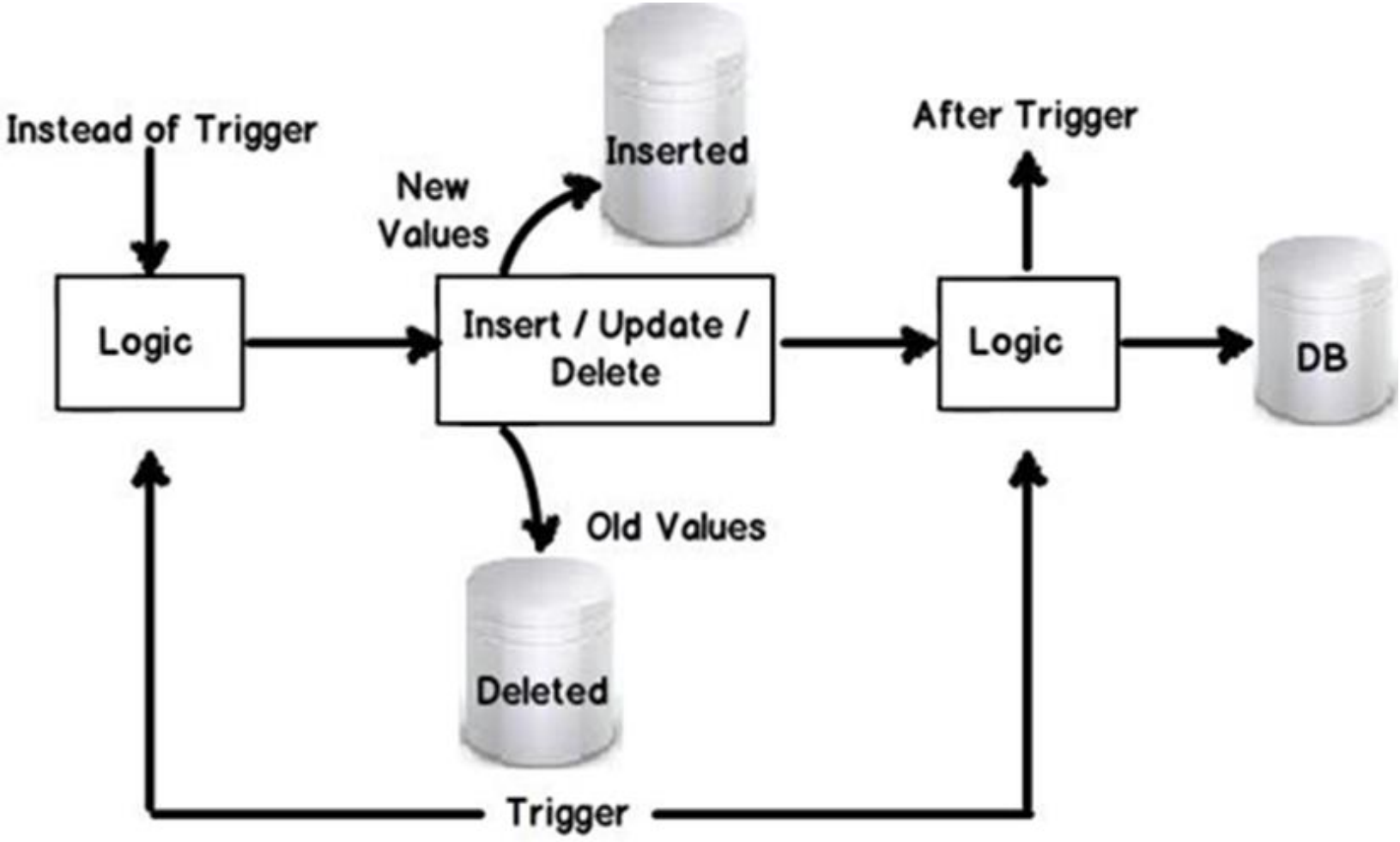
Create Stored Procedure




SQLQuery9.sql - SH...C\Shreeharsh (55))*
SQLQuery8.sql - SH...C\S
CREATE PROCEDURE InsertPersonalDetails
-- Add the parameters for the stored procedur
@FirstName varchar(50),
@LastName varchar(50),
@Age smallint,
@Active bit
AS
BEGIN
-- SET NOCOUNT ON added to prevent extra resu
-- interfering with SELECT statements.
SET NOCOUNT ON;
-- Insert statements for procedure here
INSERT INTO PersonalDetails
(FirstName, LastName, Age, Active)
VALUES
(@FirstName, @LastName, @Age, @Active)
END
GO
100 %
Messages
Command(s) completed successfully.

Triggers

What Is Triggers



Create Triggers

```
CREATE TRIGGER TR_UPD_Locations ON Locations
FOR UPDATE
NOT FOR REPLICATION
AS

BEGIN
    INSERT INTO LocationHist
    SELECT LocationID
        ,getdate()
    FROM inserted
END
```

Table Name

Trigger Name

DML Event

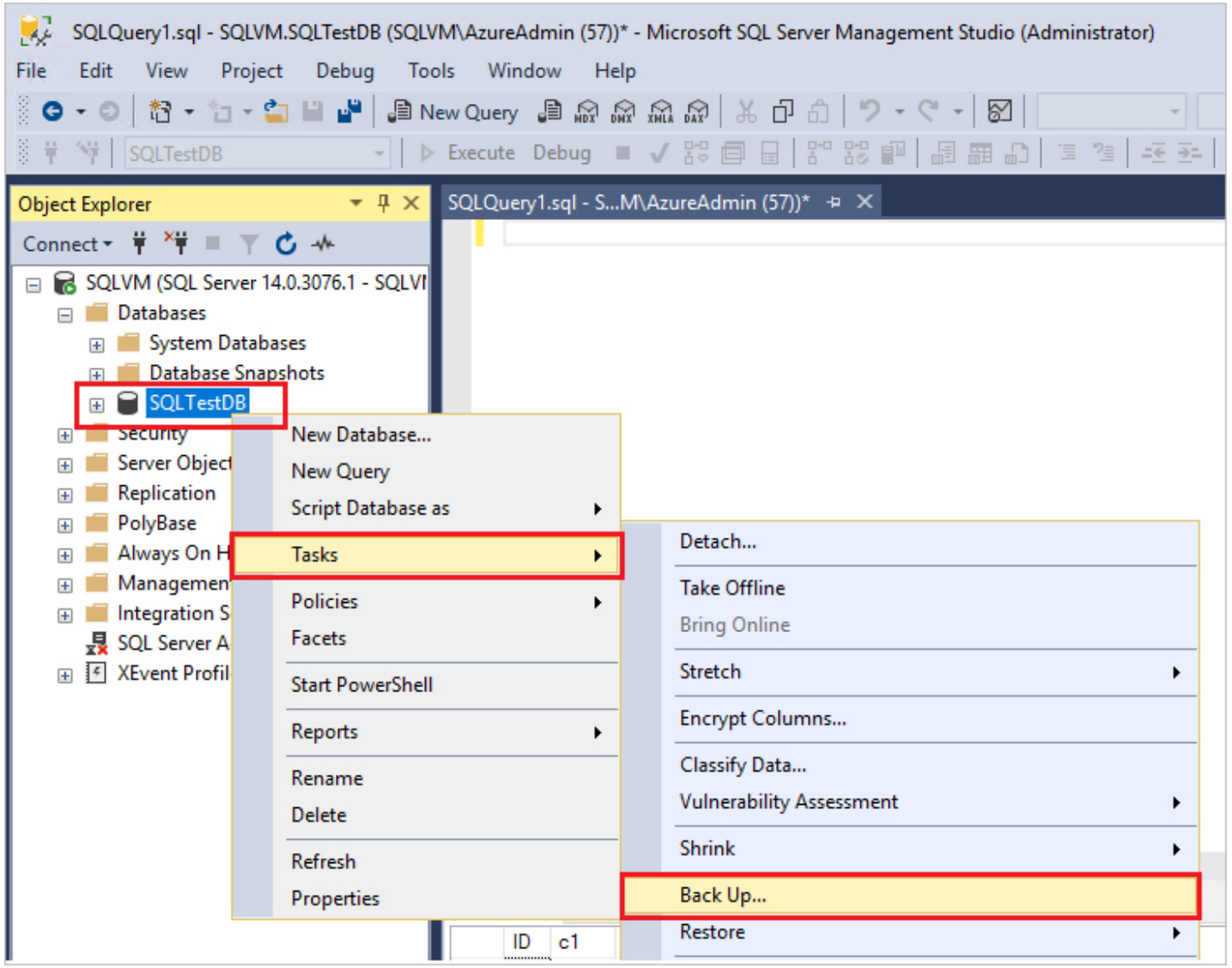
T-SQL block that runs against specified DML Event

Day 5

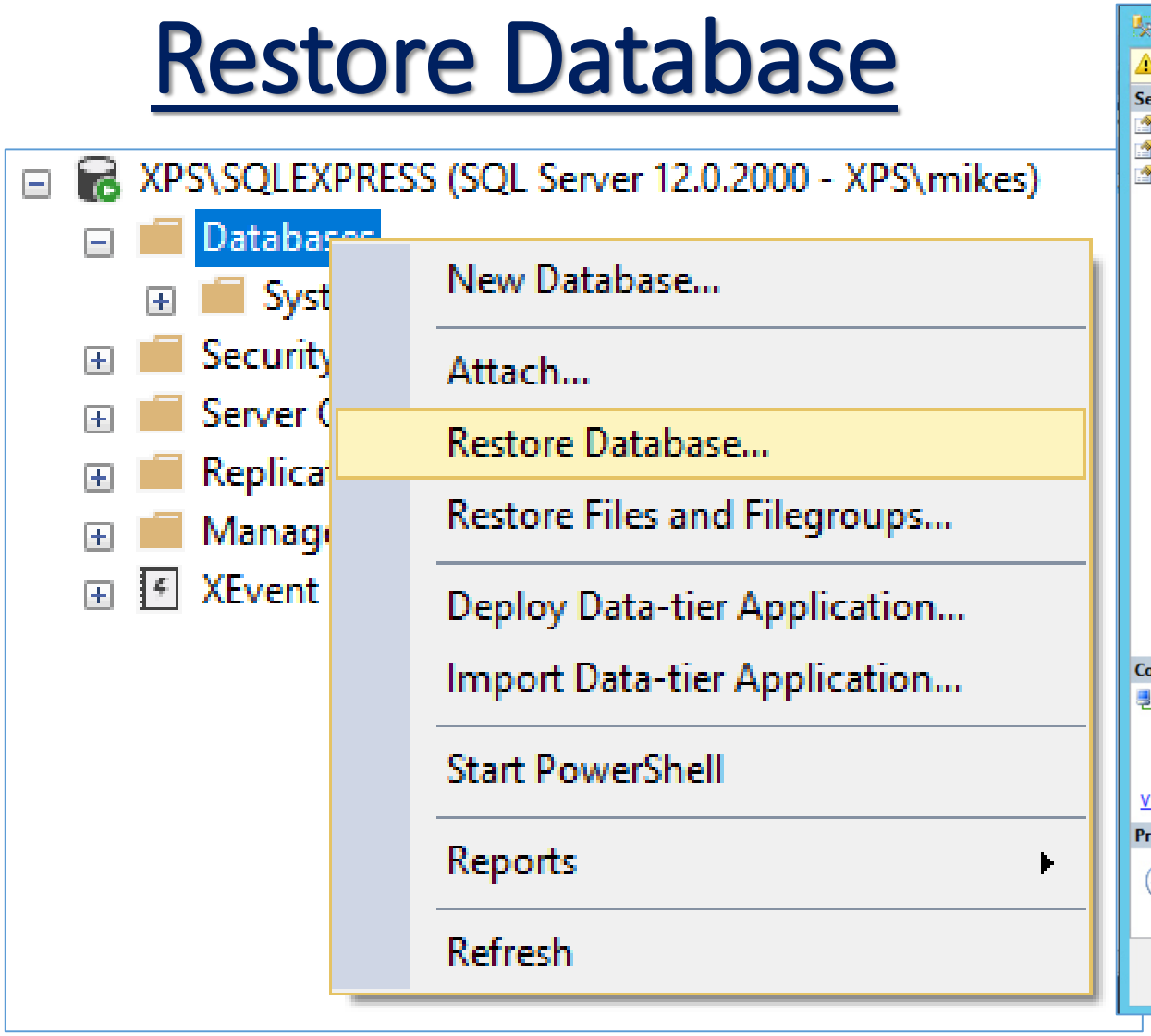
Agenda

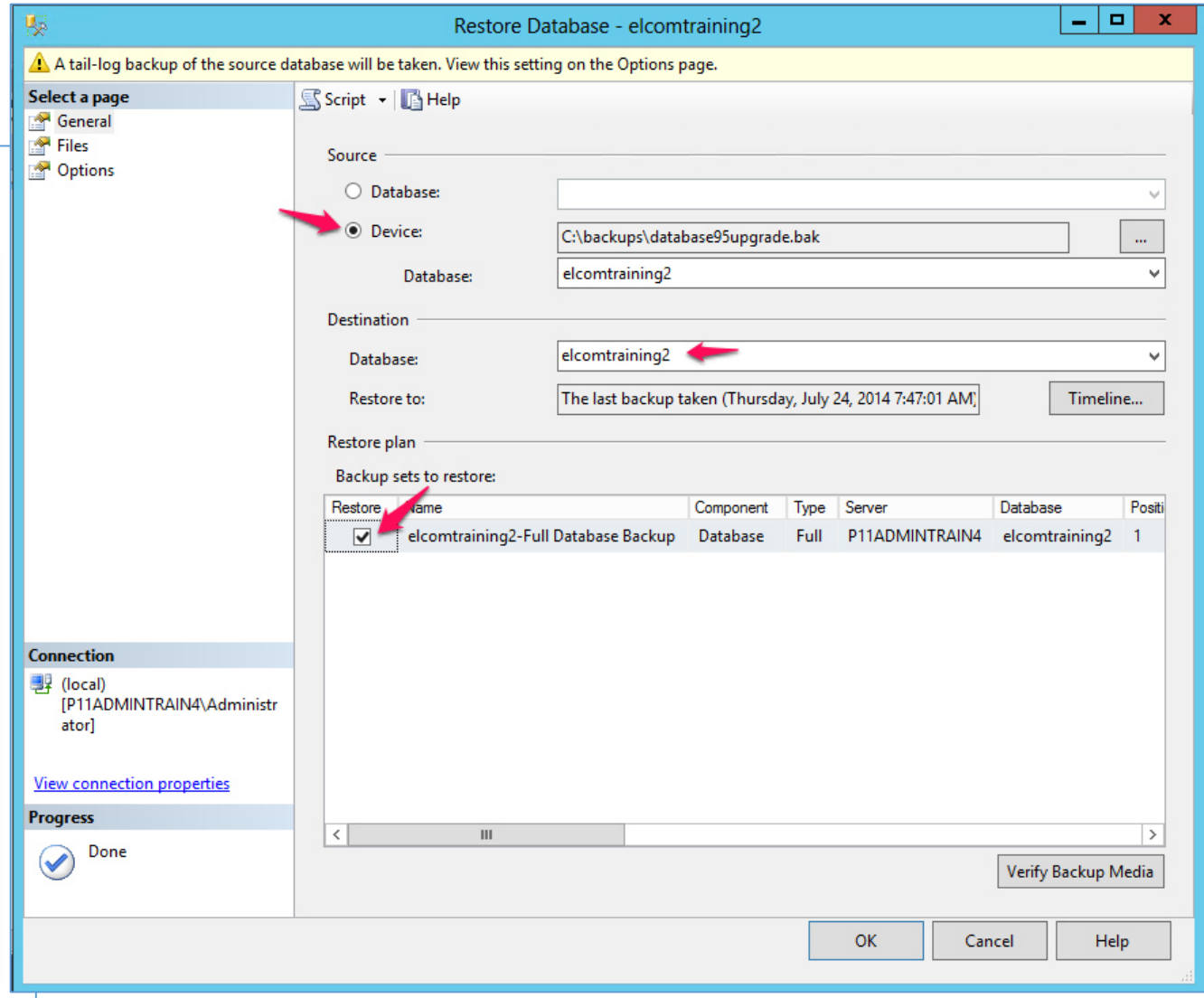
- **Database Management**
  - **Backup and restore**
  - **Jobs**
  - **SQL server agent**

Backup Database

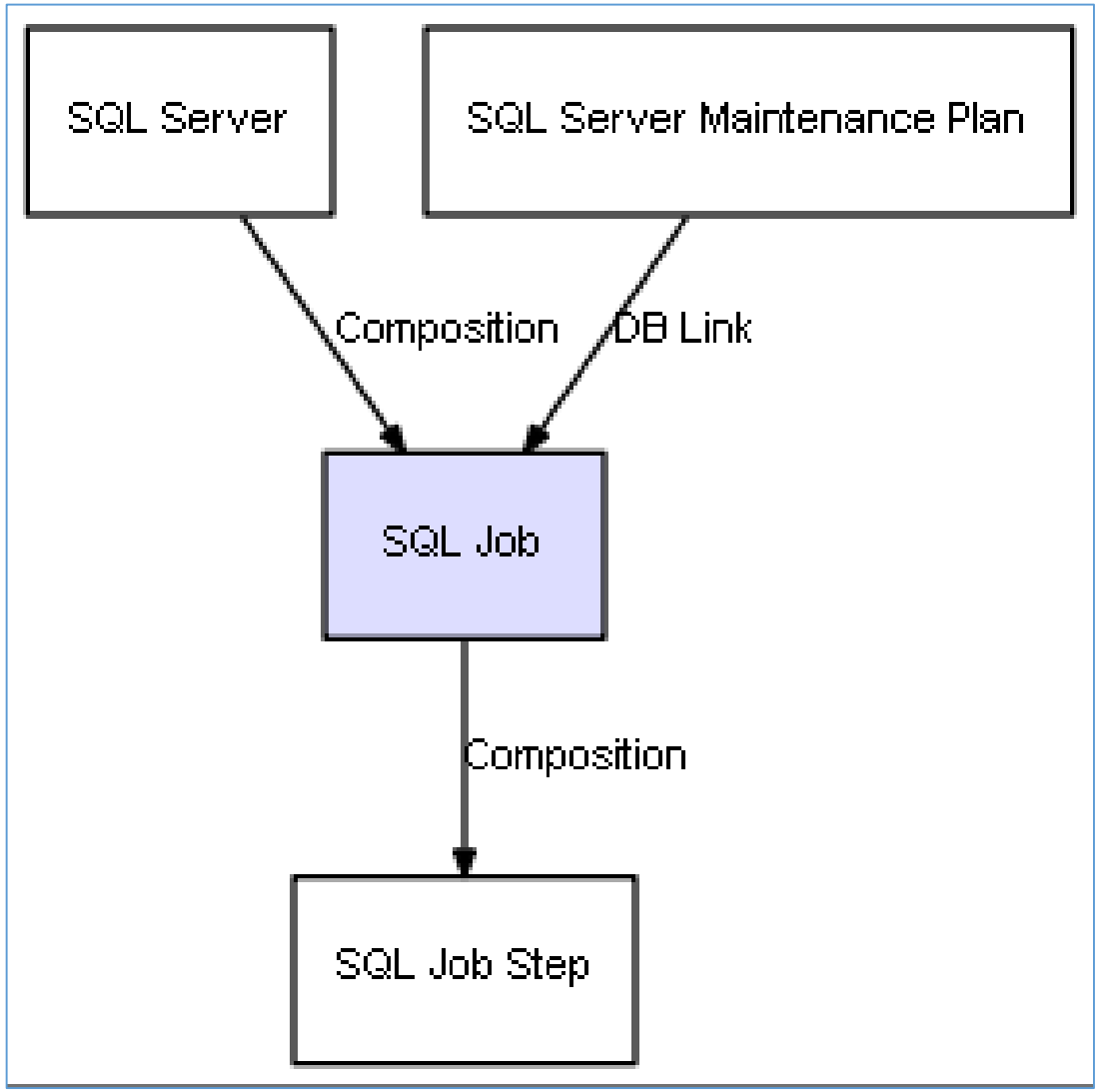


Restore Database

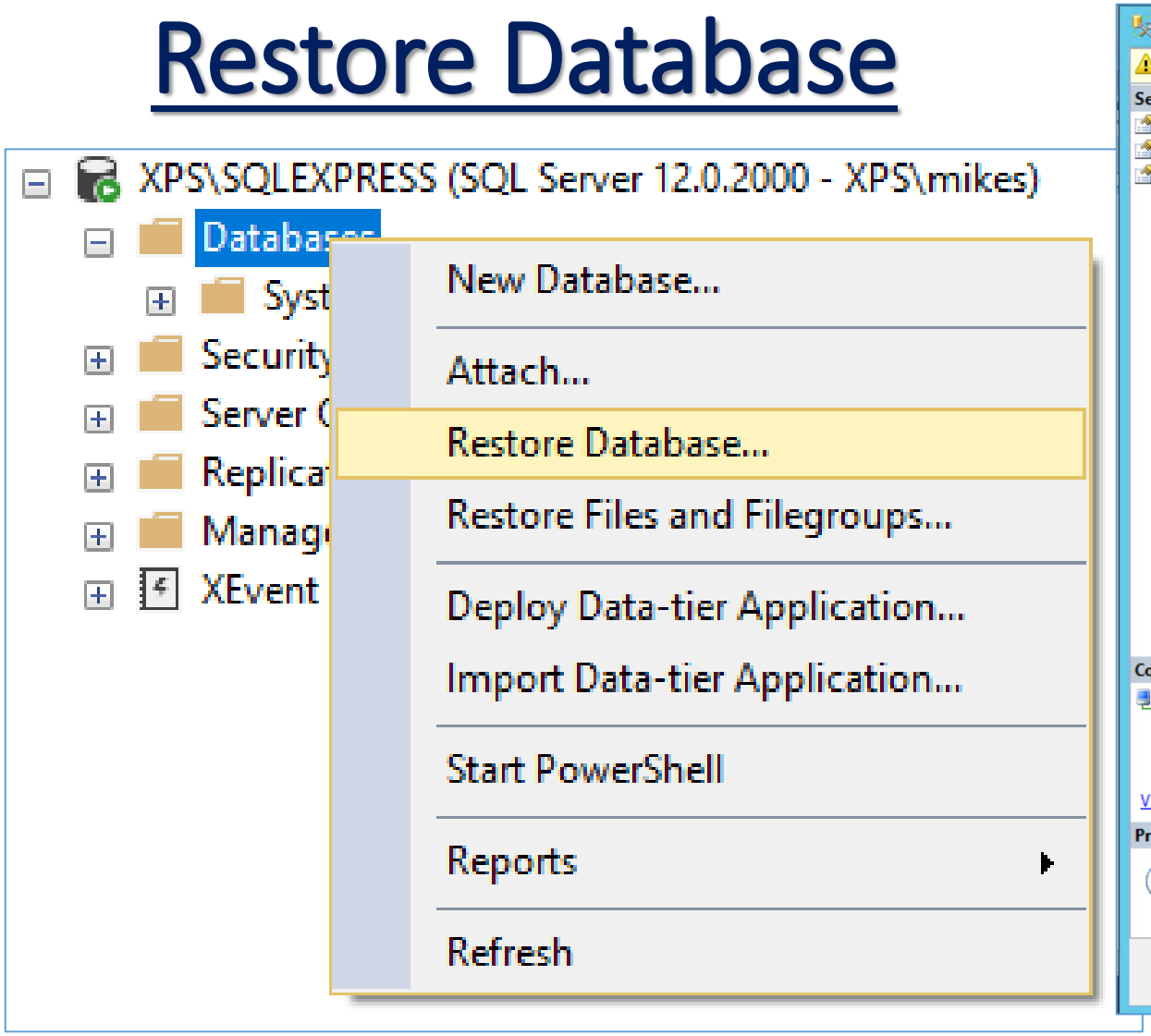


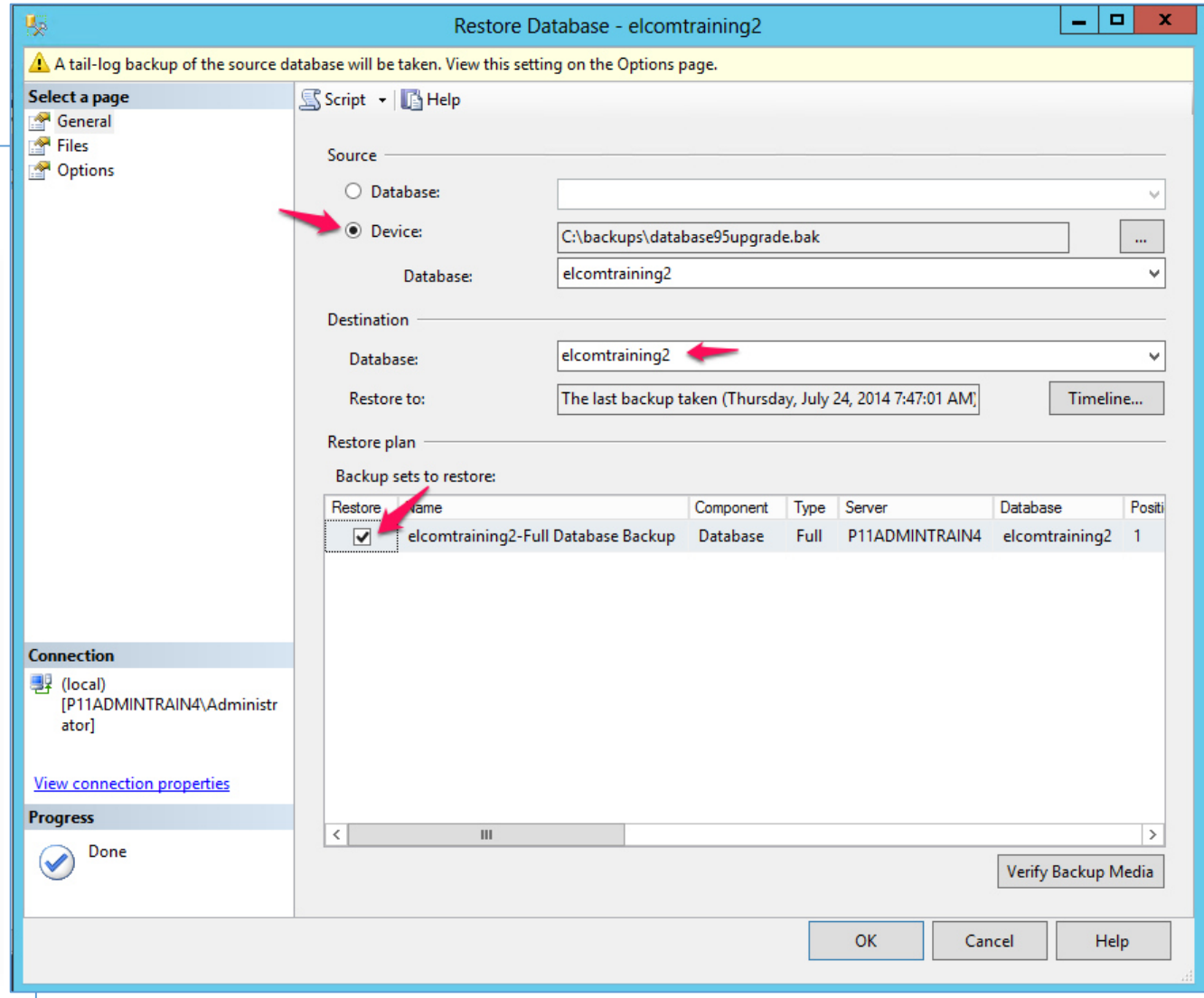


Jobs

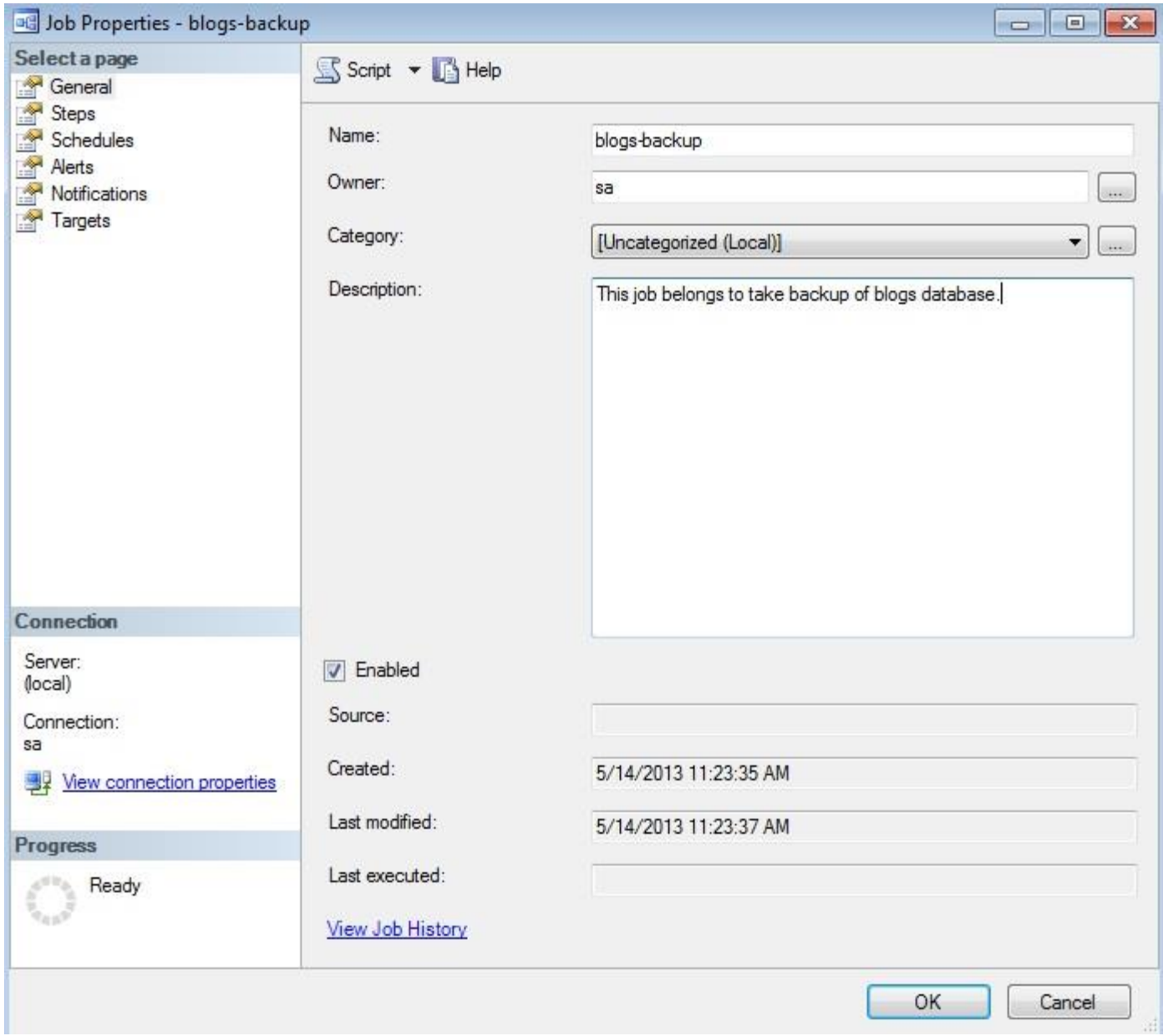

SQL Server
SQL Server Maintenance Plan
Composition
DB Link
SQL Job
Composition
SQL Job Step

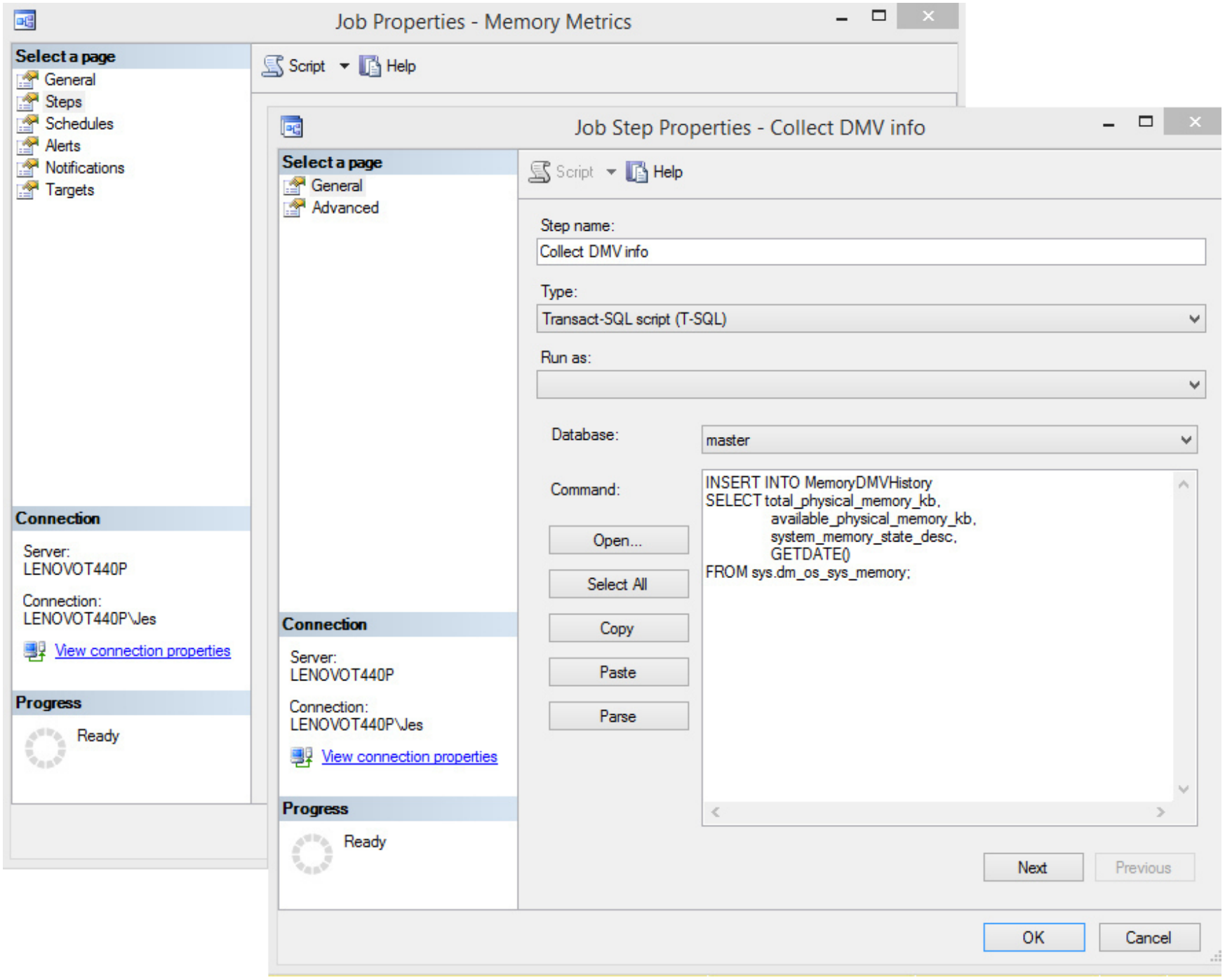
Restore Database

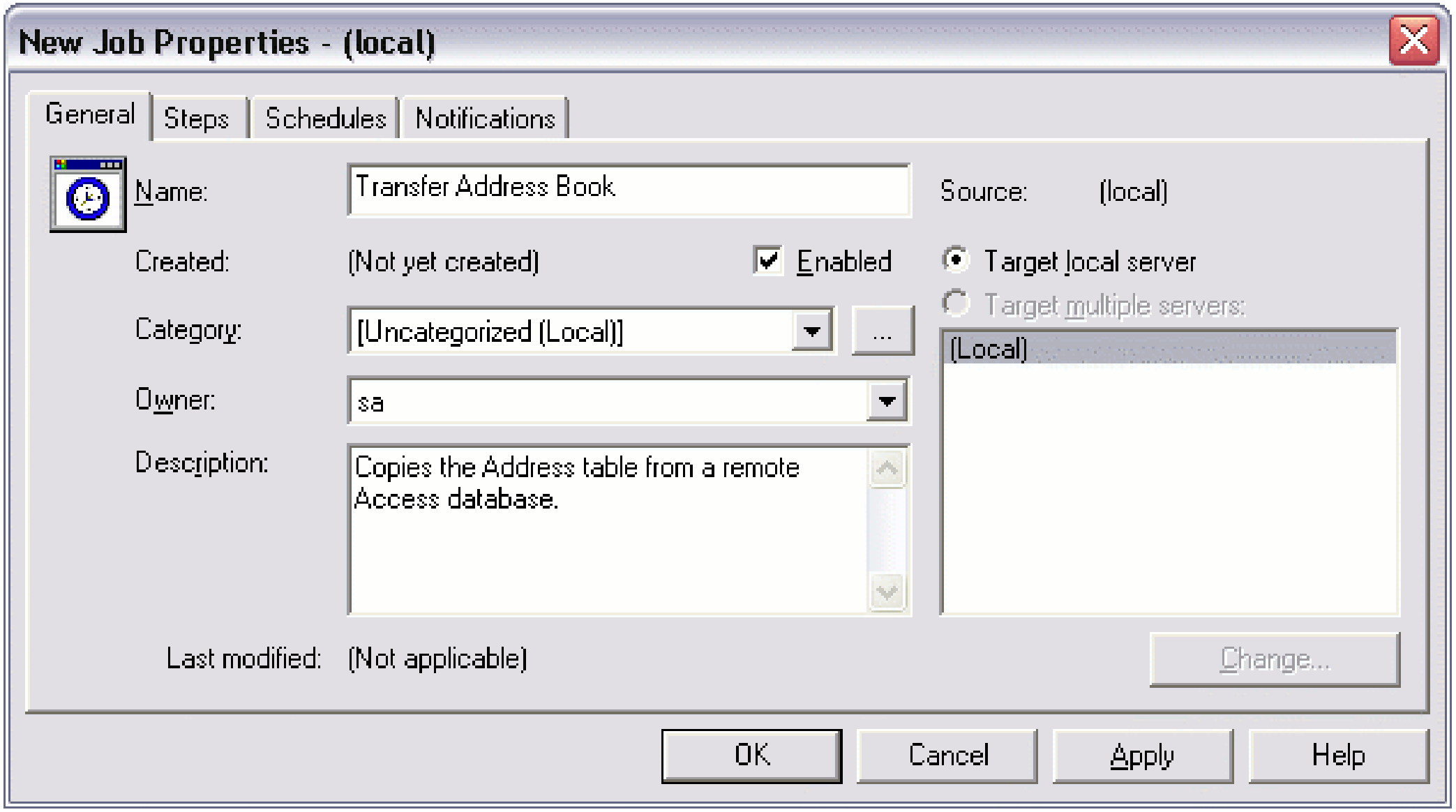




Create Jobs


Job Properties - blogs-backup
Select a page
General
Steps
Schedules
Alerts
Notifications
Targets
Script
Help
Name:
blogs-backup
Owner:
sa
Category:
[Uncategorized (Local)]
Description:
This job belongs to take backup of blogs database.
Enabled
Source:
Created:
5/14/2013 11:23:35 AM
Last modified:
5/14/2013 11:23:37 AM
Last executed:
View Job History
Connection
Server:
(local)
Connection:
sa
View connection properties
Progress
Ready
OK
Cancel


Job Properties - Memory Metrics
Select a page
General
Steps
Schedules
Alerts
Notifications
Targets
Script
Help
Connection
Server:
LENOVOT440P
Connection:
LENOVOT440P\Jes
View connection properties
Progress
Ready
Job Step Properties - Collect DMV info
Select a page
General
Advanced
Script
Help
Step name:
Collect DMV info
Type:
Transact-SQL script (T-SQL)
Run as:
Database:
master
Command:
INSERT INTO MemoryDMVHistory
SELECT total_physical_memory_kb,
available_physical_memory_kb,
system_memory_state_desc,
GETDATE()
FROM sys.dm_os_sys_memory;
Open...
Select All
Copy
Paste
Parse
Connection
Server:
LENOVOT440P
Connection:
LENOVOT440P\Jes
View connection properties
Progress
Ready
Next
Previous
OK
Cancel

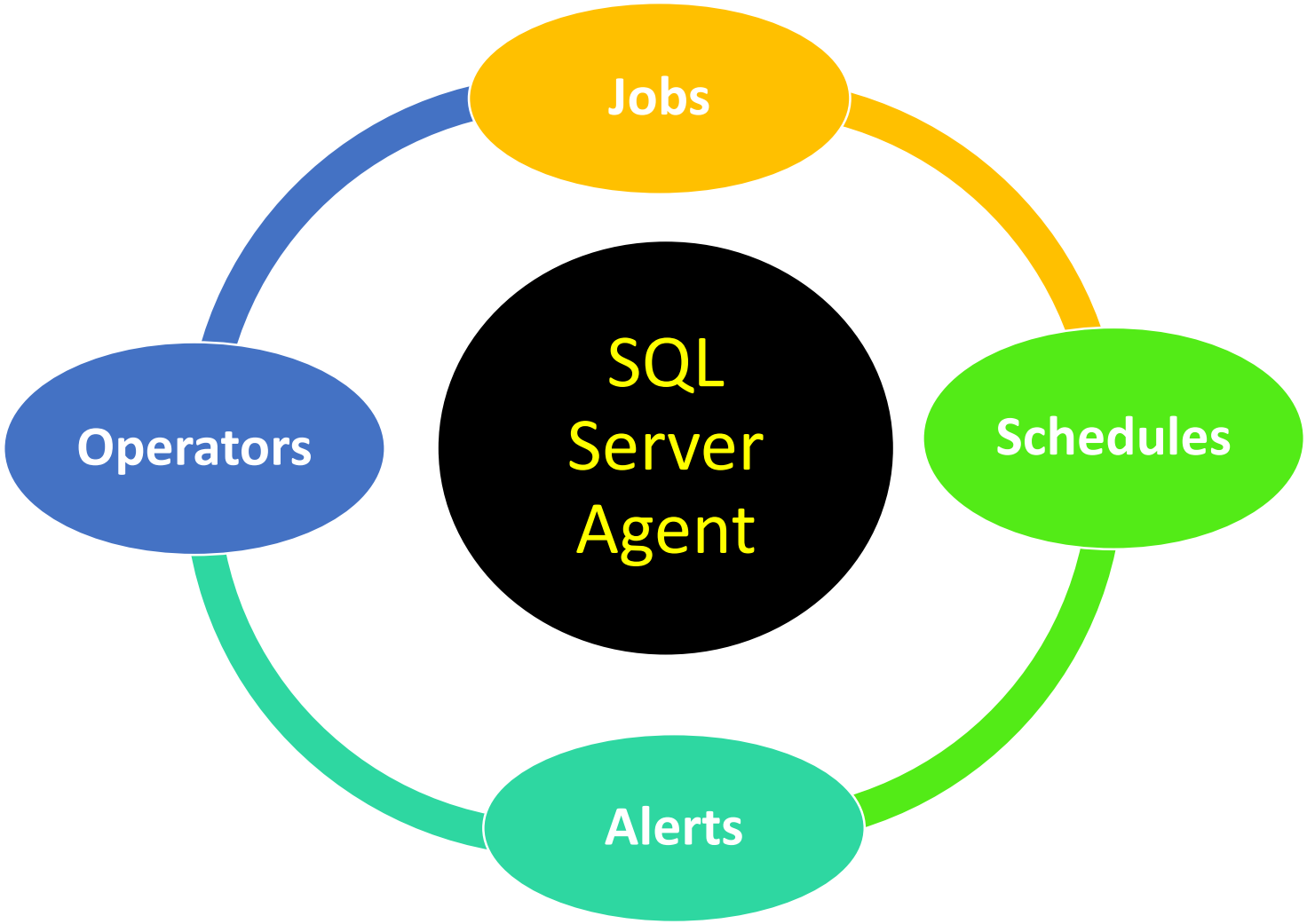

New Job Properties - (local)
General
Steps
Schedules
Notifications
Name:
Transfer Address Book
Source:
(local)
Created:
(Not yet created)
Enabled
Target local server
Target multiple servers:
Category:
[Uncategorized (Local)]
...
(Local)
Owner:
sa
Description:
Copies the Address table from a remote Access database.
Last modified:
(Not applicable)
Change...
OK
Cancel
Apply
Help

What Does SQl Server Agent do?

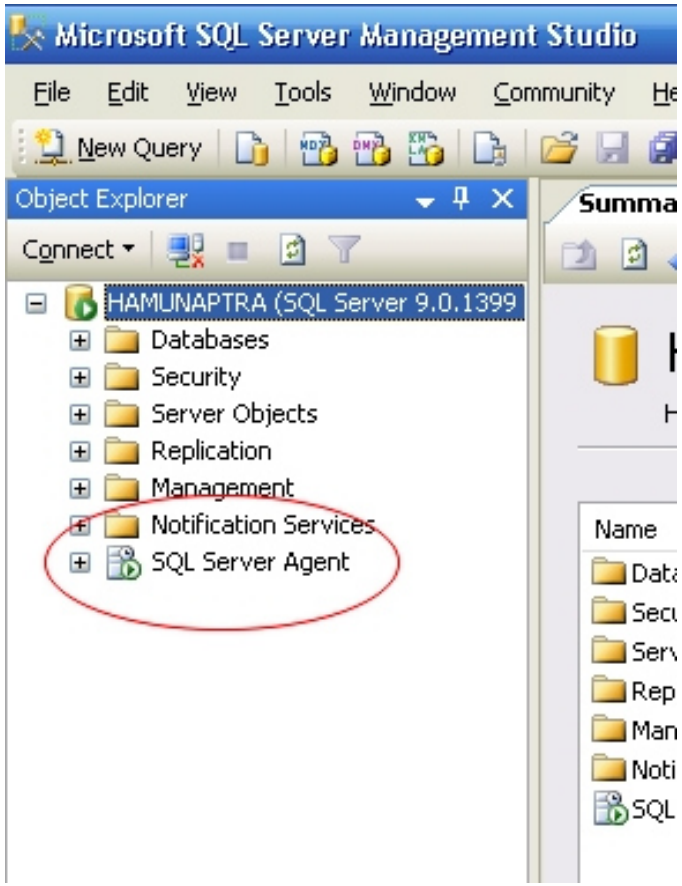
- **SQL Server Agent** is a component of **Microsoft SQL Server** that is responsible to execute & schedule tasks or jobs in **SQL Server**. It runs as a Windows **service** and starts automatically when the system boots.

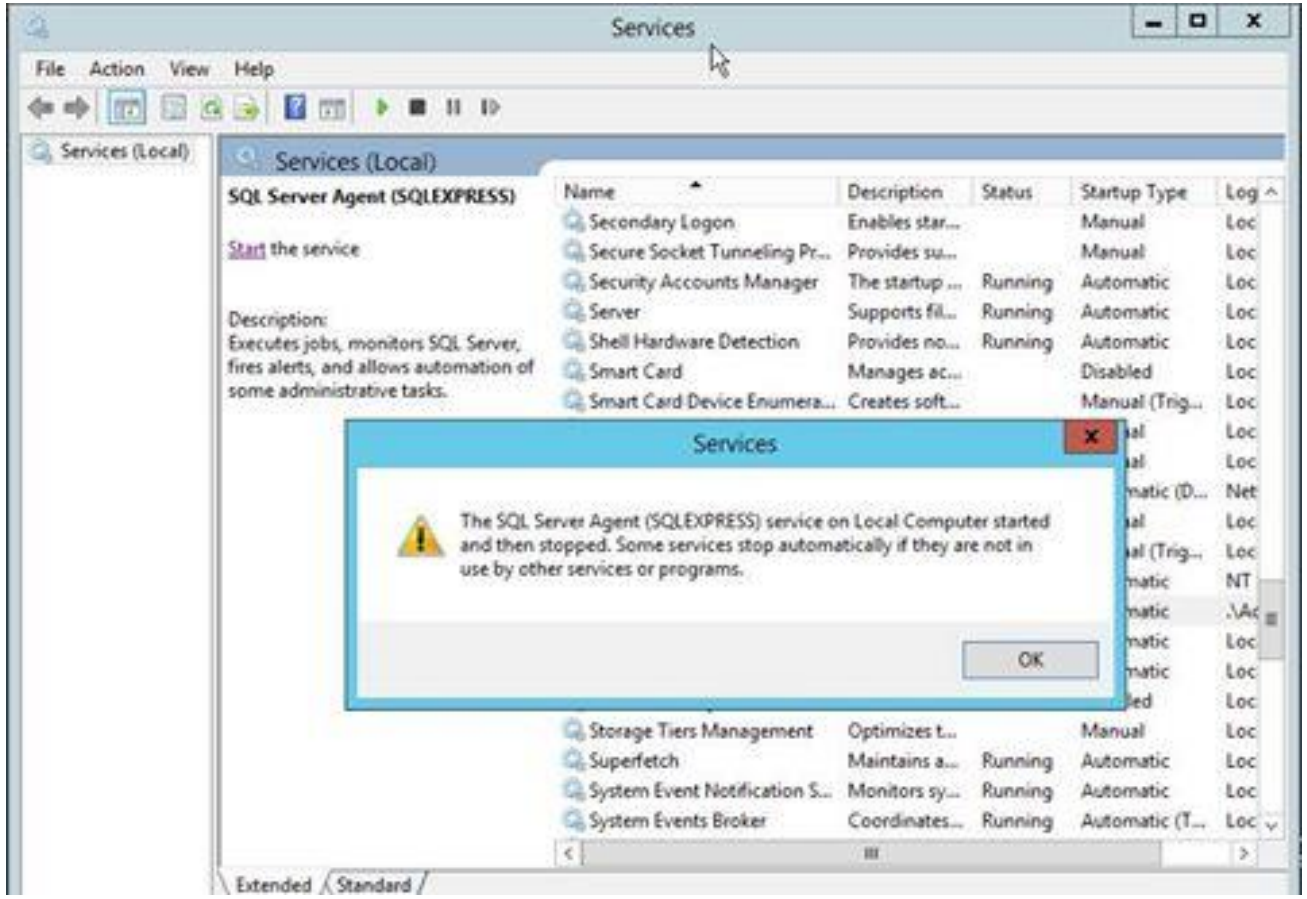
- The SQL Server Agent is the most important part of SQL Server, which specifies each and every task.

Components of SQL Server Agent



Running SQL Server Agent



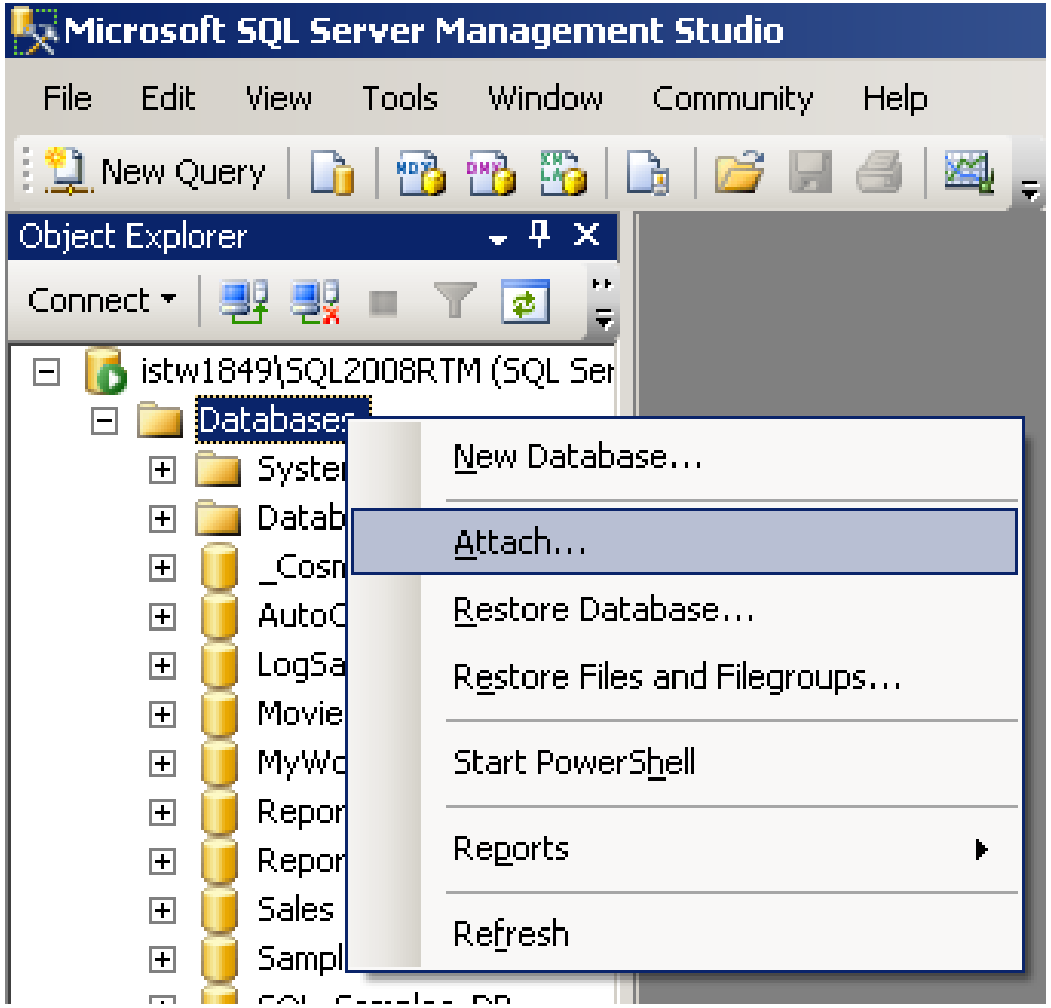


Day 6

Agenda

- **SQL server 2008 administration**
  - **Common problems and solving**
  - **DB maintenance**

Attach a DB


Microsoft SQL Server Management Studio
File
Edit
View
Tools
Window
Community
Help
New Query
Object Explorer
Connect
istw1849\SQL2008RTM (SQL Ser
Databases
New Database...
Attach...
Restore Database...
Restore Files and Filegroups...
Start PowerShell
Reports
Refresh

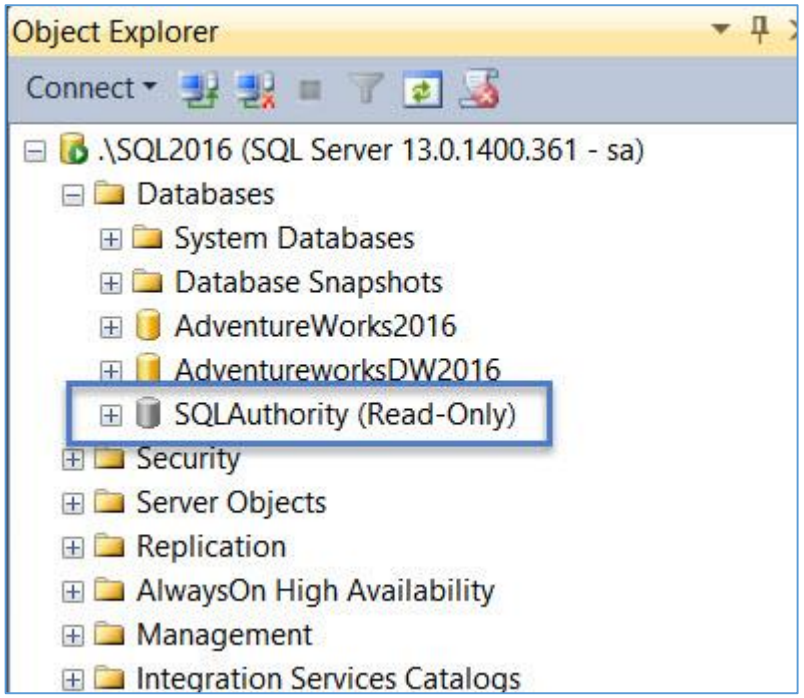
SQL SERVER – FIX Error 5120 – Database is in Read Only Mode After Attaching Files

```
1  USE [master]
2  GO
3  ALTER DATABASE [SQLAuthority] SET READ_WRITE WITH NO_WAIT
4  GO
```

Error 5120

```
Msg 5120, Level 16, State 101, Line 1
Unable to open the physical file "D:\MySoftware\Data\Data_Data.MDF". Operating system
error 5: "5(Access is denied.)".
Msg 5120, Level 16, State 101, Line 1
Unable to open the physical file "D:\MySoftware\Data\Data_Log.LDF". Operating system
error 5: "5(Access is denied.)".
File activation failure. The physical file name "D:\MySoftware\Data\Data_Log.LDF" may
be incorrect.
Msg 945, Level 14, State 2, Line 1
Database 'Lis' cannot be opened due to inaccessible files or insufficient memory or
disk space. See the SQL Server errorlog for details.
Msg 5069, Level 16, State 1, Line 1
ALTER DATABASE statement failed.
```

Error 5120 Fix



- Right click the database (mdf/ldf) file or folder and select “Properties”.
- Select “Security” tab and click the “Edit” button.
- Click the “Add” button.
- Enter the object name to select as NT Service\MSSQL$SQL2016' and click “Check Names” button.
- It would become MSSQL$SQL2016
- Click “OK” button.
- Give this service account “Full control” to the file or folder.
- Click “OK” button.

How to recover DB using Transaction Log File

Time	Event
8:00 A.M.	Back up database to create a full database backup.
Noon	Back up transaction log.
4:00 P.M.	Back up transaction log.
6:00 P.M.	Back up database to create a full database backup.
8:00 P.M.	Back up transaction log.
9:45 P.M.	Failure occurs.

To restore the database to its state at 9:45 P.M. (the point of failure), either of the following alternative procedures can be used:

Alternative 1: Restore the database by using the most recent full database backup

1. Create a tail-log backup of the currently active transaction log as of the point of failure.
2. Do not restore the 8:00 A.M. full database backup. Instead, restore the more recent 6:00 P.M. full database backup, and then apply the 8:00 P.M. log backup and the tail-log backup.

Alternative 2: Restore the database by using an earlier full database backup

> This alternative process is useful if a problem prevents you from using the 6:00 P.M. full database backup. This process takes longer than restoring from the 6:00 P.M. full database backup.

1. Create a tail-log backup of the currently active transaction log as of the point of failure.
2. Restore the 8:00 A.M. full database backup, and then restore all four transaction log backups in sequence. This rolls forward all completed transactions up to 9:45 P.M.

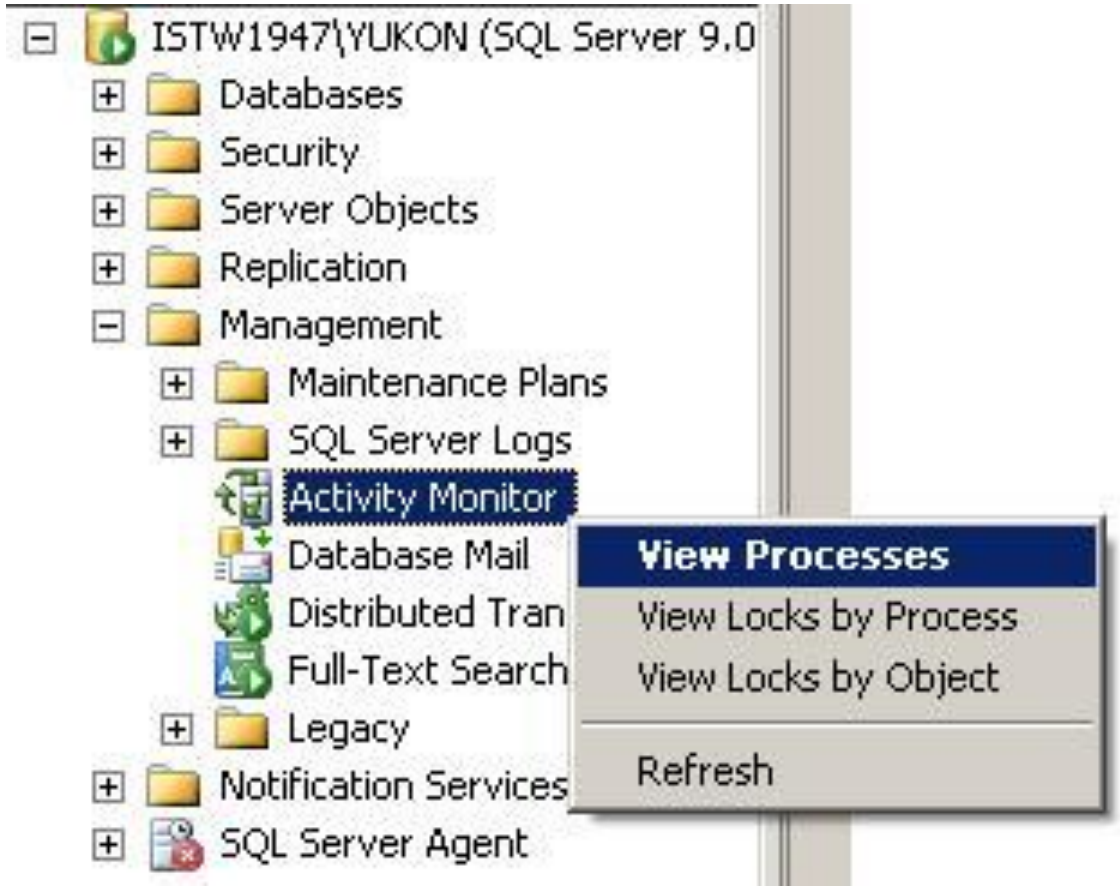
   This alternative points out the redundant security offered by maintaining a chain of transaction log backups across a series of full database backups.

> In some cases, you can also use transaction logs to restore a database to a specific point in time. For more information, Restore a SQL Server Database to a Point in Time (Full Recovery Model).

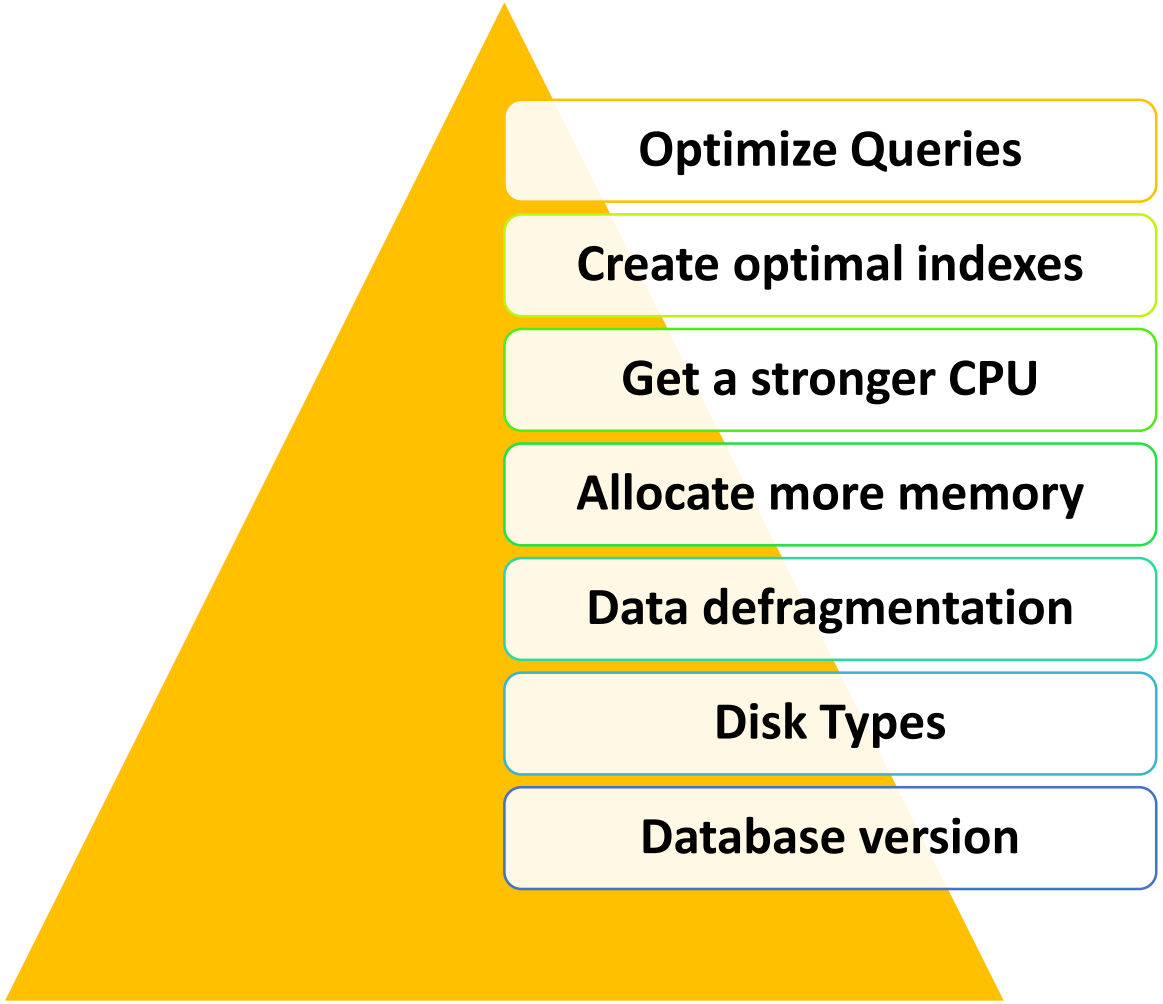
Your SQL Server Service Is Not Starting

- Reason: Service account password changed but not updated on the server where SQL Server instance is installed
- **Solution**: We need to update the password in services. The right way to do it is to use SQL Server Configuration Manager and type in new password (under Log On tab) as shown below

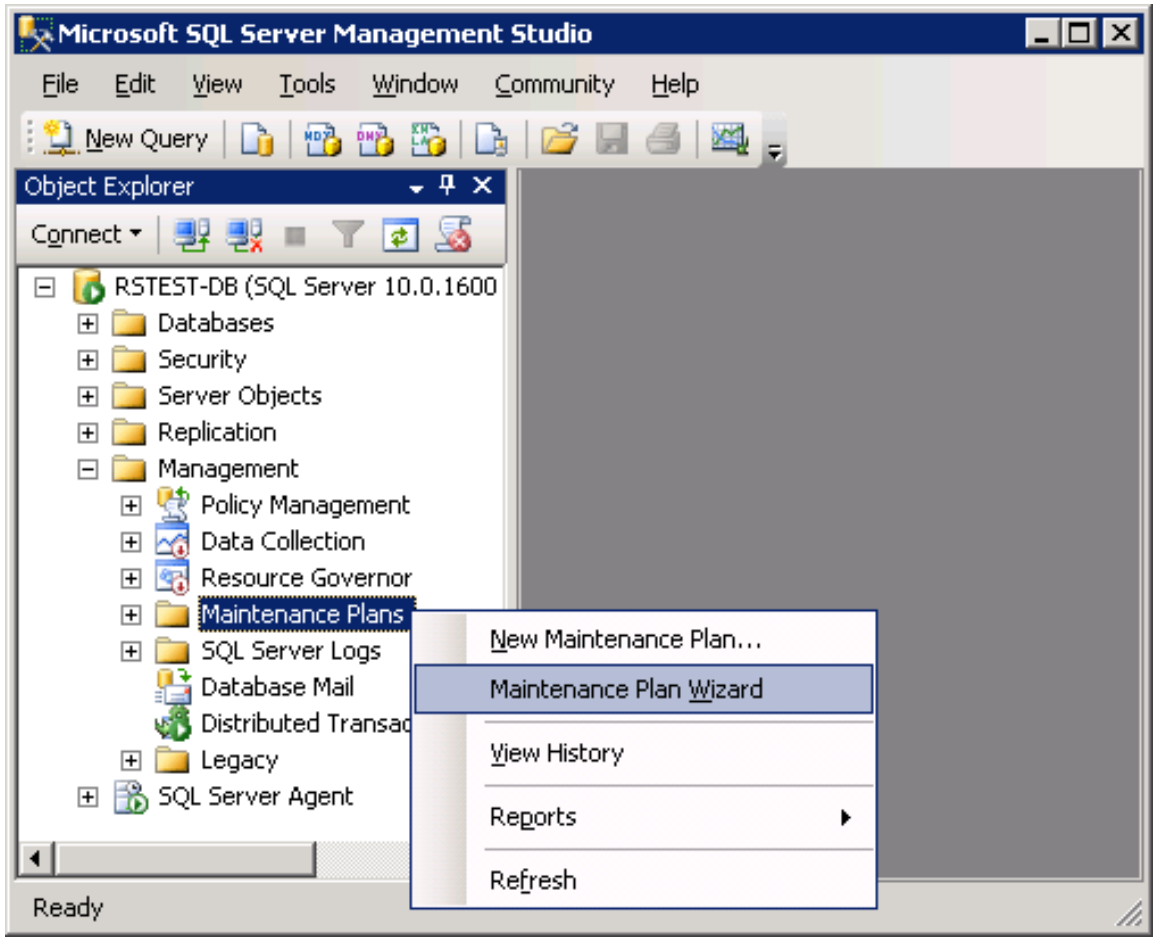
Deadlock and Process kill

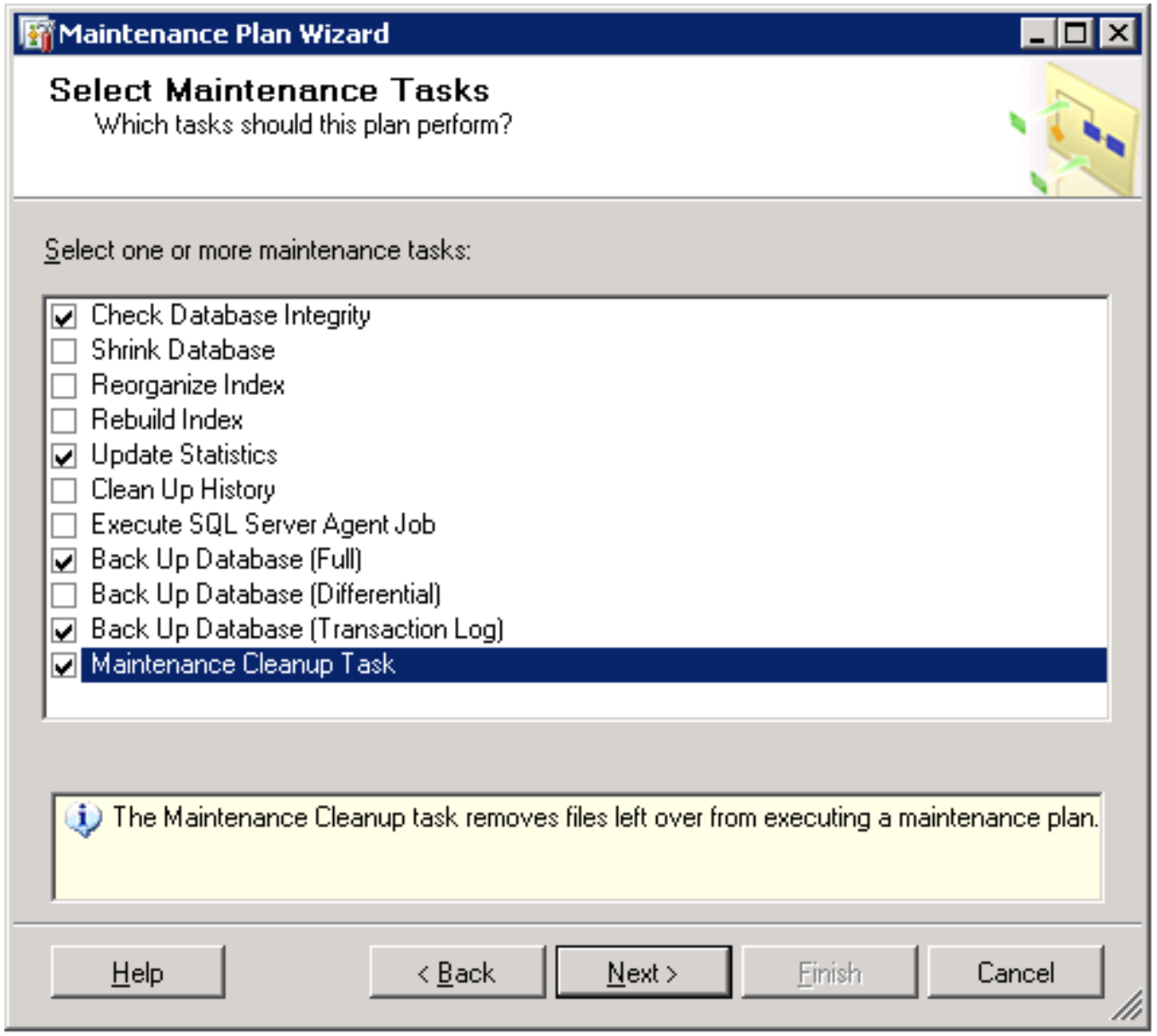


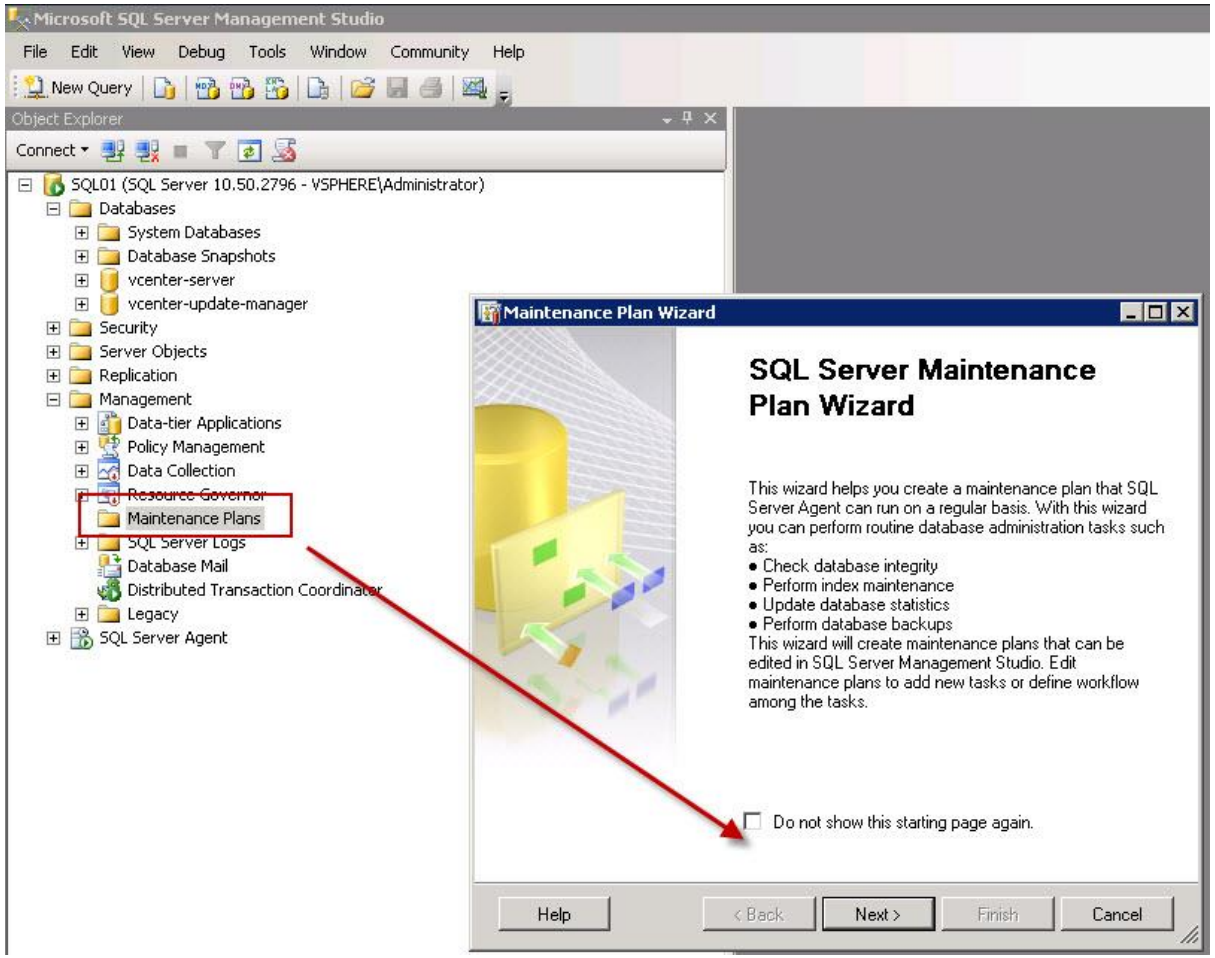
Top 5 Ways To Improve Your Database Performance

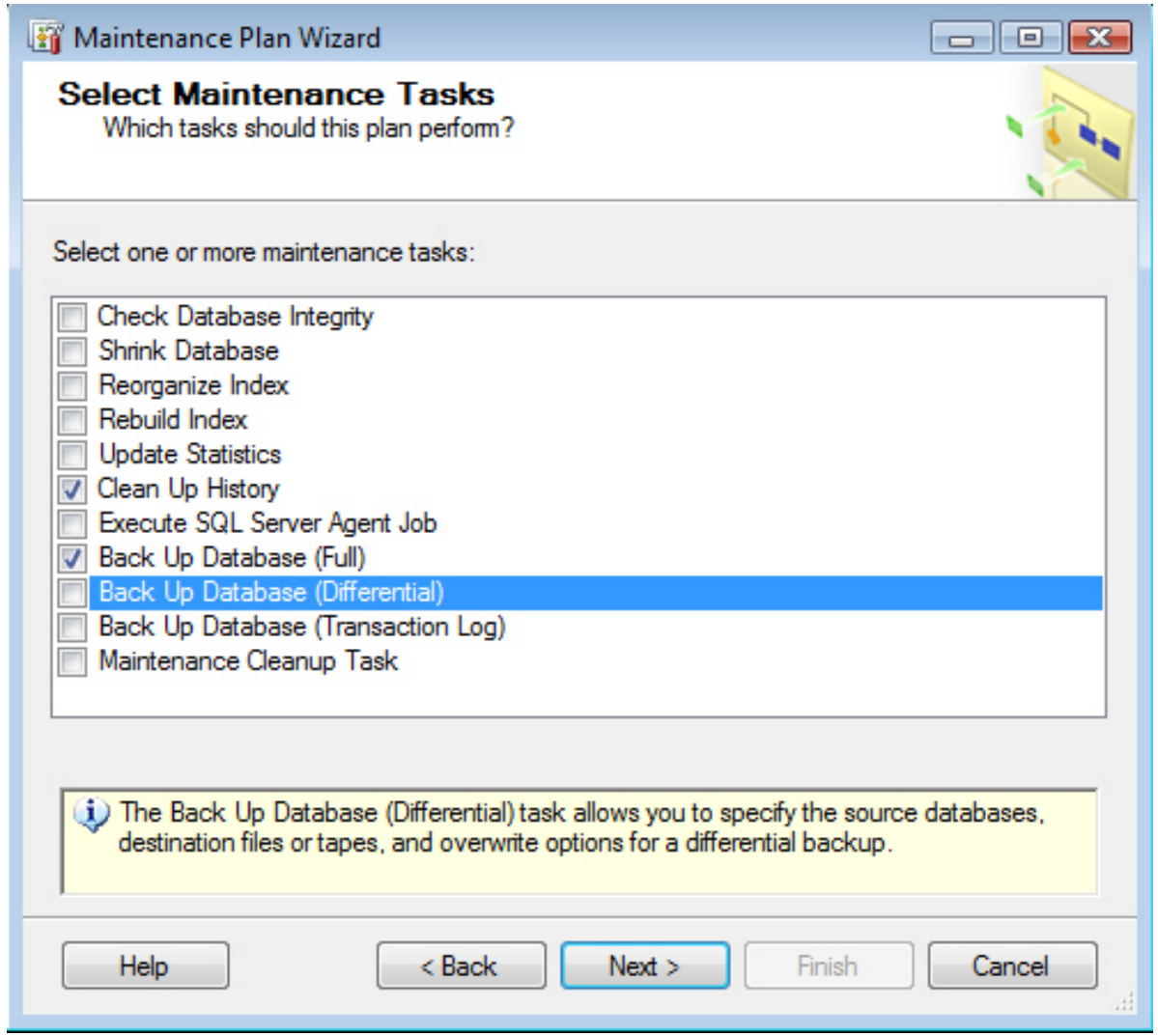


DB Maintenance


Microsoft SQL Server Management Studio
File Edit View Tools Window Community Help
New Query
Object Explorer
Connect
RSTEST-DB (SQL Server 10.0.1600
Databases
Security
Server Objects
Replication
Management
Policy Management
Data Collection
Resource Governor
Maintenance Plans
SQL Server Logs
Database Mail
Distributed Transac
Legacy
SQL Server Agent
New Maintenance Plan...
Maintenance Plan Wizard
View History
Reports
Refresh
Ready


Maintenance Plan Wizard
Select Maintenance Tasks
Which tasks should this plan perform?
Select one or more maintenance tasks:
Check Database Integrity
Shrink Database
Reorganize Index
Rebuild Index
Update Statistics
Clean Up History
Execute SQL Server Agent Job
Back Up Database (Full)
Back Up Database (Differential)
Back Up Database (Transaction Log)
Maintenance Cleanup Task
The Maintenance Cleanup task removes files left over from executing a maintenance plan.
Help
< Back
Next >
Finish
Cancel


Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
SQL01 (SQL Server 10.50.2796 - VSPHERE\Administrator)
Databases
System Databases
Database Snapshots
vcenter-server
vcenter-update-manager
Security
Server Objects
Replication
Management
Data-tier Applications
Policy Management
Data Collection
Resource Governor
Maintenance Plans
SQL Server Logs
Database Mail
Distributed Transaction Coordinator
Legacy
SQL Server Agent
Maintenance Plan Wizard
SQL Server Maintenance Plan Wizard
This wizard helps you create a maintenance plan that SQL Server Agent can run on a regular basis. With this wizard you can perform routine database administration tasks such as:
• Check database integrity
• Perform index maintenance
• Update database statistics
• Perform database backups
This wizard will create maintenance plans that can be edited in SQL Server Management Studio. Edit maintenance plans to add new tasks or define workflow among the tasks.
Do not show this starting page again.
Help
< Back
Next >
Finish
Cancel


Maintenance Plan Wizard
Select Maintenance Tasks
Which tasks should this plan perform?
Select one or more maintenance tasks:
Check Database Integrity
Shrink Database
Reorganize Index
Rebuild Index
Update Statistics
Clean Up History
Execute SQL Server Agent Job
Back Up Database (Full)
Back Up Database (Differential)
Back Up Database (Transaction Log)
Maintenance Cleanup Task
The Back Up Database (Differential) task allows you to specify the source databases, destination files or tapes, and overwrite options for a differential backup.
Help
< Back
Next >
Finish
Cancel

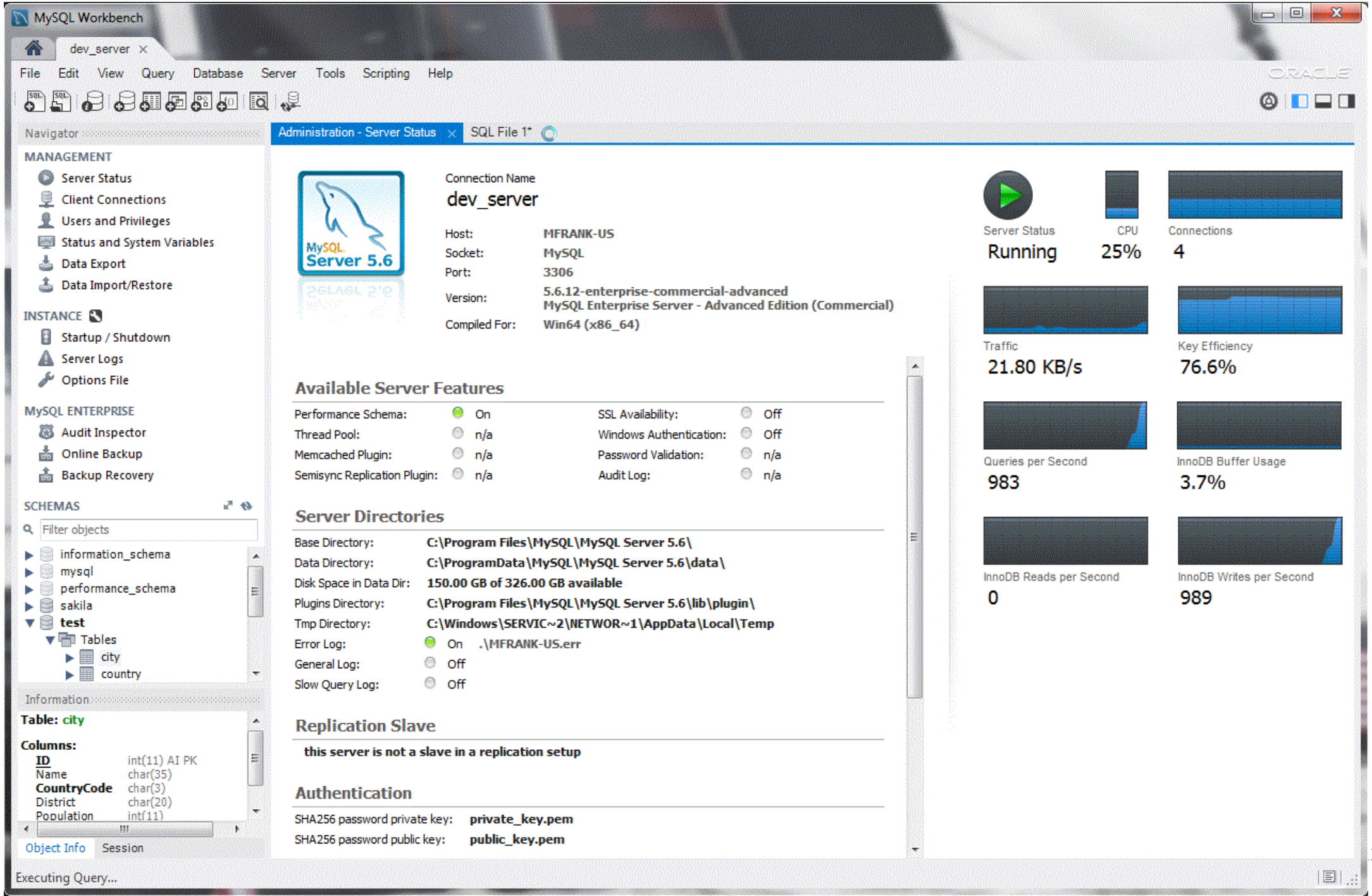
Day 7

Agenda

- **My SQL**
  - **Overview of My SQL**
  - **Comparison between SQL server and My SQL**

MySQL Overview

https://linuxhint.com/mysql-workbench-tutorial-for-ubuntu/

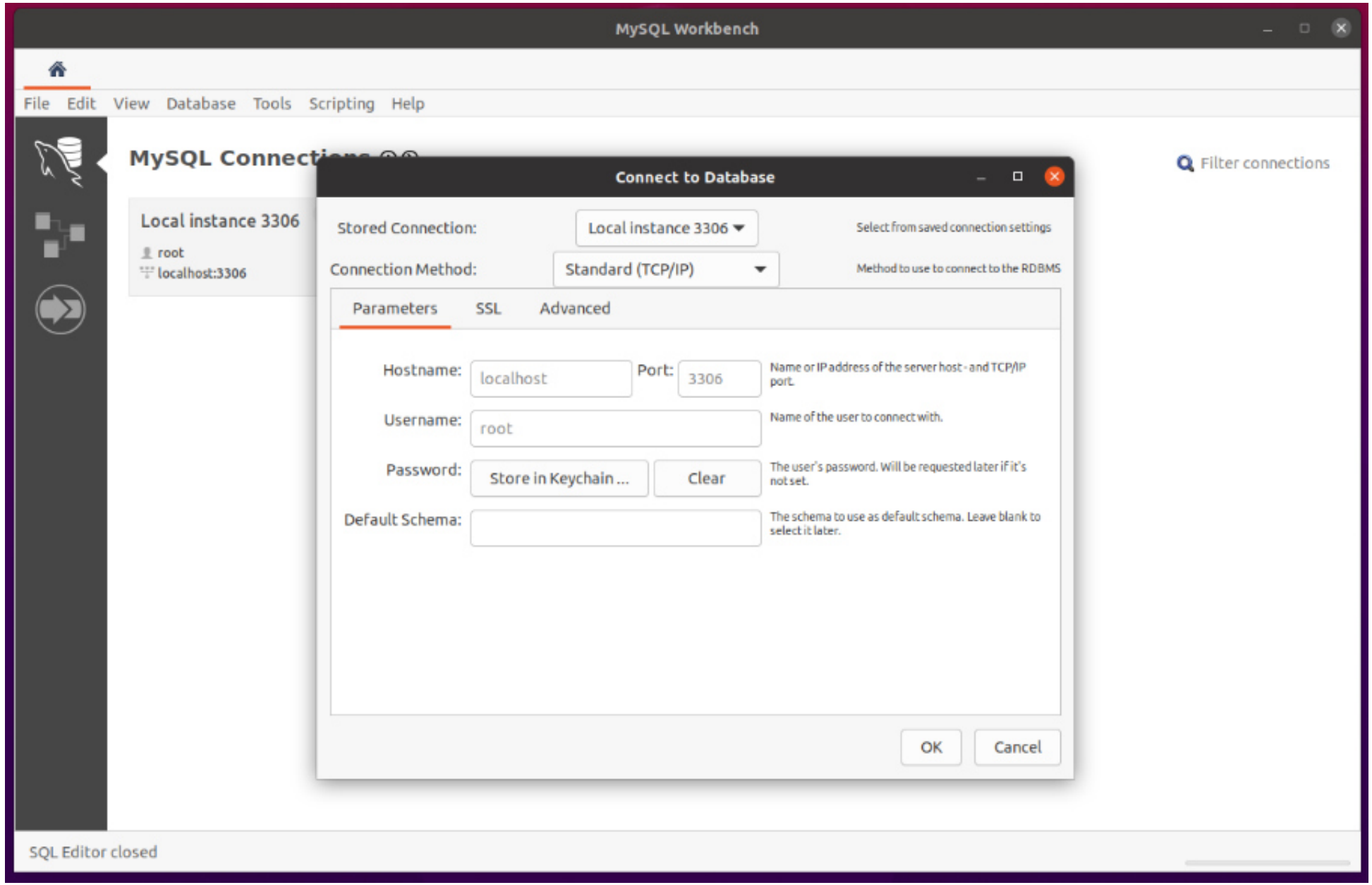

MySQL Workbench
dev_server
File Edit View Query Database Server Tools Scripting Help
Navigator
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variables
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
MySQL ENTERPRISE
Audit Inspector
Online Backup
Backup Recovery
SCHEMAS
Filter objects
information_schema
mysql
performance_schema
sakila
test
Tables
city
country
Information
Table: city
Columns:
ID int(11) AI PK
Name char(35)
CountryCode char(3)
District char(20)
Population int(11)
Object Info
Session
Administration - Server Status
SQL File 1*
MySQL Server 5.6
Connection Name
dev_server
Host: MFRANK-US
Socket: MySQL
Port: 3306
Version: 5.6.12-enterprise-commercial-advanced
MySQL Enterprise Server - Advanced Edition (Commercial)
Compiled For: Win64 (x86_64)
Available Server Features
Performance Schema: On
Thread Pool: n/a
Memcached Plugin: n/a
Semisync Replication Plugin: n/a
SSL Availability: Off
Windows Authentication: Off
Password Validation: n/a
Audit Log: n/a
Server Directories
Base Directory: C:\Program Files\MySQL\MySQL Server 5.6\
Data Directory: C:\ProgramData\MySQL\MySQL Server 5.6\data\
Disk Space in Data Dir: 150.00 GB of 326.00 GB available
Plugins Directory: C:\Program Files\MySQL\MySQL Server 5.6\lib\plugin\
Tmp Directory: C:\Windows\SERVIC~2\NETWOR~1\AppData\Local\Temp
Error Log: On .\MFRANK-US.err
General Log: Off
Slow Query Log: Off
Replication Slave
this server is not a slave in a replication setup
Authentication
SHA256 password private key: private_key.pem
SHA256 password public key: public_key.pem
Server Status
Running
CPU
25%
Connections
4
Traffic
21.80 KB/s
Key Efficiency
76.6%
Queries per Second
983
InnoDB Buffer Usage
3.7%
InnoDB Reads per Second
0
InnoDB Writes per Second
989
Executing Query...

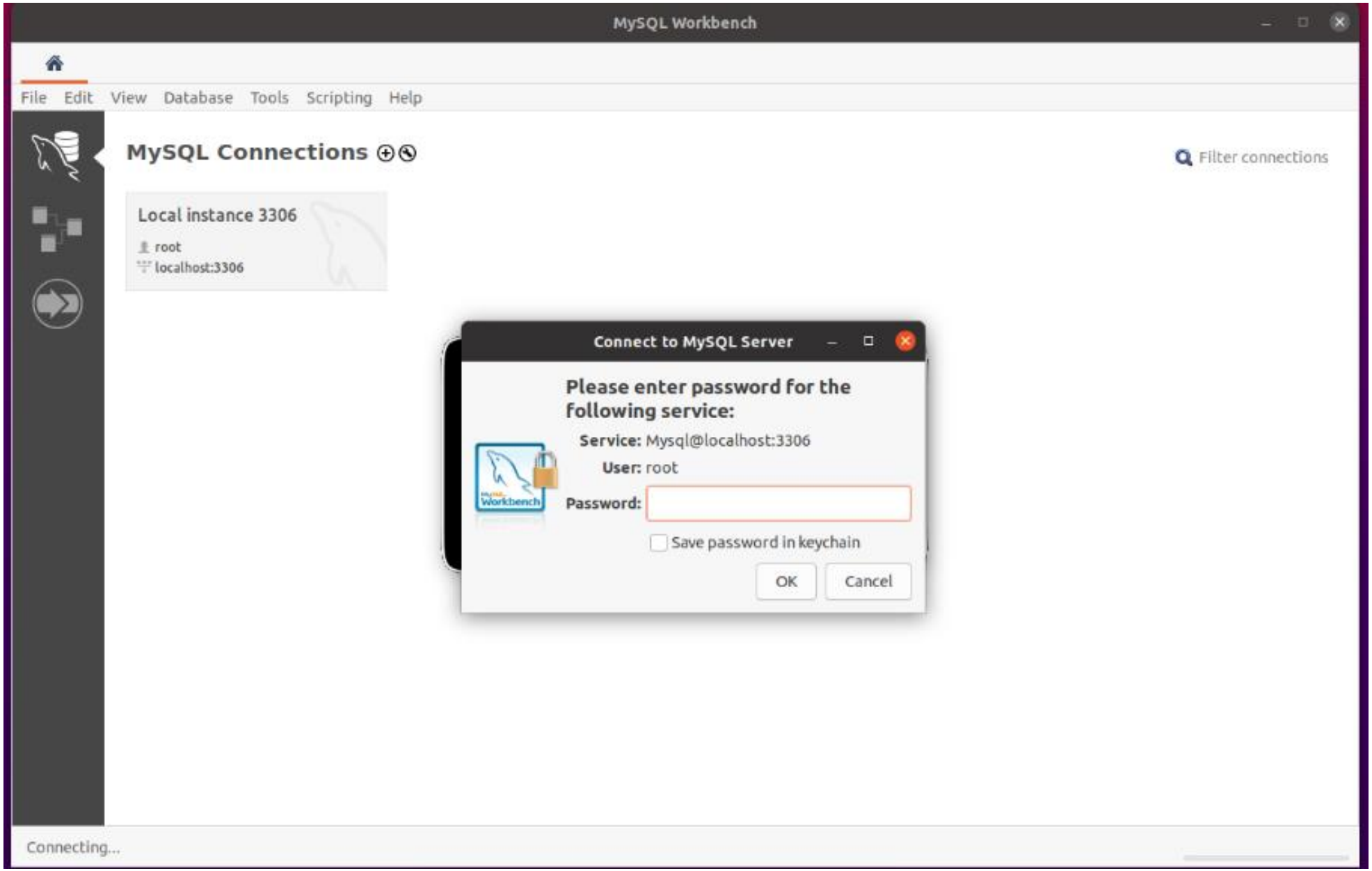
Key MySQL Workbench Features

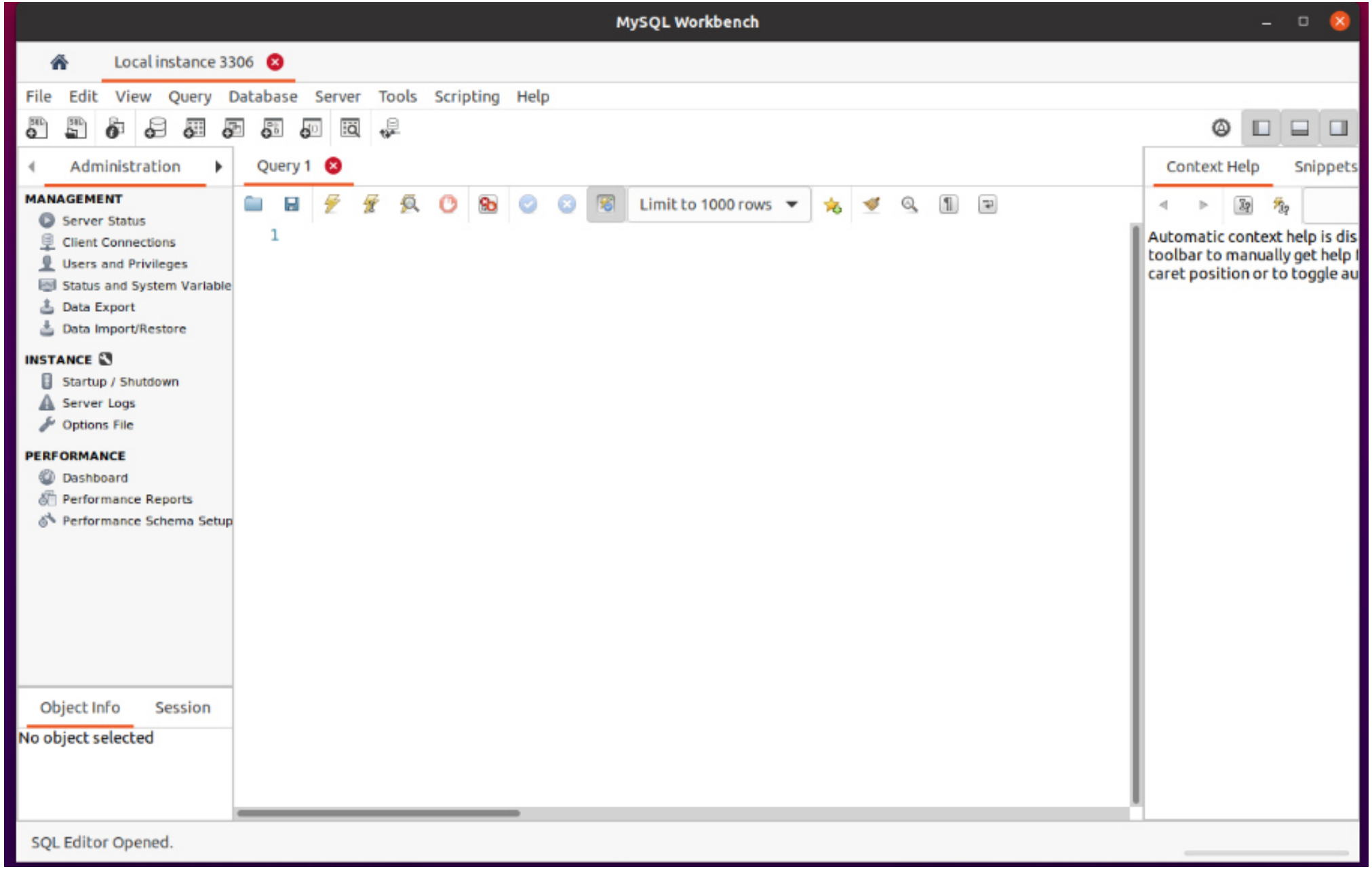
- **SQL Development**
- **Data Modeling**
- **Server Administration**
- **Data Migration**
- **MySQL Enterprise Support**

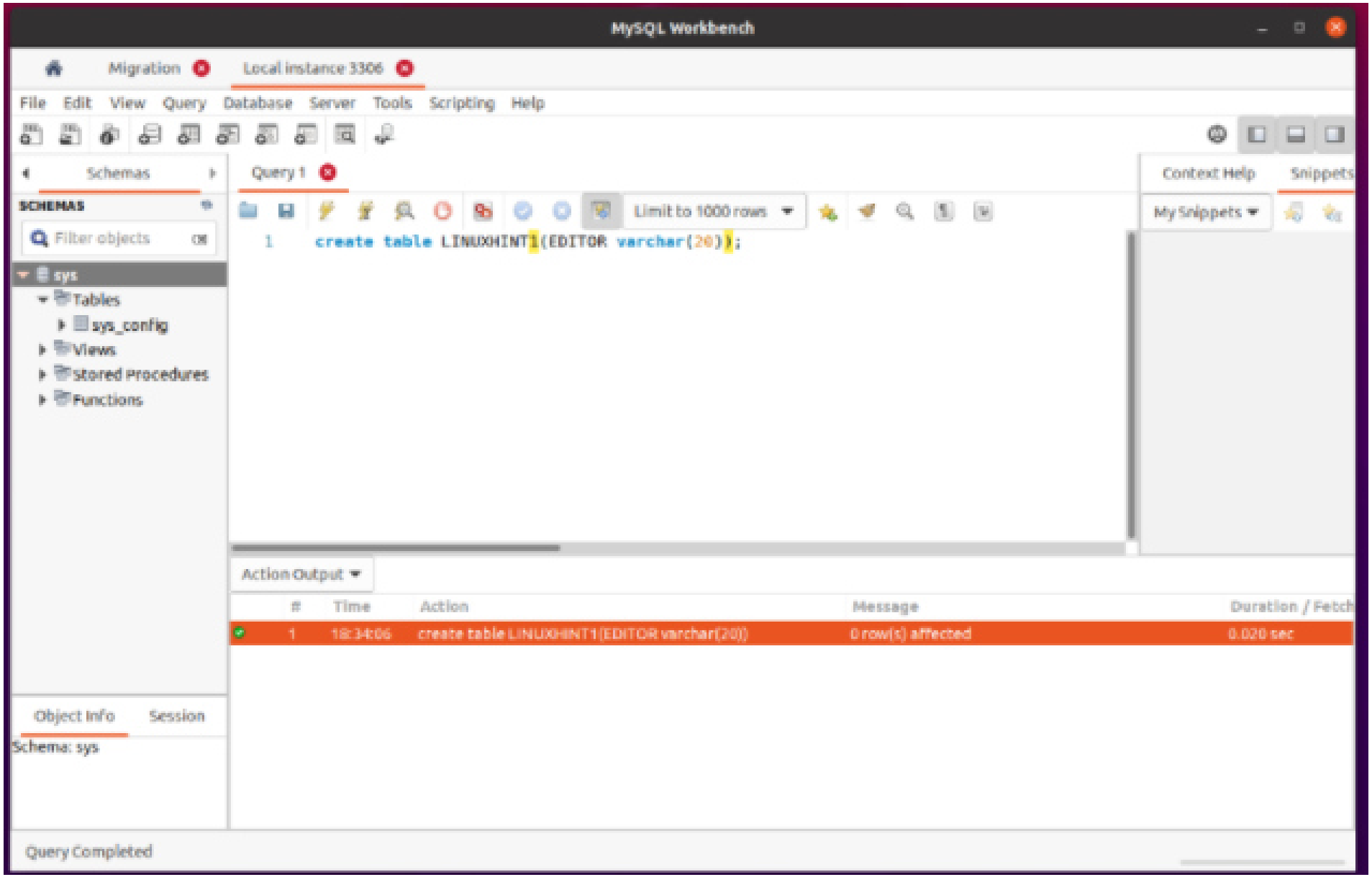
1. SQL Development

This is the first module in MySQL workbench that enables database administrators to create and manage connections to database servers.


MySQL Workbench
File Edit View Database Tools Scripting Help
MySQL Connections
Filter connections
Local instance 3306
root
localhost:3306
Connect to Database
Stored Connection:
Local instance 3306
Select from saved connection settings
Connection Method:
Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters
SSL
Advanced
Hostname:
localhost
Port:
3306
Name or IP address of the server host - and TCP/IP port.
Username:
root
Name of the user to connect with.
Password:
Store in Keychain ...
Clear
The user's password. Will be requested later if it's not set.
Default Schema:
The schema to use as default schema. Leave blank to select it later.
OK
Cancel
SQL Editor closed

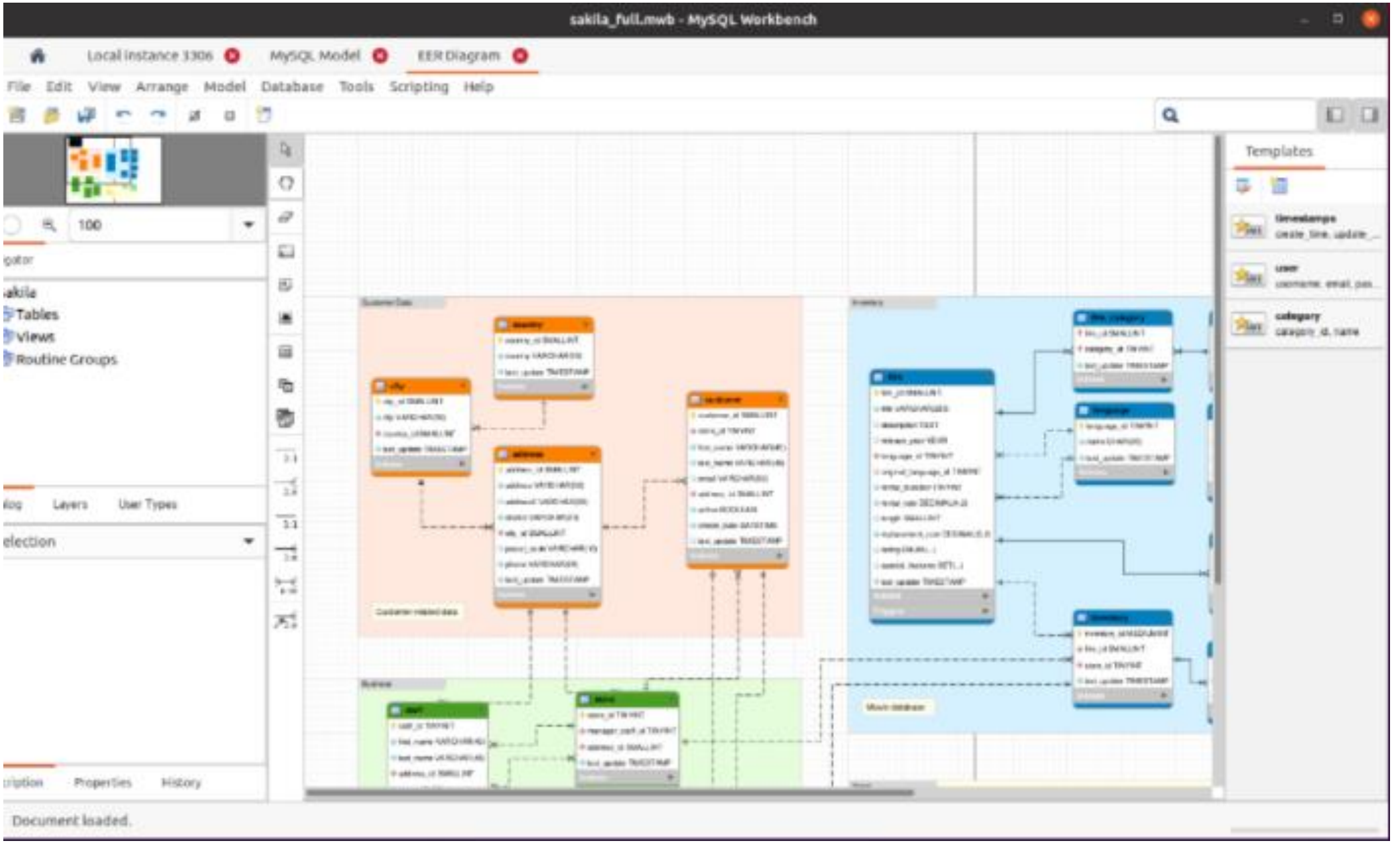

MySQL Workbench
File Edit View Database Tools Scripting Help
MySQL Connections
Filter connections
Local instance 3306
root
localhost:3306
Connect to MySQL Server
Please enter password for the following service:
Service: Mysql@localhost:3306
User: root
Password:
Save password in keychain
OK
Cancel
Connecting...


MySQL Workbench
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Query 1
Limit to 1000 rows
Context Help
Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variable
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Object Info
Session
No object selected
Automatic context help is dis
toolbar to manually get help
caret position or to toggle au
SQL Editor Opened.


MySQL Workbench
Migration
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Schemas
SCHEMAS
Filter objects
sys
Tables
sys_config
Views
Stored Procedures
Functions
Query 1
Limit to 1000 rows
1 create table LINUXHINT1(EDITOR varchar(20));
Context Help
Snippets
My Snippets
Action Output
Time Action Message Duration / Fetch
1 18:34:06 create table LINUXHINT1(EDITOR varchar(20)) 0 row(s) affected 0.020 sec
Object Info
Session
Schema: sys
Query Completed

2. Data Modeling

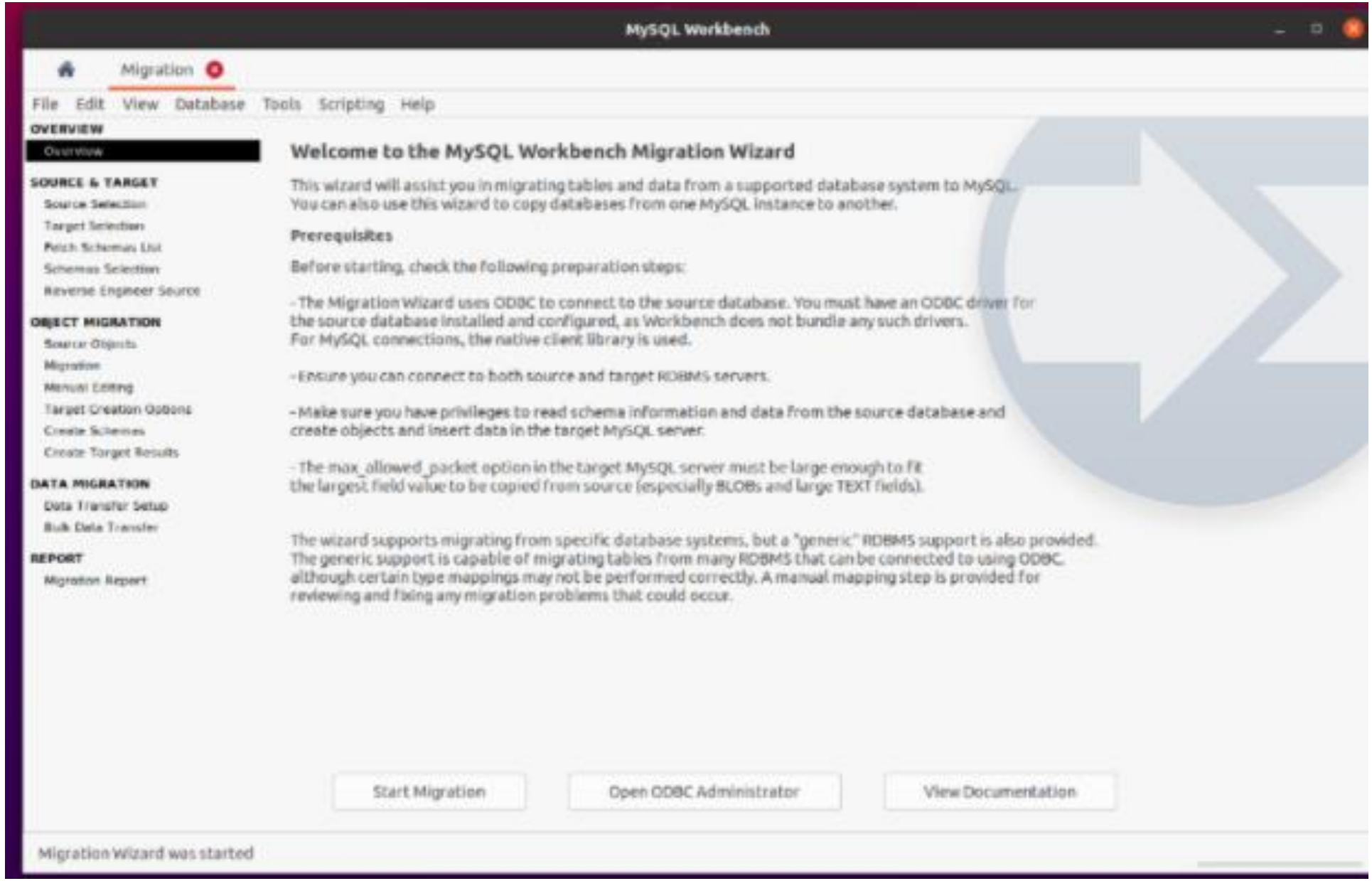
As the name suggests, it will help you create models of your database graphically and allow you to perform reverse and forward engineering between schema and live databases.


sakila_full.mwb - MySQL Workbench
Local instance 3306
MySQL Model
EER Diagram
File Edit View Arrange Model Database Tools Scripting Help
Templates
Tables
Views
Routine Groups
Layers
User Types
Properties
History
Document loaded.

3. Data Migration

It is a great feature to migrate the data from other databases like Microsoft SQL server, Microsoft Access, Sybase ASE, SQLite, and other relational database management systems (RDBMS).

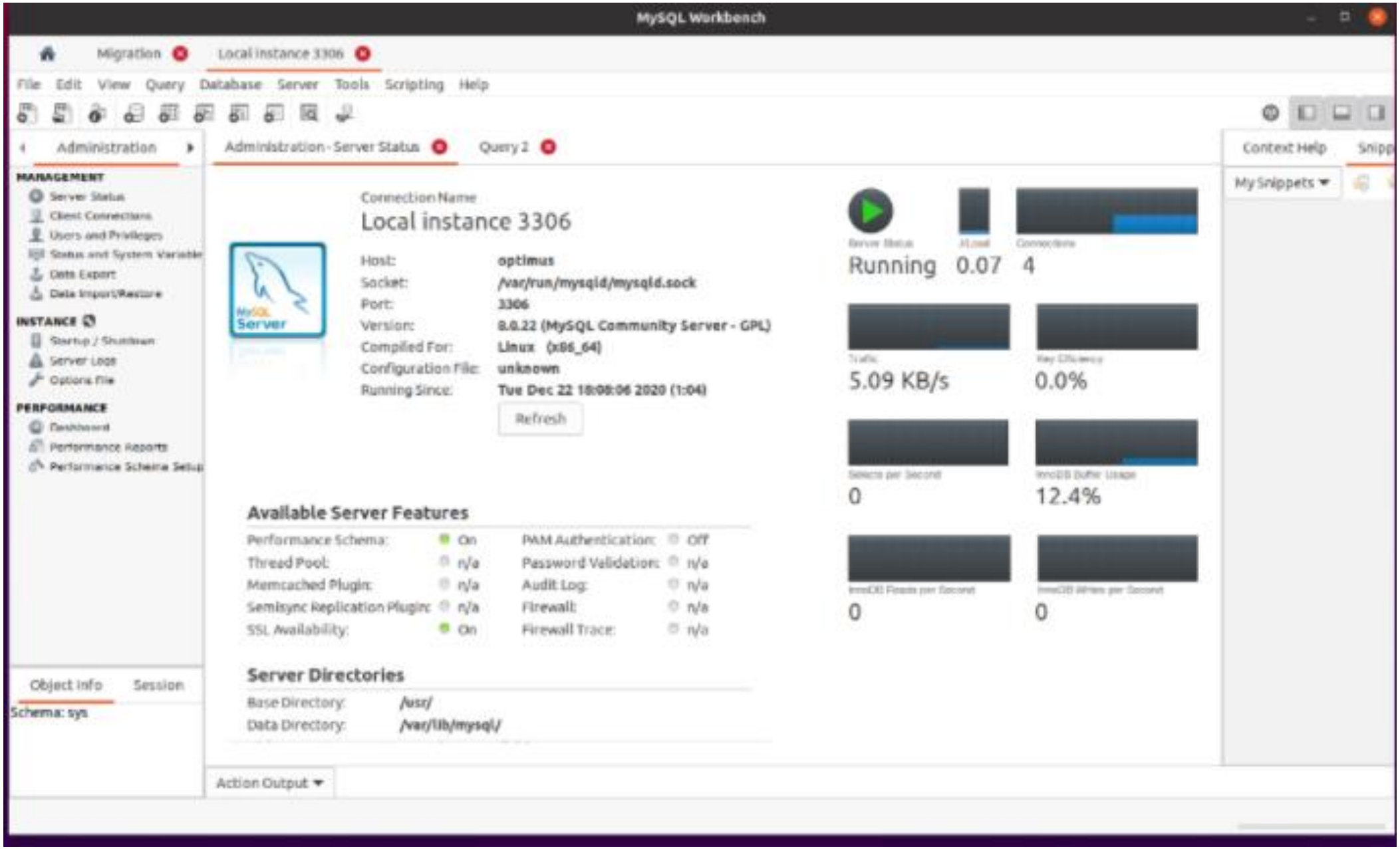
On top of that, you can also migrate from earlier versions of MySQL to the latest releases.


MySQL Workbench
Migration
File Edit View Database Tools Scripting Help
OVERVIEW
Overview
SOURCE & TARGET
Source Selection
Target Selection
Fetch Schemata List
Schemas Selection
Reverse Engineer Source
OBJECT MIGRATION
Source Objects
Migration
Manual Editing
Target Creation Options
Create Schemas
Create Target Results
DATA MIGRATION
Data Transfer Setup
Bulk Data Transfer
REPORT
Migration Report
Welcome to the MySQL Workbench Migration Wizard
This wizard will assist you in migrating tables and data from a supported database system to MySQL.
You can also use this wizard to copy databases from one MySQL instance to another.
Prerequisites
Before starting, check the following preparation steps:
- The Migration Wizard uses ODBC to connect to the source database. You must have an ODBC driver for the source database installed and configured, as Workbench does not bundle any such drivers.
For MySQL connections, the native client library is used.
- Ensure you can connect to both source and target RDBMS servers.
- Make sure you have privileges to read schema information and data from the source database and create objects and insert data in the target MySQL server.
- The max_allowed_packet option in the target MySQL server must be large enough to fit the largest field value to be copied from source (especially BLOBs and large TEXT fields).
The wizard supports migrating from specific database systems, but a "generic" RDBMS support is also provided. The generic support is capable of migrating tables from many RDBMS that can be connected to using ODBC, although certain type mappings may not be performed correctly. A manual mapping step is provided for reviewing and fixing any migration problems that could occur.
Start Migration
Open ODBC Administrator
View Documentation
Migration Wizard was started

4. Administration

Server Status

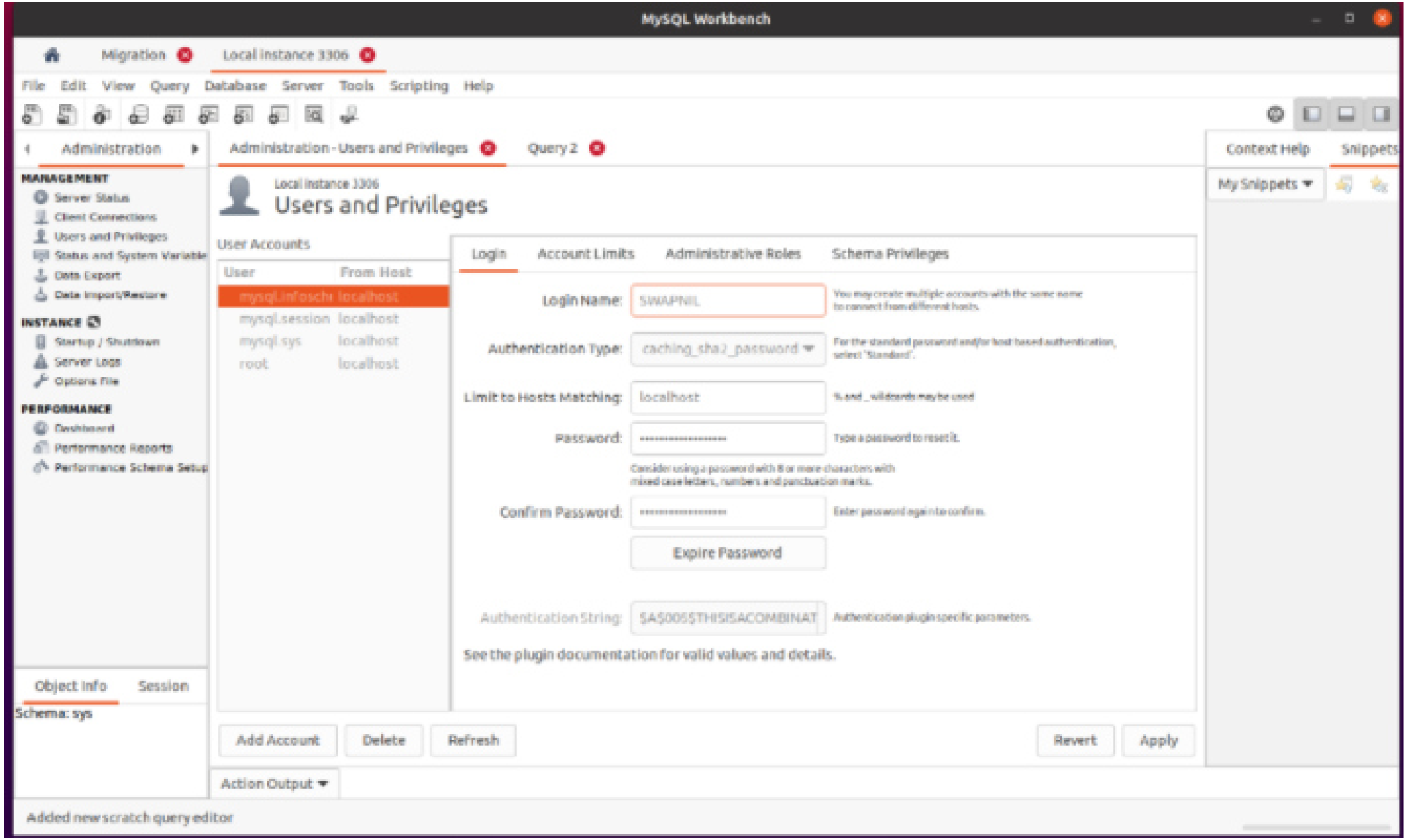
Under this tab database admins, can keep track of the performance of the currently connected database. Here, they can monitor the connection status, number of connections, and traffic.

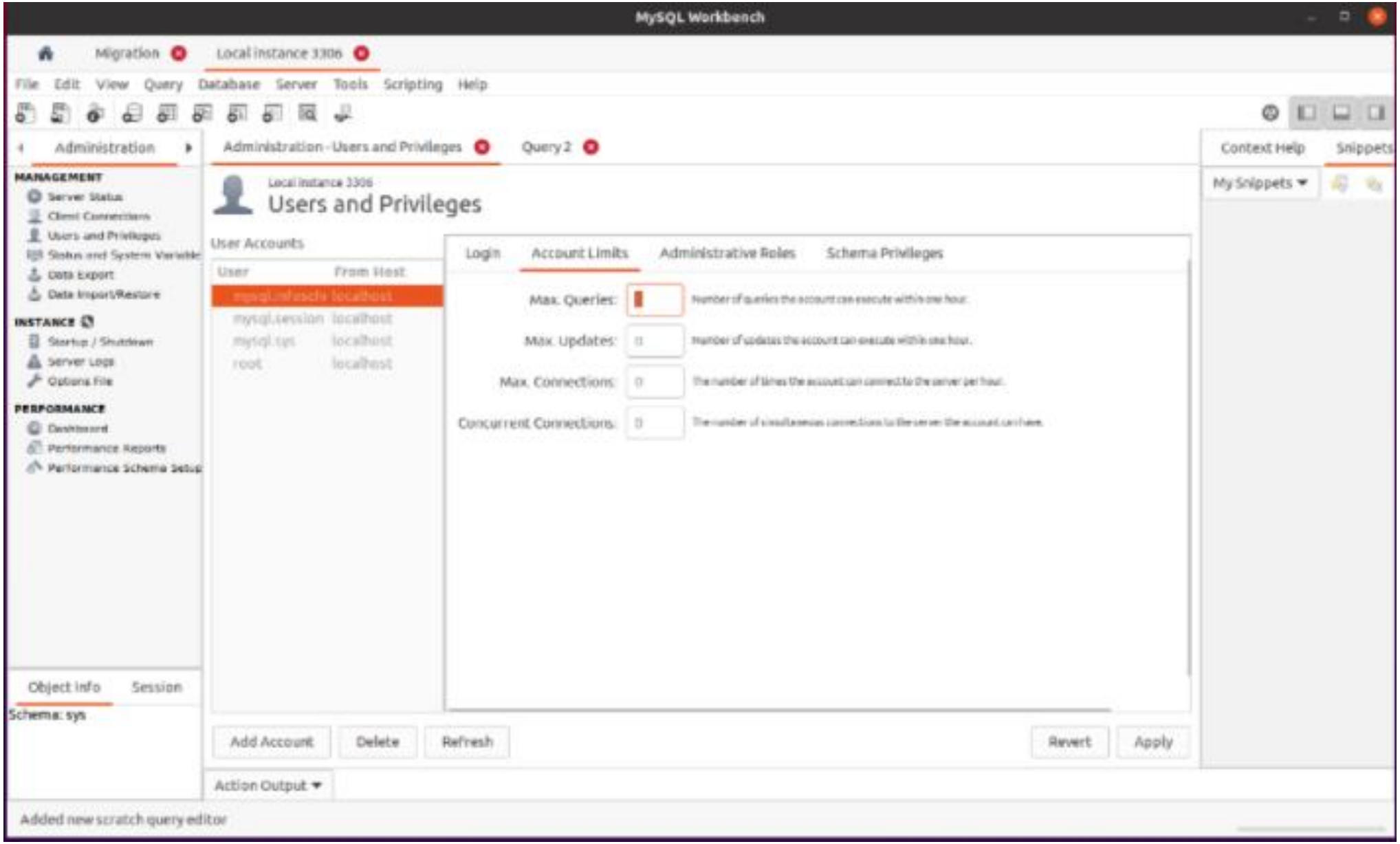

MySQL Workbench
Migration
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Administration - Server Status
Query 2
Context Help
Snipp
My Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variable
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Connection Name
Local instance 3306
Host: optimus
Socket: /var/run/mysqld/mysqld.sock
Port: 3306
Version: 8.0.22 (MySQL Community Server - GPL)
Compiled For: Linux (x86_64)
Configuration File: unknown
Running Since: Tue Dec 22 18:08:06 2020 (1:04)
Refresh
Running
0.07
4
5.09 KB/s
0.0%
0
12.4%
0
0
Available Server Features
Performance Schema: On
Thread Pool: n/a
Memcached Plugin: n/a
Semisync Replication Plugin: n/a
SSL Availability: On
PAM Authentication: Off
Password Validation: n/a
Audit Log: n/a
Firewall: n/a
Firewall Trace: n/a
Server Directories
Base Directory: /usr/
Data Directory: /var/lib/mysql/
Object Info
Session
Schema: sys
Action Output

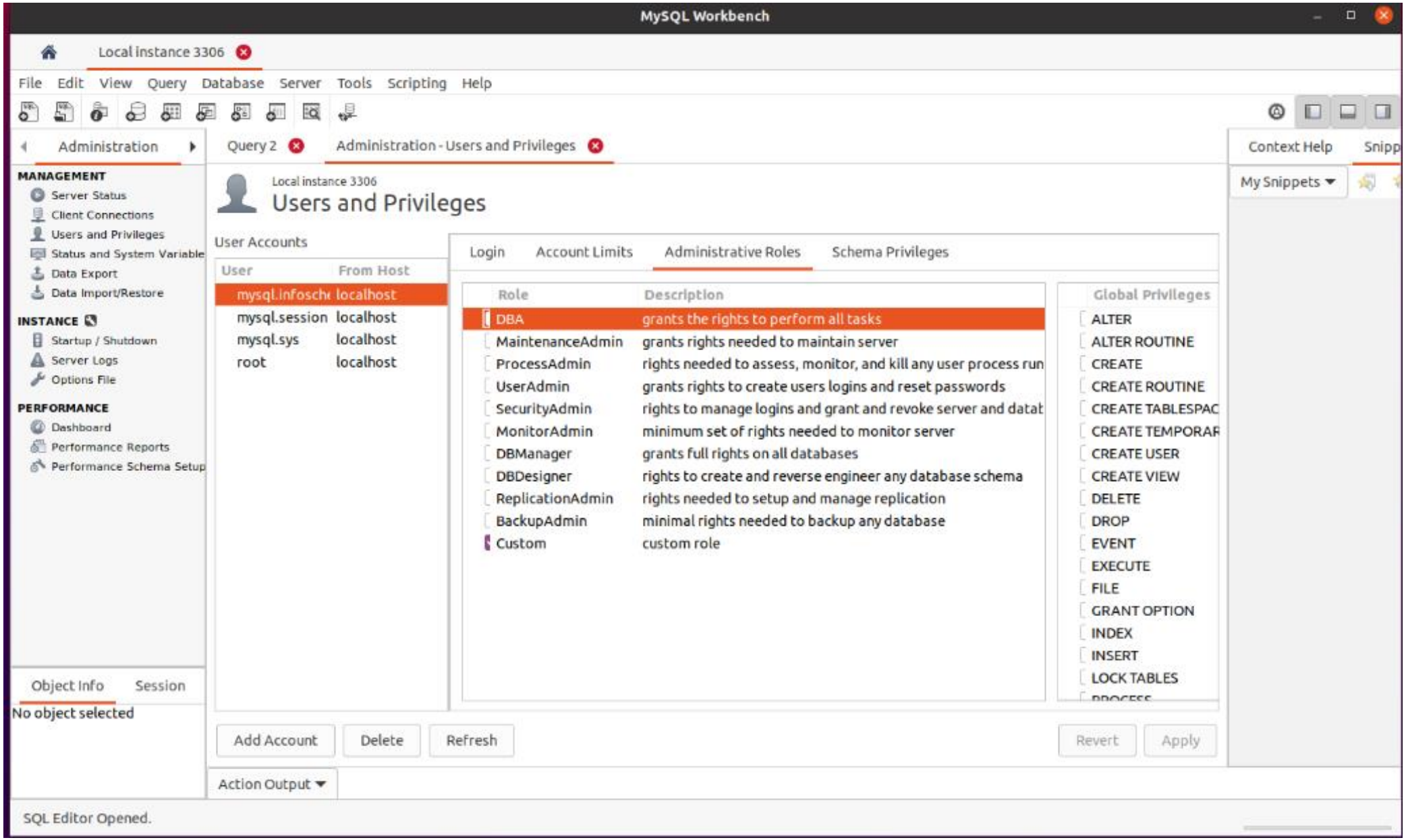
4. Administration

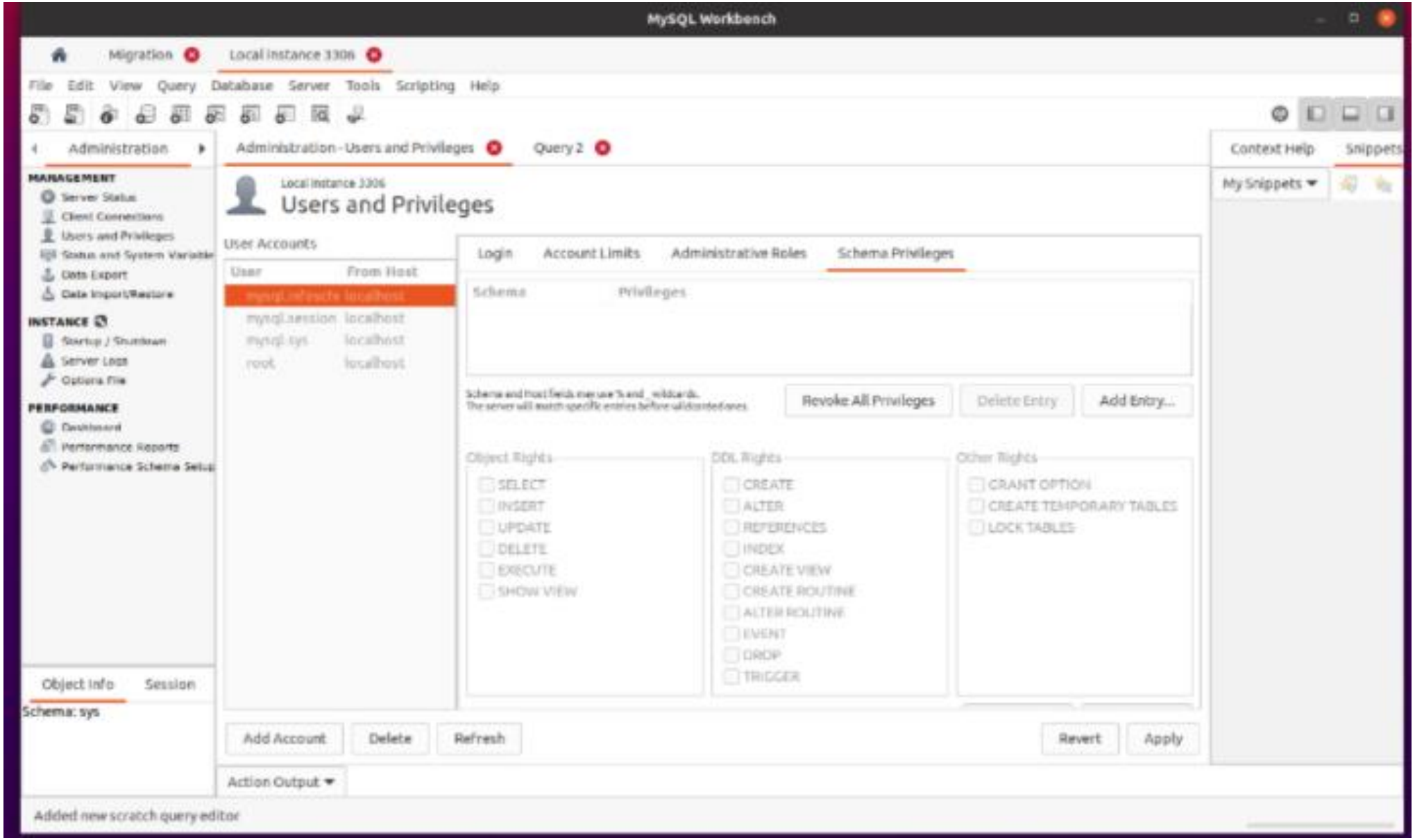
Users and Privileges

Here, administrator can add a specific user, and give them access to edit and work on databases and schemas. In the future, they can reassess the permissions and make changes to them according to requirements.


MySQL Workbench
Migration
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Administration - Users and Privileges
Query 2
Context Help
Snippets
My Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variables
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Local instance 3306
Users and Privileges
User Accounts
User
From Host
mysql.infoschema localhost
mysql.session localhost
mysql.sys localhost
root localhost
Login
Account Limits
Administrative Roles
Schema Privileges
Login Name:
SWAPNIL
You may create multiple accounts with the same name to connect from different hosts.
Authentication Type:
caching_sha2_password
For the standard password and/or host based authentication, select "Standard".
Limit to Hosts Matching:
localhost
% and _ wildcards may be used
Password:
Type a password to reset it.
Consider using a password with 8 or more characters with mixed case letters, numbers and punctuation marks.
Confirm Password:
Enter password again to confirm.
Expire Password
Authentication String:
A005$THISISACOMBINAT
Authentication plugin specific parameters.
See the plugin documentation for valid values and details.
Object Info
Session
Schema: sys
Add Account
Delete
Refresh
Revert
Apply
Action Output
Added new scratch query editor


MySQL Workbench
Migration
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Administration - Users and Privileges
Query 2
Context Help
Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Local instance 3306
Users and Privileges
User Accounts
User
From Host
mysql.session localhost
mysql.sys localhost
root localhost
Login
Account Limits
Administrative Roles
Schema Privileges
Max. Queries:
Max. Updates:
Max. Connections:
Concurrent Connections:
My Snippets
Object Info
Session
Schema: sys
Add Account
Delete
Refresh
Revert
Apply
Action Output
Added new scratch query editor

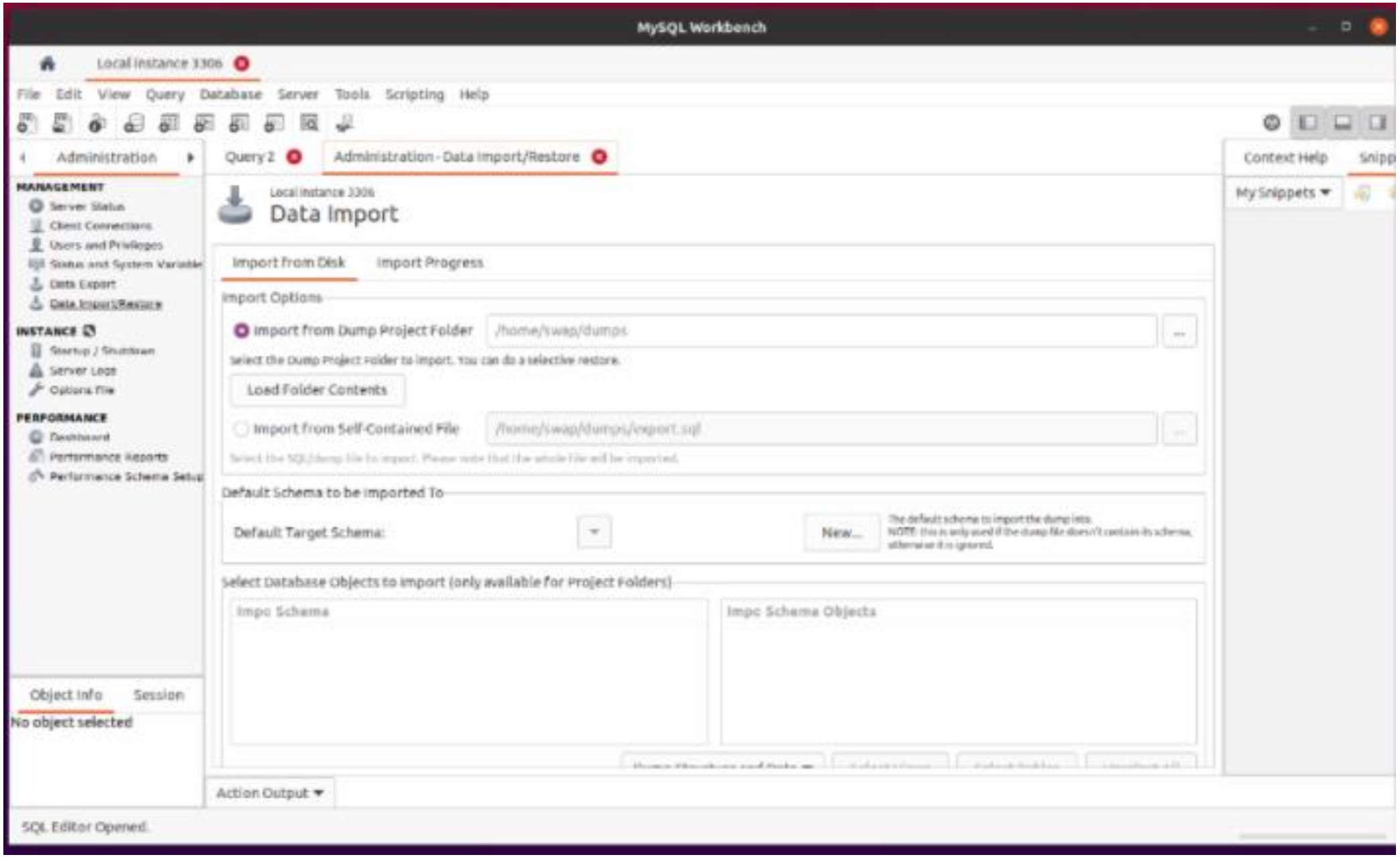

MySQL Workbench
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Query 2
Administration - Users and Privileges
Context Help
Snipp
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variable
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Local instance 3306
Users and Privileges
My Snippets
User Accounts
User
From Host
mysql.infosch
localhost
mysql.session
localhost
mysql.sys
localhost
root
localhost
Login
Account Limits
Administrative Roles
Schema Privileges
Role
Description
DBA
grants the rights to perform all tasks
MaintenanceAdmin
grants rights needed to maintain server
ProcessAdmin
rights needed to assess, monitor, and kill any user process run
UserAdmin
grants rights to create users logins and reset passwords
SecurityAdmin
rights to manage logins and grant and revoke server and datat
MonitorAdmin
minimum set of rights needed to monitor server
DBManager
grants full rights on all databases
DBDesigner
rights to create and reverse engineer any database schema
ReplicationAdmin
rights needed to setup and manage replication
BackupAdmin
minimal rights needed to backup any database
Custom
custom role
Global Privileges
ALTER
ALTER ROUTINE
CREATE
CREATE ROUTINE
CREATE TABLESPAC
CREATE TEMPORAR
CREATE USER
CREATE VIEW
DELETE
DROP
EVENT
EXECUTE
FILE
GRANT OPTION
INDEX
INSERT
LOCK TABLES
Object Info
Session
No object selected
Add Account
Delete
Refresh
Revert
Apply
Action Output
SQL Editor Opened.


MySQL Workbench
Migration
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Administration - Users and Privileges
Query 2
Context Help
Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Local instance 3306
Users and Privileges
User Accounts
User
From Host
mysql.session localhost
mysql.sys localhost
root localhost
Login
Account Limits
Administrative Roles
Schema Privileges
Schema
Privileges
Revoke All Privileges
Delete Entry
Add Entry...
Object Rights
SELECT
INSERT
UPDATE
DELETE
EXECUTE
SHOW VIEW
DDL Rights
CREATE
ALTER
REFERENCES
INDEX
CREATE VIEW
CREATE ROUTINE
ALTER ROUTINE
EVENT
DROP
TRIGGER
Other Rights
GRANT OPTION
CREATE TEMPORARY TABLES
LOCK TABLES
My Snippets
Object Info
Session
Schema: sys
Add Account
Delete
Refresh
Revert
Apply
Action Output
Added new scratch query editor

4. Administration

Data Import/Restore

Here you can import schemas and restore them to previous ones.


MySQL Workbench
Local instance 3306
File Edit View Query Database Server Tools Scripting Help
Administration
Query 2
Administration - Data Import/Restore
Context Help
Snipp
My Snippets
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variable
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Local instance 3306
Data Import
Import from Disk
Import Progress
Import Options
Import from Dump Project Folder
/home/swap/dumps
Select the Dump Project Folder to import. You can do a selective restore.
Load Folder Contents
Import from Self-Contained File
/home/swap/dumps/export.sql
Default Schema to be Imported To
Default Target Schema:
New...
Select Database Objects to import (only available for Project Folders)
Impo Schema
Impo Schema Objects
Object Info
Session
No object selected
Action Output
SQL Editor Opened.

Comparison between SQL SERver and MySql

Difference between MySQL and MS SQL Server

- SQL is an acronym for Structured Query Language. It is used to access, manipulate and retrieve information from a database.
- MySQL is an open source Relational Database Management System (RDBMS) based on Structured Query Language (SQL). It runs on platforms like Linux, UNIX and Windows.
- SQL Server is owned and developed by Microsoft Corporation. The primary function of SQL Server is the storage and access of data as it is required by other applications, whether they are running on other computers that are connected to a network, or the computer on which the server is stored.

MS SQL Server	MySQL
Developed by Microsoft.	Developed by Oracle.
It supports programming languages like C++, JAVA, Ruby, Visual Basic, Delphi, R etc.	MySQL offers extended running support for languages like Perl, Tcl, Haskey etc.
Expects a large amount of operational storage space.	Expects less amount of operational storage space.
It enables for stopping query execution.	It doesn't allow query cancellation mid-way in the process.
Doesn't block the database while backing up the data.	Blocks the database while backing up the data.

It is not free.	It is open source. It is freely available.
It is a highly secured and doesn't allow any kind of database file manipulation while running.	It allows database file manipulation while running.
It is available in multiple editions, such as Enterprise, Standard, Web, Workgroup, or Express.	It is available in MySQL Standard Edition, MySQL Enterprise Edition, and MySQL Cluster Grade Edition.


THANK
YOU!