Chapter 2: LAB PLAN FOR OUR PRACTICE CLASSES

STEP 1: INSTALL SQL SERVER 2022 PURPOSE: TO STORE DATABASES	WEBSITE1
STEP 2: INSTALL SQL SERVER 2019 PURPOSE: TO STORE DATABASES	WEBSITE2
STEP 3: INSTALL SSMS TOOL (<mark>SQL SERVER</mark> MANAGEMENT STUDIO) PURPOSE: TO DEVELOP / MANAGE THE DATABASES	BROWSER

STEP 4: CONNECT TO OUR ONLINE SERVER (LICENSING COPY)



OS REQUIREMENTS [ANY ONE]				
VERSION NAME VERSION NUMBER INSTALLATION REQUIREMENTS				
SQL Server 2022 *	16.0			
SQL Server 2019 * 15.0		WINDOWS 8 OR HIGHER. 64 bit		
SQL Server 2017 14.0				
SQL Server 2016	13.0			
HARDWARE REQUIREMENTS				
6 GB RAM	10 GB DISK SPACE	Any Processor that supports Windows OS		

STEP 1: SQL Server Installation

Screen 1: Download SQL Server 2022 FROM https://sqlschool.com/downloads/

Right Click > Extract.

Then you get one Folder.

Inside the folder > Double Click Setup Application File [Green Icon] :



Screen 2: GO TO LEFT > INSTALLATION > RIGHT: NEW INSTALLATION WE GET "INSTALLATION CENTER" SCREEN > GO TO INSTALLATION PAGE > NEW INSTALLATION

📷 SQL Server Installation Center	
Planning	New SQL Server stand-alone installation or add features to an existing installation
Installation	Launch a wizard to install SQL Server 2017 in a non-clustered environment or to add features to an existing SQL Server 2017 instance.
Maintenance	Install SQL Server Reporting Services
Tools	Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.
Resources	Install SQL Server Management Tools
Advanced	Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BC and Database Tuning Advisor. An internet connection is required to install these tools.
Options	
	Install SQL Server Data Tools
	Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.
	😰 New SQL Server failover cluster installation
	🖾 Launch a wizard to install a single-node SQL Server 2017 failover cluster.
	Add node to a SQL Server failover cluster
	Launch a wizard to add a node to an existing SQL Server 2017 failover cluster.

Screen 3: Click Next > SELECT DEVELOPER EDITION > Accept Licensing Terms > Click Next :

License Terms

To install SQL Server 2017, you must accept the Microsoft Software License Terms.

Product Key	MICROSOFT EVALUATION SOFTWARE LICENSE TERMS	^			
License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Feature Configuration Rules Ready to Install Installation Progress Complete	 MICROSOFT SQL SERVER 2017 EVALUATION These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the evaluation software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft updates, supplements, Internet-based services, and 				
	Copy Print Copy Print SQL Server 2017 transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server 2017 data processing and privacy controls, please see the <u>Privacy Statement</u> .	nt			
	< Back Next > Cancel				

Uncheck **Azure** Extension box

Screen 4: Click Next > Select Database Engine Component (For OLTP: LIVE, Real-time Data) > Next

Feature Selection

Select the Evaluation features to	install.		
Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Ready to Install Installation Progress Complete	 Cooking for Reporting Service Eeatures: Database Engine Services SQL Server Replication SQL Server Replication R Python Full-Text and Semantia Data Quality Services PolyBase Query Service Analysis Services Charles Engine Services Select All Unstance goot directory: Shared feature directory (x86): 	vices (In-Database) vices (In-Database) c Extractions for Sea e for External Data C:\Program Files\Mid C:\Program Files\Mid C:\Program Files (x86	Includes the Database Engine, the core service for storing, processing and securing data. The Database Engine provides controlled access Includes the Database Engine, the core service for storing, processing and securing data. The Database Engine provides controlled access Prerequisites for selected features: Already installed: Windows PowerShell 3.0 or higher Microsoft .NET Framework 4.6 Disk Space Requirements Drive C: 1001 MB required, 64675 MB available crosoft SQL Server\ S)\Microsoft SQL Server\
			< <u>B</u> ack <u>N</u> ext > Cancel

Screen 5: Specify a Name to your Installation = INSTANCE NAME > Click Next :

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

oduct Key	O Default instance					
cense Terms	Named instance:	SOLSCHOOL LAB				
obal Rules		bqcbchibbc_chb				
licrosoft Update						
oduct Updates	Instance ID:	SQLSCHOOL_LAB				
stall Setup Files						
stall Rules						
eature Selection	SQL Server directory:	C:\Program Files\Mic	rosoft SQL Ser	ver\MSSQL14.S0	QLSCHOOL_LAB	
eature Rules	In stall and in standard					
stance Configuration	installed instances:					
rver Configuration	Instance Name	Instance ID	Features	Editio	'n	Version
tabase Engine Configuration	MSSQLSERVER	MSSQL15.MSSQLS	SQLEngine_V	/Next Evalua	tion 1	5.0.1000.34
ature Configuration Rules	<shared compone<="" td=""><td></td><td>SSMS, Adv_S</td><td>SMS</td><td>1</td><td>3.0.15900.1</td></shared>		SSMS, Adv_S	SMS	1	3.0.15900.1
ady to Install						
stallation Progress						
omplete						
			F	< Back	Next >	

Screen 6: Click Next > Next > Add Current User as Administrator:

Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

Deardwet Key	6 6 C				
Product Key	Server Configuration	Data Directories	TempDB	FILESTREAM	
License Terms	Specify the authent	ication mode and	administrat	ors for the Database Engl	ne
Global Rules	openly the duthent	cation mode and	administrat	ors for the batabase engi	inc.
Microsoft Update	Authentication Mod	le			
Product Updates	Windows authen	tication mode			
Install Setup Files					
Install Rules	O Mixed Mode (SQ	L Server authentica	ation and V	Vindows authentication)	
Feature Selection	Specify the passwor	d for the SQL Serv	er system a	dministrator (sa) account	
Feature Rules	Enter password:				
Instance Configuration					
Server Configuration	Confirm password:				
Database Engine Configuration	Specify SQL Server a	dministrators			
Feature Configuration Rules	DESKTOP-ISI VER6\	SOLSCHOOL (SOLS	СНООГЛ		SOL Server administrators
Ready to Install					have unrestricted access
Installation Progress					to the Database Engine.
Installation Progress Complete					to the Database Engine.
Installation Progress Complete					to the Database Engine.
Installation Progress Complete					to the Database Engine.
Installation Progress Complete	Add <u>C</u> urrent User	<u>A</u> dd <u>R</u>	emove		to the Database Engine.
Installation Progress Complete	Add <u>C</u> urrent User	<u>A</u> dd <u>R</u>	emove		to the Database Engine.
Installation Progress Complete	Add <u>C</u> urrent User	<u>A</u> dd <u>R</u>	emove		to the Database Engine.

Screen 7: Install

Ready to Install

Verify the SQL Server 2017 features to be installed.

Product Key	Ready to install SQL Server 2017:
License Terms	□ Summary
Global Rules	Edition: Evaluation
Microsoft Update	Action: Install (Product Update)
Product Updates	🛓 · Prerequisites
Install Setup Files	Already installed:
Install Rules	···· Windows PowerShell 3.0 or higher
Frankur Calastian	Microsoft .NET Framework 4.6
Feature Selection	□ Io be installed from media:
Feature Rules	- General Configuration
Instance Configuration	- Features
Server Configuration	Database Engine Services
Database Engine Configuration	Instance configuration
Feature Configuration Rules	Instance Name: SQLSCHOOL_LAB
Ready to Install	···· Instance ID: SQLSCHOOL_LAB
Installation Progress	instance IDs
Complete	SQL Database Engine: MSSQL14.SQLSCHOOL_LAB
complete	< >
	Configuration file path:
	C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log\20190812_145102\ConfigurationFile.ini
	< Back Install Cancel

STEP 2: HOW TO INSTALL SSMS TOOL?

SSMS:SQL SERVER MANAGEMENT STUDIOPURPOSE:THIS FREE TOOL IS USED TO CONNECT TO ABOVE INSTALLED SQL SERVER.
PERFORM DATA STORAGE, RETREIVAL, MANAGEMENT, ETC... USING SQL.

JUST LIKE A BROWSER NEEDED TO OPERATE ON A WEBSITE, WE NEED SSMS TOOL TO OPERATE ON SQL SERVER.

Download SSMS Tool [Either 2019 or 2022] from : https://aka.ms/ssmsfullsetup

Double Click the **SSMS-Setup-ENU** File > Install. It would take about 30 to 45 mins. **Restart your computer.**

After restarting your computer: If you get **REPAIR** screen then **CLOSE** it.

STEP 3: HOW TO TEST THE INSTALLATIONS ?

HOW TO TEST THE SERVER CONNECTIONS?

WINDOWS APPS > SEARCH > TYPE "SSMS" > CLICK > PROMPT FOR SERVER NAME > BROWSE FOR MORE > EXPAND DATABASE ENGINE > SELECT ABOVE INSTALLED SERVER (1) > OK > CONNECT.

Instance: A successful installation of SQL Server. We can install up to 50 instances per OS. Each instance has its own (UNIQUE) name. NO space for the Instance Name.

Types of Instances:	DEFAULT INSTANCE	
Instance Name	MSSQLSERVER	Defined during Installation
Server Name	ComputerName	ComputerName\InstanceName
Databases per Instance	32767 Databases	32767 Databases
Port	1433	Dynamic: Changes @ PC Restart
Real-time Usage	Production	Development & Testing
Edition	ENTERPRISE (LICENSED)	EVALUATION / DEVELOPER (FREE)
Number of Installations	Up to 1 per OS	Up to 50 Instances per OS
FOR PRACTICE	OUR ONLINE SERVER	YOUR LOCAL SERVER

AUTHENTICATION:

Authentication is a communication path between End Users / Apps and SQL Server

AUTHENTICATION TYPES:

- 1. Windows Authentication: Only Windows users can connect, operate on the server
- 2. SQL Server Authentication: Any user (Win, Linux, Mac, Android, IOS, etc..) can connect & operate on the sever

AUTHENTICATION MODES:

- 1. Windows Authentication Mode: Only Windows Logins are supported
- 2. Mixed Mode Authentication: Windows Logins + SQL Logins are supported

In case of SQL Logins, one default admin account "sa" : System Administrator is automatically enabled. We need to set a password for this Built In login.

COLLATION:

A server property to specify language settings. Ex: English, Chinese, Russian... Collation also refers to Case Sensitivity setting. Ex: Storing Passwords in SQL Databases.

FILESTREAM:

A server property to store big data and perform analytics. For Azure Cloud &/ Power BI Cloud.

HOW TO CONNECT TO OUR ONLINE SEVER? From SSMS Tool:

Top > Left > Connect > Database Engine > Specify the server name **Authentication : SQL Server**

Login Name: XXXXX Password : YYYYYY Trust Server Certificate Connect

Video: How to connect to our online server? Possible Errors & Solutions ?