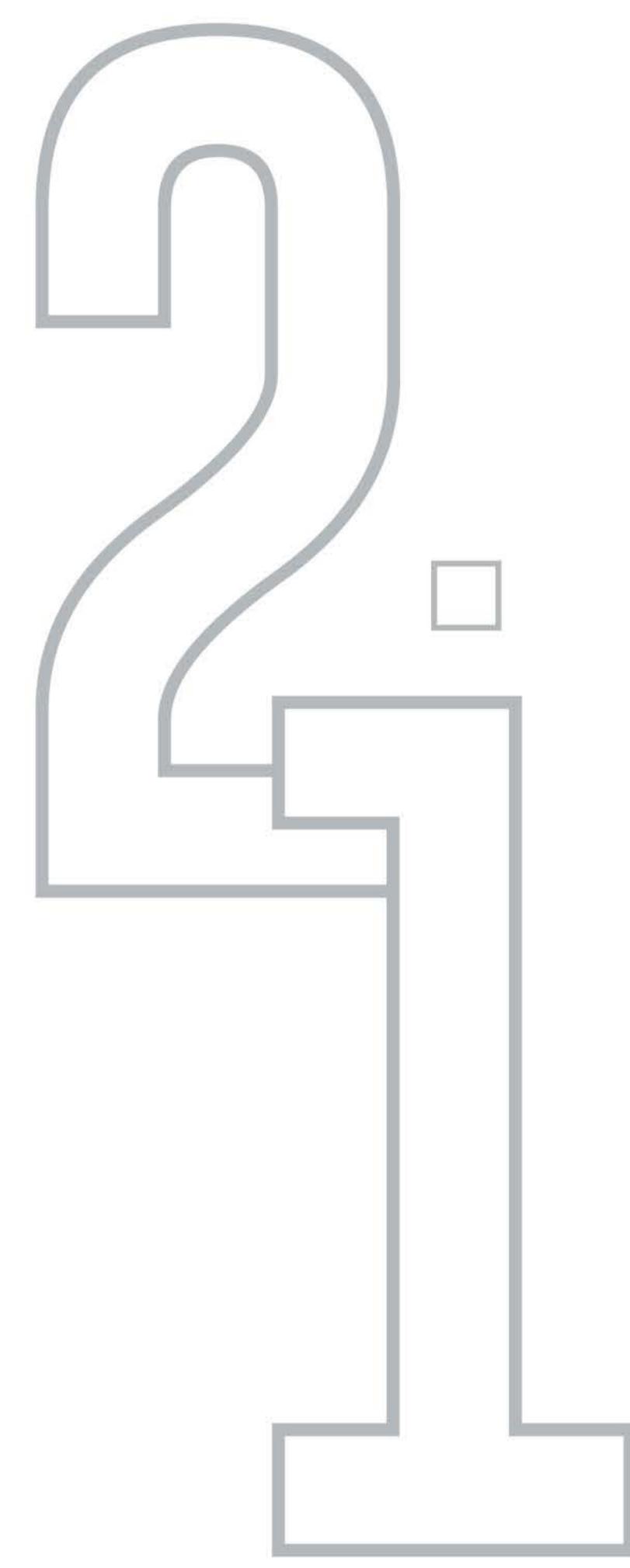


VERSION



SR. CODE

EAPL/PROF/PRTC26

COURSE CODE

EAPSQ

SUB CATEGORY

DATABASE MANAGEMENT







LYSIUM Since 2007 ADEMY ATARASF

MYSUL 5 ELYSIUM ACADEMY DATABASE MASTER MYSQL & MODUL

ELYSIUM ACADEMY





COURSE DESCRIPTION



The MSSQL course provides in-depth training in Microsoft SQL Server, covering database design, T-SQL programming, stored procedures, and database administration tasks.

COURSE GOALS



By completion, you will proficiently design and administer MSSQL databases, write optimized T-SQL queries, and implement robust database solutions. They will develop the skills necessary to support mission-critical applications and ensure data integrity and security within the SQL Server environment.

FUTURE SCOPE



Graduates will be well-prepared for roles as database administrators, SQL developers, or business intelligence analysts. With SQL Server's widespread adoption in enterprise environments, opportunities for MSSQL professionals are abundant, ensuring a lucrative and stable career path in the data management field.





CHAPTER CHAPTER

GETTING STARTED MSSQL

01. MSSQL

- a. What is MSSQL?
- b. What is difference between MSSQL and MYSQL?
- c. Purpose of MSSQL
- d. Versions of SQL
- e. Advantages and drawbacks
- f. Installation Setup

02. Database and tables

- a. What is database?
- b. What is tables?
- c. Create, Alter and drop database
- d.Create, Alter and drop table
- e. Backup and restore a database
- f. RDBMS
- g.ER Model
- h. Hands on create database and tables

03. Common Terminologies in SQL

- a.Data types
- b. Constraints
- c. Foreign key constraints
- d.Unique and check constraint
- e. Hands on data types and constraints
- f. Quiz







04. Normalization

- a. What is normalization?
- b. First Normal Form
- c. Second Normal Form
- d.Third Normal Form Practically Normalizing Tables
- e. Hands on Normalization

CHAPTER

MSSQL COMMANDS

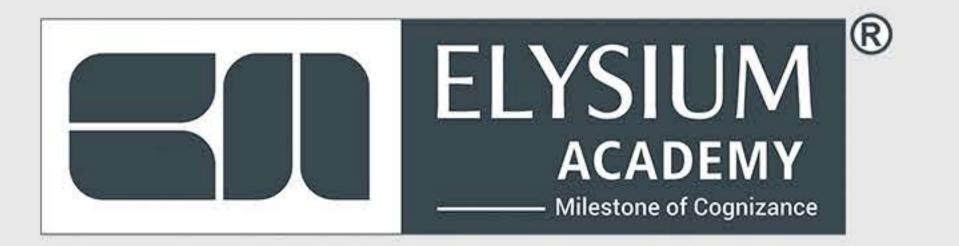
01. Data Definition Language

- a. What is DDL?
- b. Purpose of DDL
- c. CREATE Table
- d.ALTER Table
- e. TRUNCATE Table
- f. RENAME
- g.DROP
- h. Hands on DDL

02. Data Manipulation Language

- a. What is DML?
- b. SELECT
- c. UPDATE
- d.DELETE
- e. INSERT
- f. Hands on DML







03. Data Control Language

- a. What is DCL?
- b. Purpose of DCL
- c. REVOKE
- d.GRANT
- e. Hands on DCL

04. MSSQL Clauses

- a.WHERE
- b. DISTINCT
- c. ORDER BY
- d.GROUP BY
- e. HAVING
- f. FROM
- g.Hands on MSSQL clauses



MSSQL COMMANDS

01. Conditions

- a.AND
- b.OR
- c. AND OR
- d.Boolean
- e. LIKE
- f. IN
- g.ANY
- h. Exists
- i. NOT







- j. Not Equal
- k. IS NULL
- I. IS NOT NULL
- m. BETWEEN
- n. Hands on conditions

O2. Key

- a.Primary key
- b. Foreign key
- c. Unique key
- d. Hands on key constraints

03. JOINS in MSSQL

- a. What is joins?
- b. Advantages of JOINS.
- c. Types of Joins
- d.INNER JOIN
- f. LEFT JOIN
- h. RIGHT JOIN
- j. CROSS JOIN
- k. Hands on JOIN

04. Indexes and views in MSSQL

- a. What is index?
- b. CREATE index
- c. DROP index
- d.SHOW index
- e. UNIQUE index
- f. Hands on index





FUNCTIONS, TRANSACTIONS AND AGGRAGATE

01.Functions in MSSQL

- a. What is MSSQL?
- b. What is difference between MSSQL and MYSQL?
- c. Purpose of MSSQL
- d. Versions of SQL
- e. Advantages and drawbacks
- f. Installation Setup

02. Transactions in MSSQL

- a. What is transactions?
- b. COMMIT
- c. ROLLBACK
- d. Hands on transactions

03. Aggregate functions and Triggers

- a. What is aggregate functions?
- b. List the aggregate functions
- c. Hands on aggregate functions
- d. What is Triggers?
- e. Constraints vs Triggers
- f. Creating, Altering, Dropping triggers
- g.for/after/instead of triggers
- h. Using Rollback Tran
- i. Hands on triggers







04. Working with cursors

- a. What is cursors?
- b. Creating Cursors
- c. Cursors vs. Select
- d. Types of cursors
- e. Locks on cursors
- f. Advantages of cursors
- g. Hands on cursors
- h. Quiz

05. Backup and restore

- a.Generating SQL Script
- b. Executing SQL Script
- c. Generating Change Script
- d. Taking database Backup
- e. Restoring database using backup
- f. Attaching and Detaching of database
- g. Hands on backup and restore





GETTING STARTED

01. Beginning Database

- a. What is a Database?
- b. What about database engine?
- c. Types of data and storage
- d.RDBMS
- e. FIELD Concepts

02. Beginning of MYSQL

- a. What is MYSQL?
- b.SQL vs. MYSQL
- c. Data types
- d.Indexes
- e. Environmental setup:
 Download and install MYSQL Server

03. Data Types

- a. String Data Types
- b. Numeric Data Types
- c. Date and time Data types

04. MYSQL Functions

- a.String functions
- b. Numeric functions
- c. Date functions
- d. Advanced functions







05. Creating Database and Tables

- a. Connect and create database
- b. Showing Database
- c. Creating Database
- d.Rename Database
- e. Introducing Tables
- f. Creating Tables
- g.Dropping Tables
- h. Hands on



SQL COMMANDS

01. Data Definition Language

- a. What is DDL?
- b. Purpose of DDL
- c. Create database
- d.Drop database
- e. Alter database
- f. Truncate database
- g.Comment
- h. Rename

02. Data Query Language

- a. What is DQL?
- b. Purpose of DQL
- c. Select







03. Data Manipulation Language

- a. What is DML?
- b. Purpose of DML
- c. Insert data
- d.Update data
- e. Delete Data
- f. Lock data

04. Data Control Language

- a. What is DCL?
- b. Purpose of DCL
- c. Grant data
- d.Revoke data

05. Transaction Control Language

- a. What is TCL?
- b. Purpose of TCL
- c. COMMIT
- d.ROLLBACK
- e. SAVEPOINT





CONSTRAINTS

01. Inserting data

- a.INSERT-Basics
- b. Hands on INSERT data
- c. SELECT
- d. Hands on SELECT query
- e. Multi inserts
- f. Hands on Multi inserts
- g.NOT NULL
- h. Hands on NOT NULL
- i. DEFAULT Values
- j. Hands on DEFAULT Values
- k. AUTO INCREAMENT
- I. Hands on AUTO INCREAMENT

02. Basic Operators

- a.ORDER BY
- b. ALIASES
- c. UNIONS
- d.CONSTRAINTS
- e. VIEWS

03. Primary Key

- a. What is primary key?
- b. Creating a primary key
- c. Dropping a primary key







04. Foreign key

- a. What is foreign key?
- b. Creating a foreign key
- c. Dropping a foreign key

05. Composite key

- a. What is composite key?
- b. Creating a composite key
- c. Dropping a composite key

CHAPTER

JOINS AND AGGREGATE

O1. CRUD

- a. What is CRUD?
- b. Create Table
- c. Insert Values
- d.Hands on insert values
- e. Read Table
- f. Read Query
- g. Hands on read query
- h. Update Table
- i. Hands on update table
- j. Delete Tables
- k. Hand on delete tables







O2. JOINS

- a. What is joins?
- b. Advantages of JOINS.
- c. Types of Joins
- d.INNER JOIN
- e. Hands on INNER JOIN
- f. LEFT JOIN
- g. Hands on LEFT JOIN
- h.RIGHT JOIN
- i. Hands on RIGHT JOIN
- j. CROSS JOIN
- k. Hands on CROSS JOIN

03. Aggregate Functions

- a. What are aggregate functions?
- b. Purpose of Aggregate functions
- c.count()
- d. Hands on count ()
- e. sum ()
- f. Hands on sum ()
- g.average()
- h. Hands on average ()
- i. min ()
- j. Hands on min ()
- k.max()
- I. Hands on max ()
- m. group_concat ()
- n. Hands on group_concat ()





- o. first ()
- p. Hands on first ()
- q.last()
- r. Hands on last ()

OPERATORS

01. GROUP BY

- a. What is GROUP BY?
- b. Purpose of GROUP BY
- c. GROUP BY with aggregate functions
- d.GROUP BY with JOIN
- e. HAVING Clause
- f. EXISTS
- g. Hands on EXISTS

02. Arithmetic Operators

- a.Add
- b. Substract
- c. Multiply
- d.Divide
- e. Modulo
- f. Hands on

03. Bitwise Operators

- a.Bitwise AND
- b. Bitwise OR
- c. Bitwise exclusive OR
- d.Hands on







04. Comparison Operators

- a. Equal to
- b. Greater than
- c. Less than
- d.Greater than or equal to
- e. Less than or equal to
- f. Not equal to

05. Logical Operators

- a.ALL
- b.AND
- c. ANY
- d.BETWEEN
- e. EXISTS
- f. IN
- g.LIKE
- h.NOT
- i. OR
- j. SOME





TRIGGERS, VIEWS, INDEXEST

01. Triggers

- a. What are Triggers?
- b. Purpose of Triggers
- c. Advantages and drawbacks
- d. Types of MYSQL Triggers
- e. Before update triggers
- f. After update triggers
- g.Before insert triggers
- h. After insert triggers
- i. Before delete triggers
- j. After delete triggers
- k. Hands on

02. Views

- a. What are views in MYSQL?
- b. Purpose of views
- c. Advantages and drawbacks
- d.Create view
- e. Update view
- f. Replace view
- g.Dropping view

03. Tables

- a. What is tables in MYSQL?
- b. Create Tables
- c. Alter tables







- d.Show tables
- e. Rename Table
- f. Truncate tables
- g.Drop tables
- h. Temporary tables
- i. Copy tables
- j. Repair tables
- k. Hands on tables

04. Queries

- a. What is queries?
- b. Constraints
- c. INSERT Record
- d.UPDATE Record
- e. DELETE Record
- f. SELECT Record
- g. Hands on queries

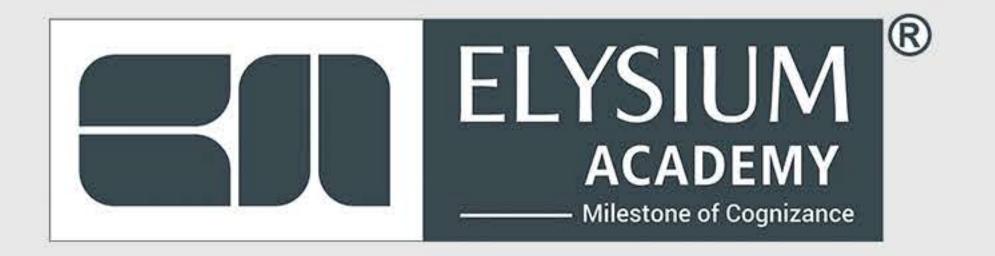
05. Indexes

- a.Create Index
- b. Drop Index
- c. Unique Index
- d.Show Index
- e. Clustered Index
- f. Hands on Indexes

06. Common Functions

- a.Date/time functions
- b. Math functions
- c. String functions
- d. Hands on functions









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