Welcome

INTRODUCTION TO SQL SERVER

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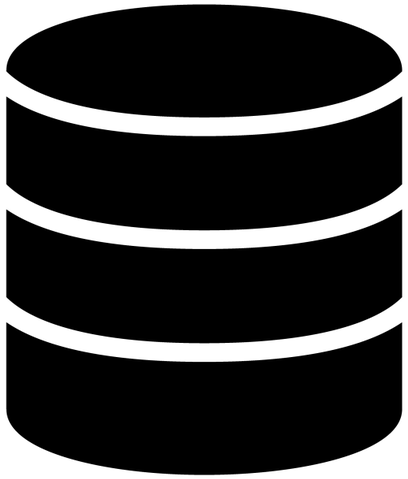
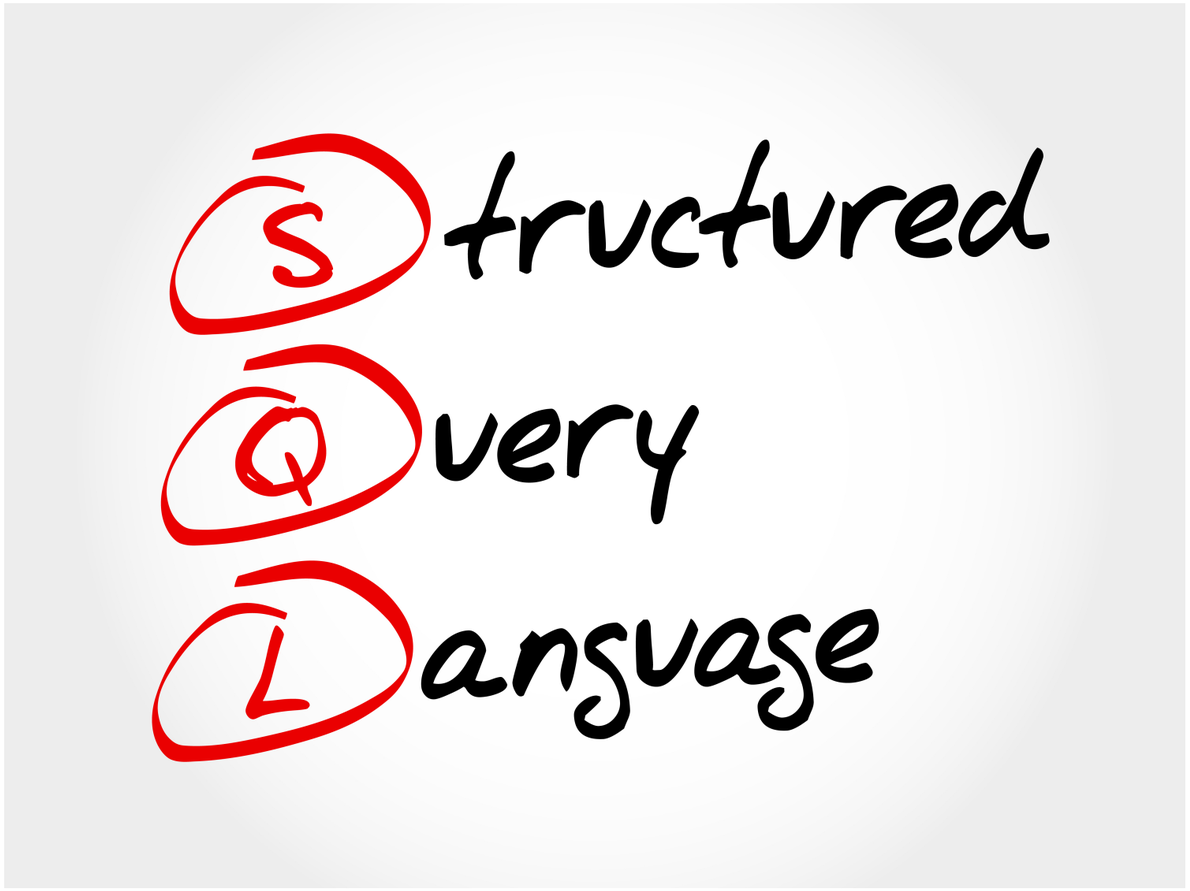
Instructor




Structured
Query
Language

SQL Server & Transact-SQL

- SQL Server - relational database system developed by Microsoft
- Transact-SQL (T-SQL) - Microsoft's implementation of SQL, with additional functionality
- In this course: Master the fundamentals of T-SQL
- Learn how to write queries


LET'S GET
STARTED

Querying 101

- SQL-Server: the *store* containing databases and tables
- Queries: how we *pick* different items, from different aisles, and load up our cart
- `SELECT` : key term for retrieving data

```
SELECT description
FROM grid;
```

```
+-----------------------------------+
| description                       |
|-----------------------------------|
| Severe Weather Thunderstorms      |
| Severe Weather Thunderstorms      |
| Severe Weather Thunderstorms      |
| Fuel Supply Emergency Coal        |
| Physical Attack Vandalism         |
| Physical Attack Vandalism         |
| Physical Attack Vandalism         |
| Severe Weather Thunderstorms      |
| Severe Weather Thunderstorms      |
| Suspected Physical Attack         |
| Physical Attack Vandalism         |
| ...                               |
+-----------------------------------+
```

Selecting more than one column

```
SELECT
  artist_id,
  artist_name
FROM
  artist;
```

```
+-----------+----------------------+
| artist_id | artist_name          |
|-----------+----------------------|
| 1         | AC/DC                |
| 2         | Accept               |
| 3         | Aerosmith            |
| 4         | Alanis Morissette    |
| 5         | Alice In Chains      |
| 6         | Antônio Carlos Jobim |
| 7         | Apocalyptica         |
| 8         | Audioslave           |
| 9         | BackBeat             |
| 10        | Billy Cobham         |
+-----------+----------------------+
```

Query formatting

```
SELECT description, event_year, event_date
FROM grid;
```

```
SELECT
  description,
  event_year,
  event_date
FROM
  grid;
```

Select TOP ()

```
-- Return 5 rows
SELECT TOP(5) artist
FROM artists;
```

```
-- Return top 5% of rows
SELECT TOP(5) PERCENT artist
FROM artists;
```

```
+----------------------+
| artist               |
|----------------------|
| AC/DC                |
| Accept               |
| Aerosmith            |
| Alanis Morissette    |
| Alice in Chains      |
+----------------------+
```

Select DISTINCT

```
-- Return all rows in the table
SELECT nerc_region
FROM grid;
```

```
+-------------+
| nerc_region |
|-------------|
| RFC         |
| RFC         |
| MRO         |
| MRO         |
| ....        |
+-------------+
```

```
-- Return unique rows
SELECT DISTINCT nerc_region
FROM grid;
```

```
+-------------+
| nerc_region |
|-------------|
| NPCC        |
| NPCC RFC    |
| RFC         |
| ERCOT       |
| ...         |
+-------------+
```

Select *

```
-- Return all rows
SELECT *
FROM grid;
```

- **NOT** suitable for large tables

Aliasing column names with AS

```
SELECT demand_loss_mw AS lost_demand
FROM grid;
```

```
+-------------+
| lost_demand |
|-------------|
| 424         |
| 217         |
| 494         |
| 338         |
| 3900        |
| 3300        |
+-------------+
```

```
SELECT description AS cause_of_outage
FROM grid;
```

```
+-------------------------------+
| cause_of_outage               |
|-------------------------------|
| Severe Weather Thunderstorms  |
| Fuel Supply Emergency Coal    |
| Physical Attack Vandalism     |
| Suspected Physical Attack     |
| Electrical System Islanding   |
+-------------------------------+
```