Database Applications with JDBC in Java SE Applications (Java SE 11 Developer Certification 1Z0-819)

Introduction to Relational Database and SQL

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What's in This Course

Introduction to relational databases and SQL

Introduction to JDBC

Connecting to a database

Using PreparedStatements

Working with data from a PreparedStatement

Working with a CallableStatement

What's in This Module

What is a relational database

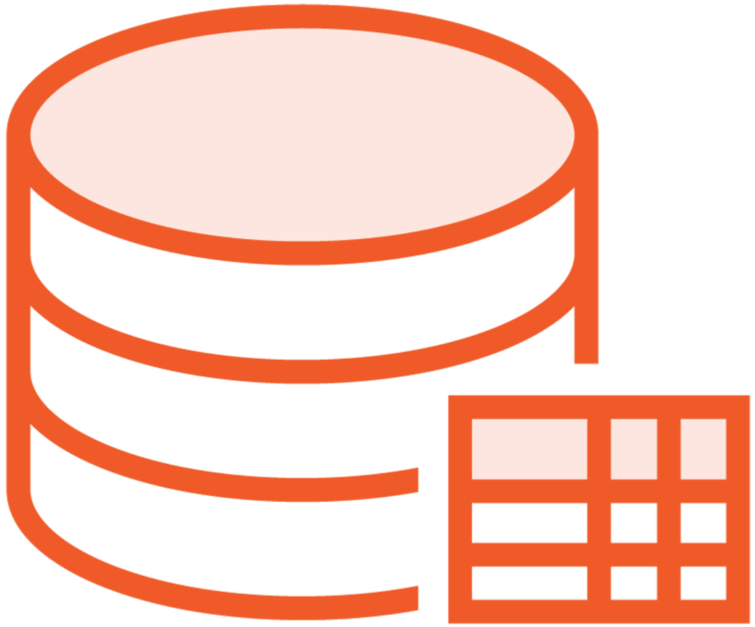
What are the basics of the CRUD operations

Broad Database Categories

Sql (or relational)

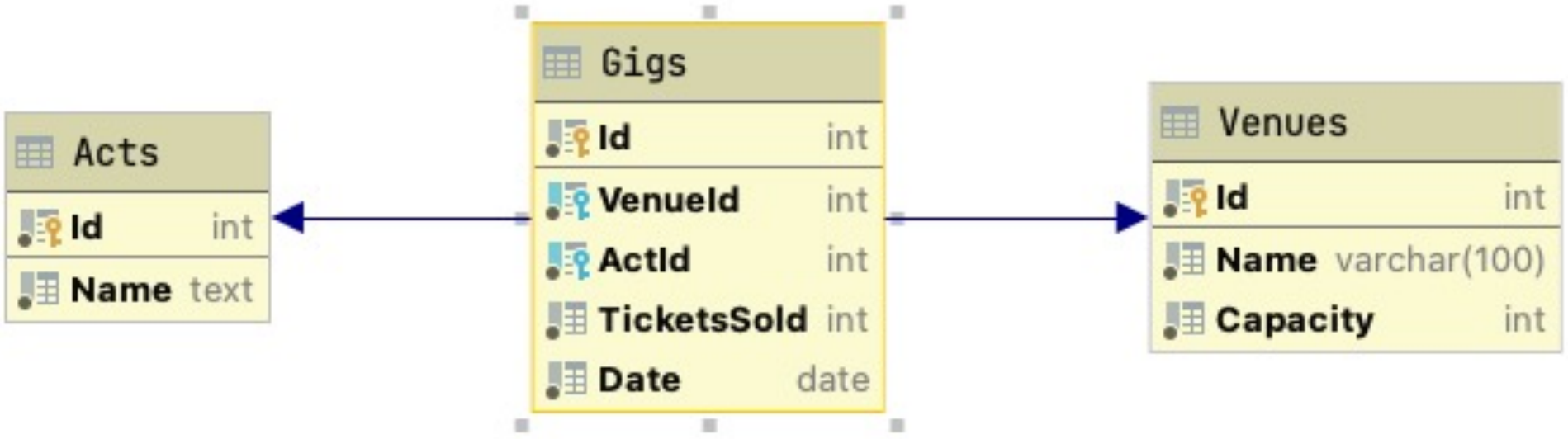
No Sql

Data is not modeled using relationships



What is a relational database?

- Data is organized into tables
- Tables have rows and columns
- Tables are related through keys


Acts
Id int
Name text
Gigs
Id int
VenueId int
ActId int
TicketsSold int
Date date
Venues
Id int
Name varchar(100)
Capacity int

Data is accessed in a relational database through SQL

Structured Query Language

CRUD

Create

Read

Update

Delete

```
SELECT TicketsSold FROM Gigs
```

◀ **Simple read**

```
SELECT id, name FROM Venues

WHERE name LIKE '%arena%'
```

◀ **Filters**

```
SELECT * FROM gigs

JOIN venues ON venues.id = gigs.venueid

WHERE venues.name LIKE '%arena%'
```

◀ **Joins**

```
SELECT COUNT(*) from Gigs

where TicketsSold < 30
```

◀ **SQL Functions**

```
INSERT INTO

venues (name, capacity)

values ('The Arena', 100);
```

- **Insert into**
- **Table and columns to add**
- **Values to insert**

```
UPDATE venues

SET capacity=30

WHERE id=4
```

- Update table
- columns to update
- Values to change to

```
UPDATE venues

SET capacity=30
```

- BEWARE

```
DELETE FROM

venues

WHERE Id=5
```

- DELETE from
- table
- filter

```
DELETE FROM

venues
```

- BEWARE

Summary

Relational database holds related data in tables

Basic CRUD operations are

- **Create**
- **Read**
- **Update**
- **Delete**

Up Next:
Introduction to JDBC