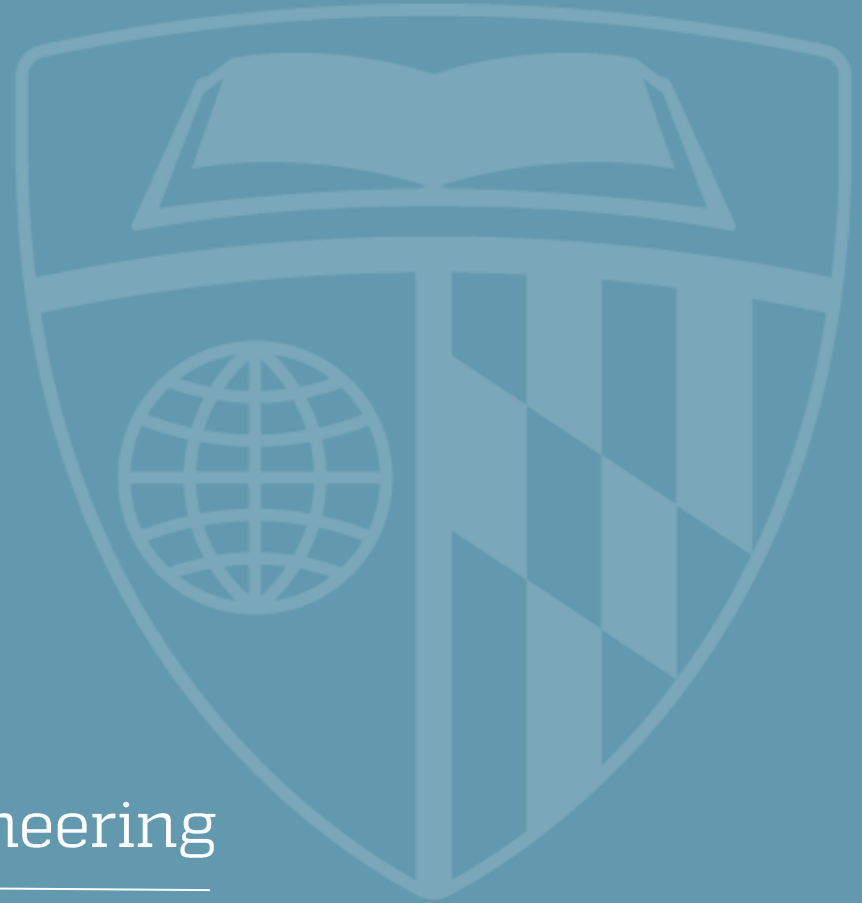




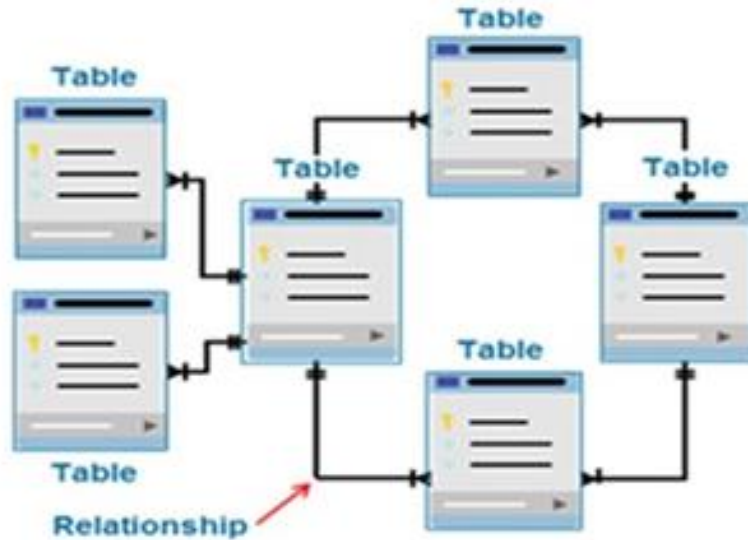
JOHNS HOPKINS
UNIVERSITY



EN.601.421 / EN.601.621

Object Oriented Software Engineering

Relational Database Management System



RDBMS

Relational Databases

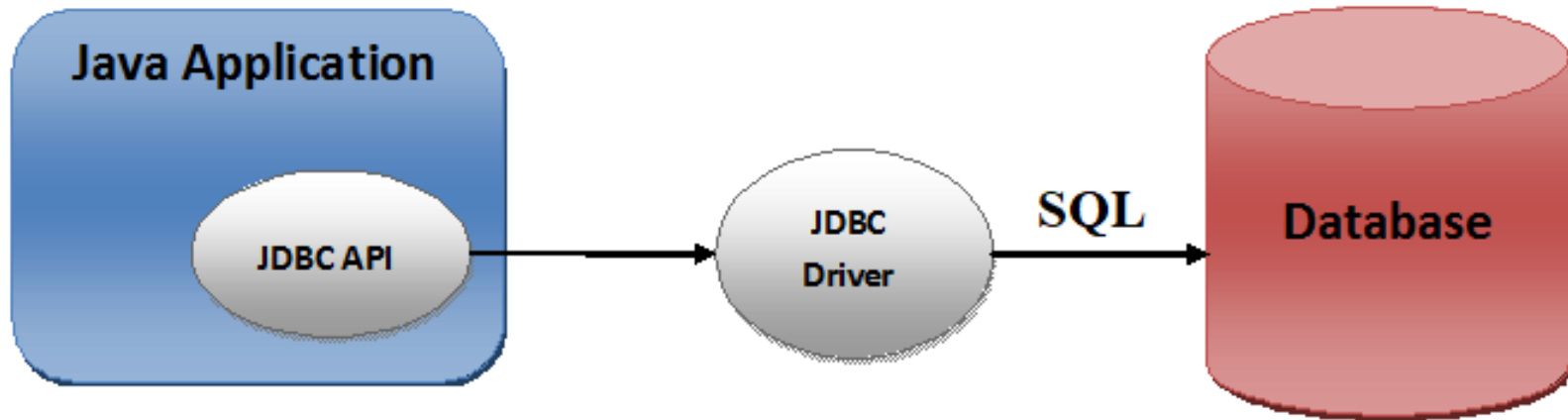
Structured Query Language (SQL)

- ▶ A domain specific language designed for updating and retrieving data in table-based databases.



JDBC

- ▶ Java Database Connectivity (JDBC) is an application programming interface (API) that acts as a bridge between a Java application and a database.



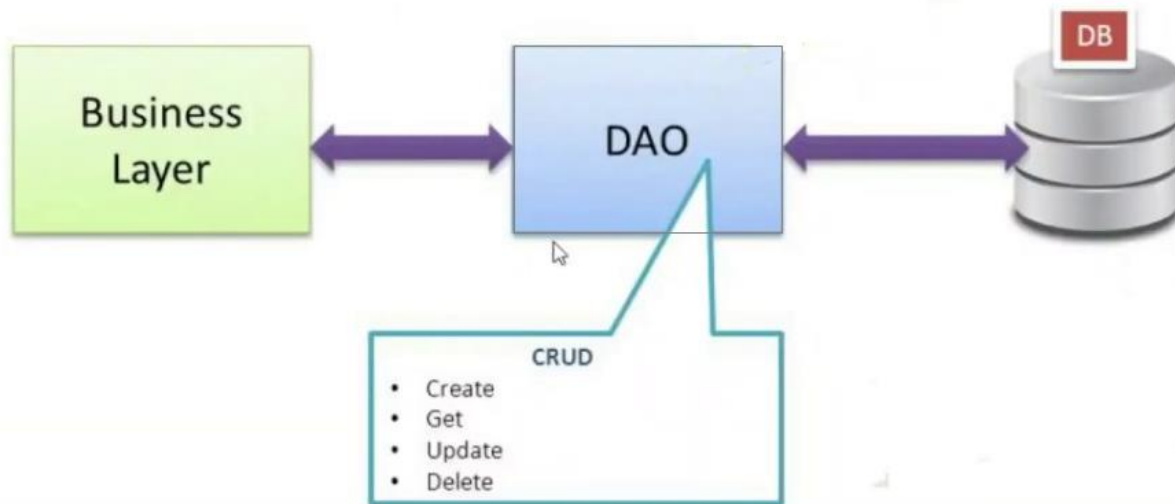
JBApp (Job Board App)

Job		
f 🔒	title	String
f 🔒	datePosted	Date
f 🔒	deadline	Date
f 🔒	domain	String
f 🔒	location	String
f 🔒	fullTime	boolean
f 🔒	salaryBased	boolean
f 🔒	requirements	String
f 🔒	payAmount	int
f 🔒	employerId	int
m 📁	Job(String, Date, Date, String, String, boolean, boolean, String, int, int)	

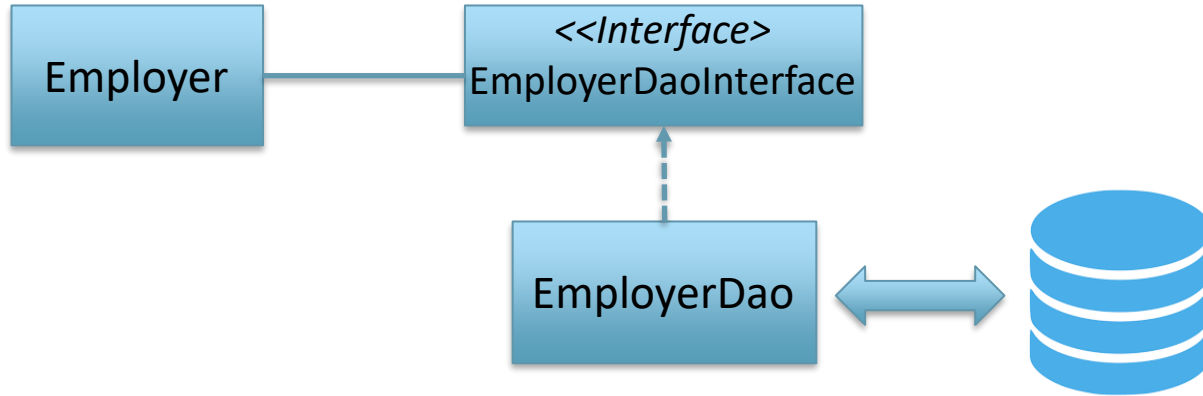
Employer		
f 🔒	id	int
f 🔒	name	String
f 🔒	sector	String
f 🔒	summary	String
m 📁	Employer(String, String, String)	

Data Access Object (DAO)

- ▶ A (design) pattern that provides an abstract interface to the database (or other persistence mechanism!)

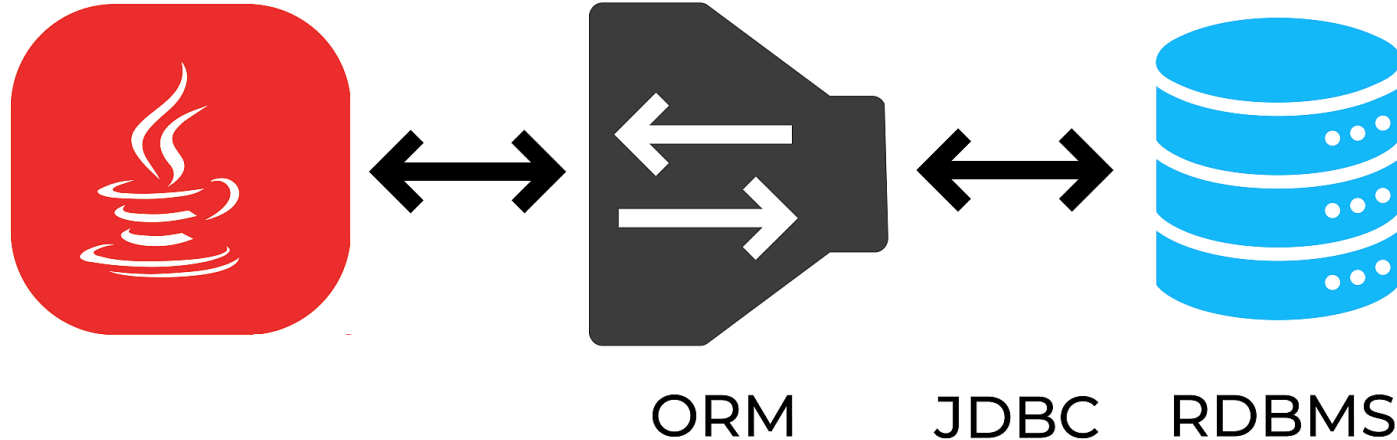


DAO



Object-relational mapping (ORM)

- ▶ An application (library) to map your objects to a relational database



HTTP

- ▶ Hypertext Transfer Protocol (HTTP)
- ▶ There are 4 basic HTTP verbs (operation) we use in requests to interact with server:
 - ❖ GET — retrieve a specific resource (by id) or a collection of resources
 - ❖ POST — create a new resource
 - ❖ PUT — update a specific resource (by id)
 - ❖ DELETE — remove a specific resource by id
- ▶ A HTTP request, in addition to an HTTP verb, typically consists of:
 - ❖ a header, which allows the client to pass along information about the request
 - ❖ a path to a resource
 - ❖ an optional message body containing data

SparkJava

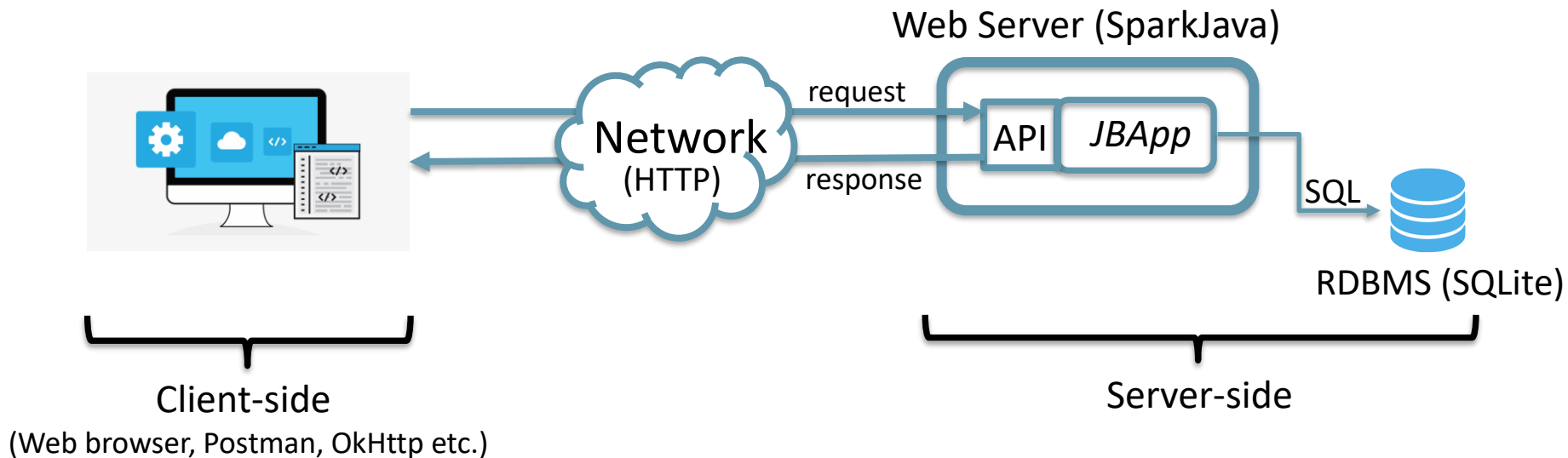
- ▶ A free and open source *Java* web application development framework



HTTP Response Codes

Status	Meaning
200 (OK)	This is the standard response for successful HTTP requests.
201 (CREATED)	This is the standard response for an HTTP request that resulted in an item being successfully created.
204 (NO CONTENT)	This is the standard response for successful HTTP requests, where nothing is being returned in the response body.
400 (BAD REQUEST)	The request cannot be processed because of bad request syntax, excessive size, or another client error.
403 (FORBIDDEN)	The client does not have permission to access this resource.
404 (NOT FOUND)	The resource could not be found at this time. It is possible it was deleted, or does not exist yet.
500 (INTERNAL SERVER ERROR)	The generic answer for an unexpected failure if there is no more specific information available.

The Big Picture





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