



**WELCOME  
&  
THANK YOU**

**<Creative  
Software/>**

**Spring/Spring Boot  
Crash Course**

**For TD Bank**

# MEET A FEW OF OUR TEAM MEMBERS



TANGY F.  
CEO



LINA G.  
PROJECT MANAGER



CHEDDAE G.  
TECH ASSISTANT

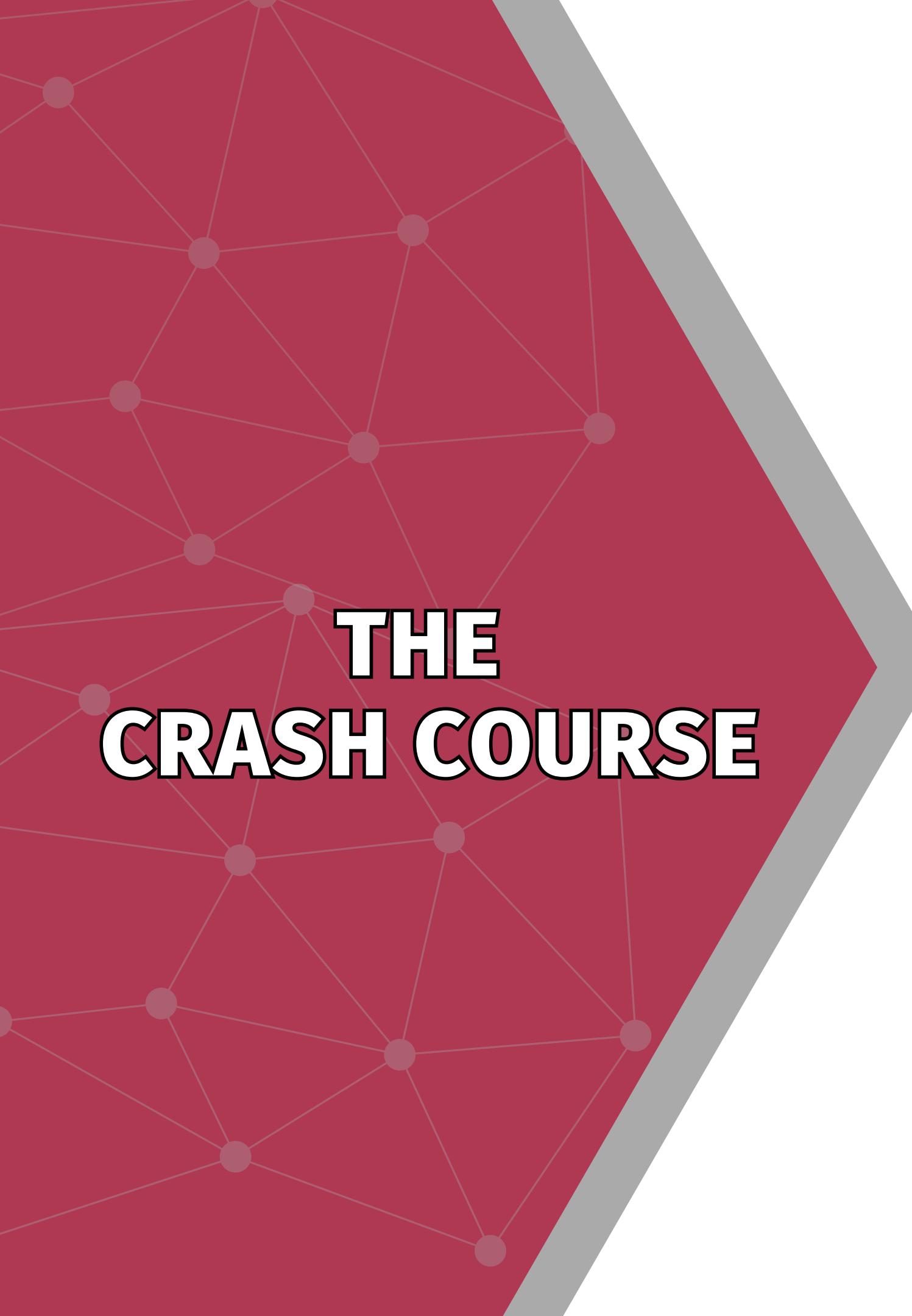


HAL M.  
DEVELOPER



WILLIAM D.  
DEVELOPER

- **Founded in South Florida in 2018**
- **Evolved from Software Development Expanded into a Technical Training firm Providing tailored technical training solutions for businesses**



# **THE CRASH COURSE**

**Crash Course is our  
bite size lighting training**

**The Duration is 1 hour a day  
for 10 days**

**One Topic~  
In this case it's Spring/Spring  
Boot**



**WE LISTENED TO  
YOU & YOUR  
COLLEAGUES**

- 1 We interviewed practitioners and your leads
- 2 We reviewed anonymous data
- 3 Came up with a tailored curriculum based on real-time data



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Software/>**

# **THE SPACE**

A safe space where our goal  
is to help you

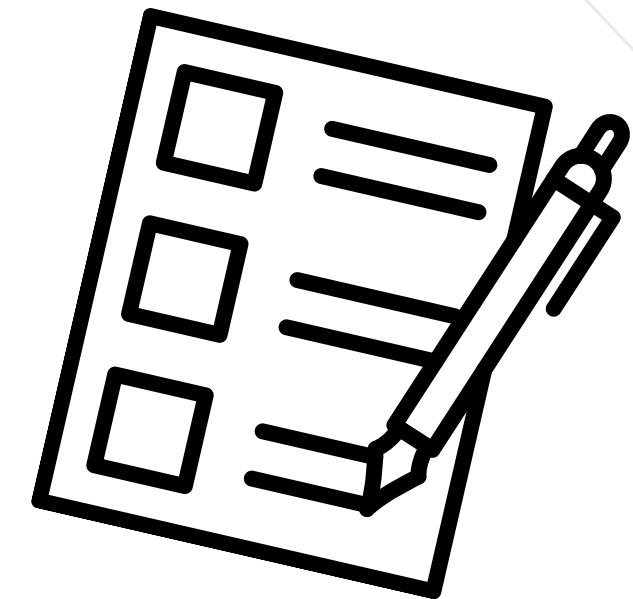
We are here to help you  
grow. If there is something  
you don't understand this is  
the place to ask.

This is a 'No Judgment Zone'

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Devs.

**TIME SET ASIDE**

Pre Assessment



# MEET YOUR CRASH COURSE TEAM



**TANGY F.**  
**CEO**



**HAL M.**  
**DEVELOPER**



**WILLIAM D.**  
**DEVELOPER**

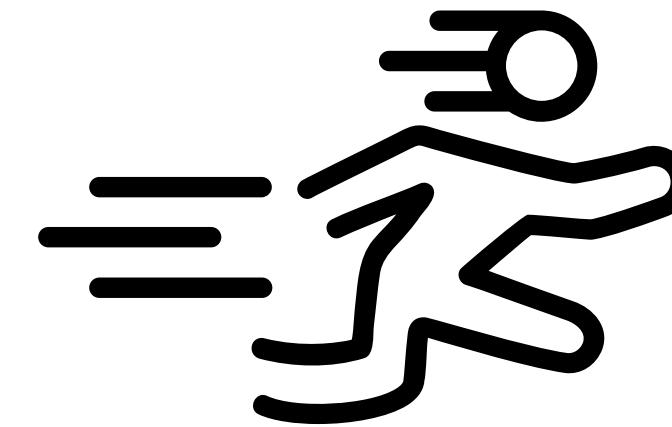


# TRAINING DAY 1

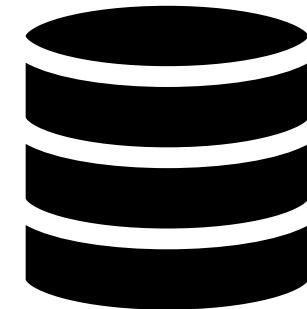
## AGENDA

- 1 What we are building
- 2 Lesson 1 Dependency Injection REST API
- 3 Q.A. 10 mins

# **SPRING / SPRING BOOT**



Rapid overview  
**Spring / Spring Boot**



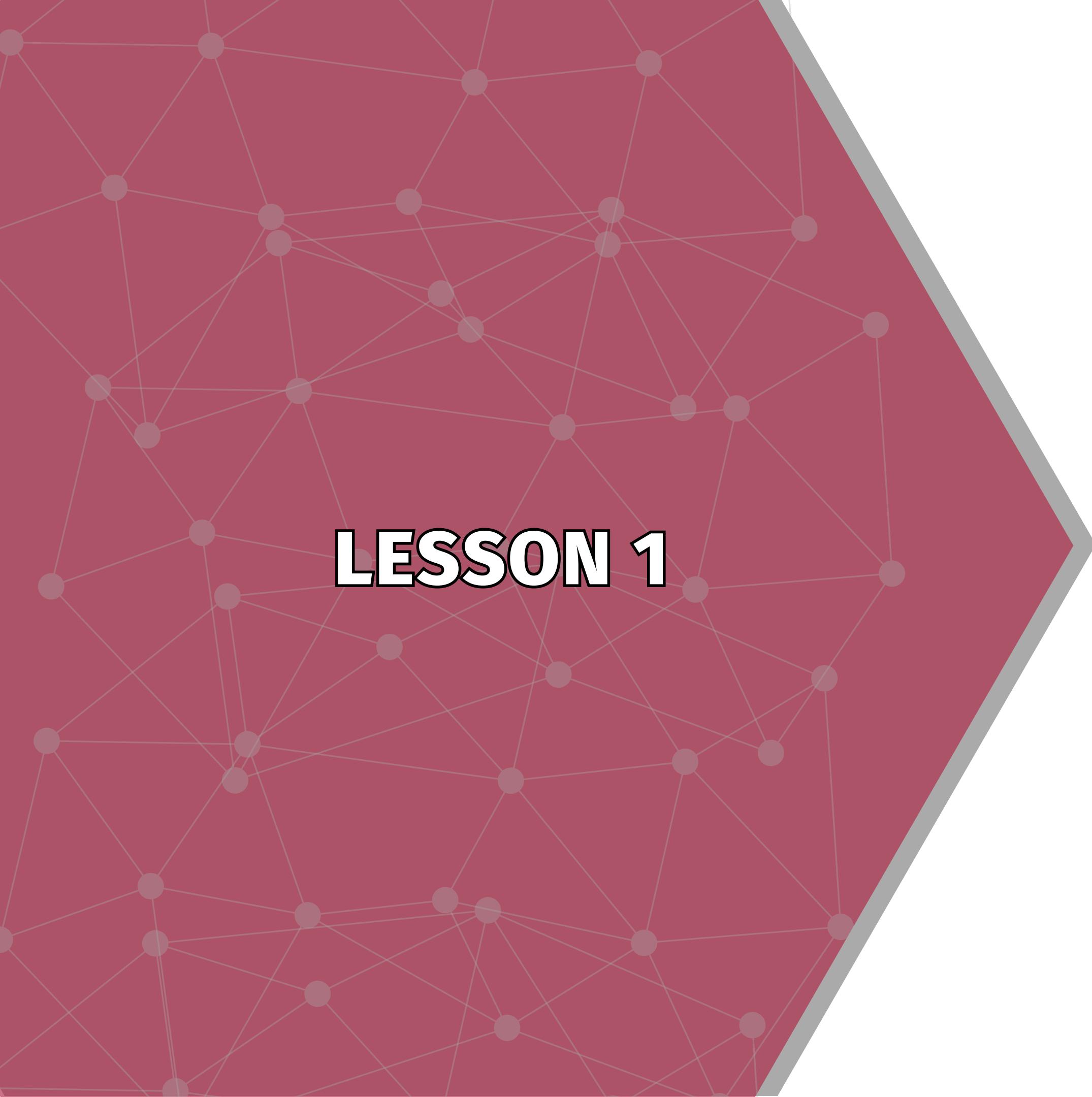
# JDK 11 VS JDK 17

## JDK 11

- Active Support through Sept. 2023
- Extended Support through Sept. 2026
- Getters, Constructors, `toString` etc. required to be created to define functionality of a class.
- Tells you when a `NullPointerException` has happened, but not which chained method caused it.
- `collect()` method is required to output a Stream to a List.

## JDK 17

- Active Support through Sept. 2026
- Extended Support through Sept. 2029
- Record object can be created to define a simple object with variables in a single line with data methods built in.
- Shows exactly where all `NullPointerExceptions` occur.
- `toList()` method converts a Stream directly into a List.

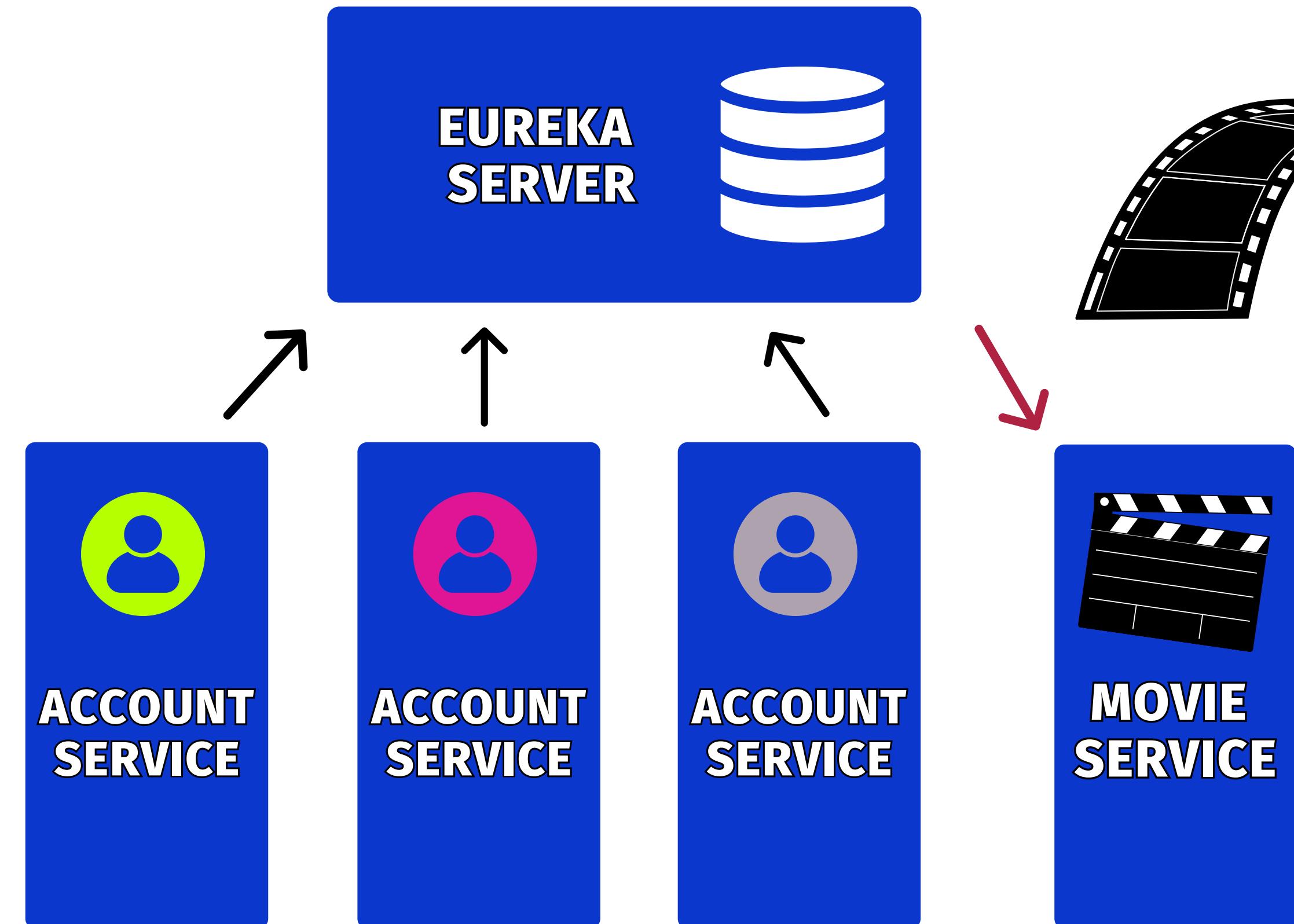


# LESSON 1

# Dependency Injection REST API

# WE ARE BUILDING

BITE SIZE  
MOVIE REVIEW APP



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Software/>  
Devs.

# USE CASE : CREATING A PROFILE

(1) "I want to create a profile"

js@example.com

John Smith

password123

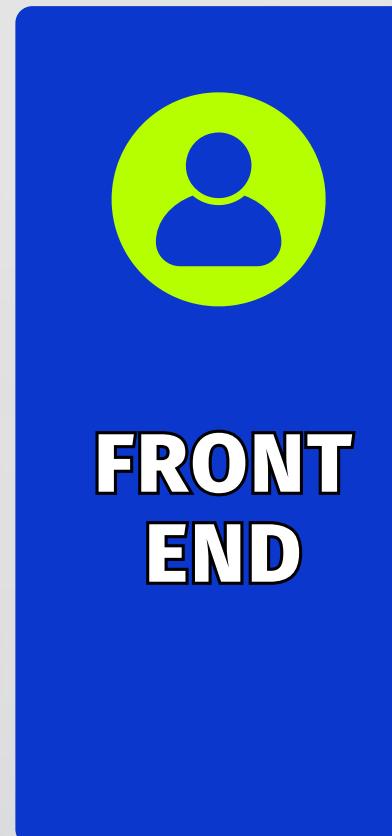
Database ID: 1



**USER**

(5) Display to User

"Welcome, John  
Smith!"



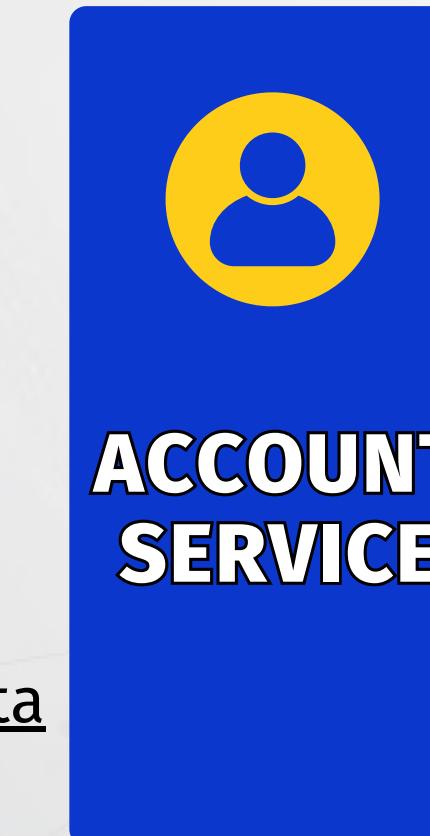
(2) REST API Post

js@example.com

John Smith

password123

Database ID: 1



(4) Return Submitted Data

js@example.com

John Smith

password123

Database ID: 1



**DATABASE**

(3) Publish to Database

js@example.com

John Smith

password123

Database ID: 1

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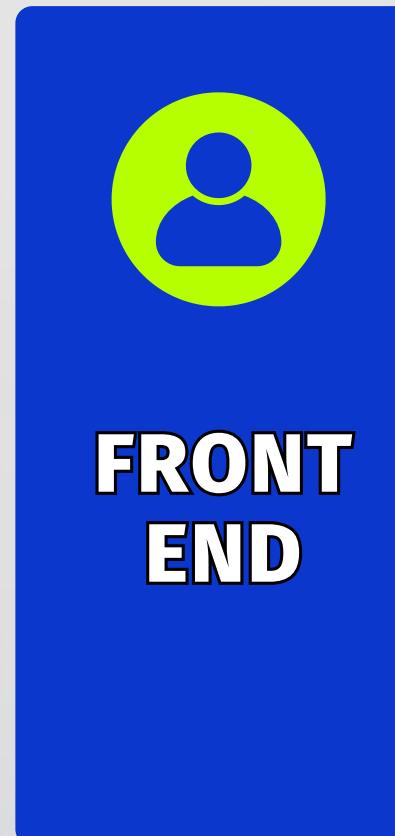
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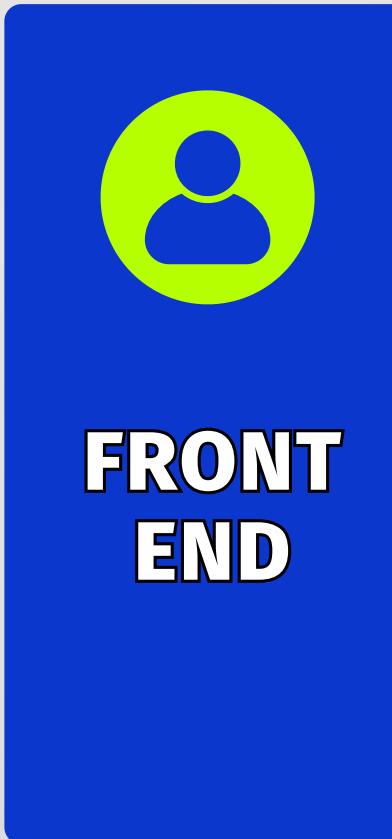
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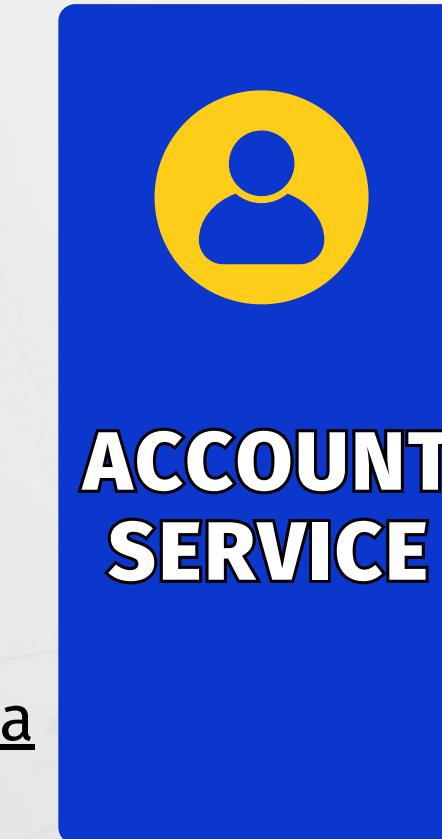
password123



(4) Return Submitted Data

js@example.com

John Smith



(3) Publish to Database

js@example.com

John Smith

password123

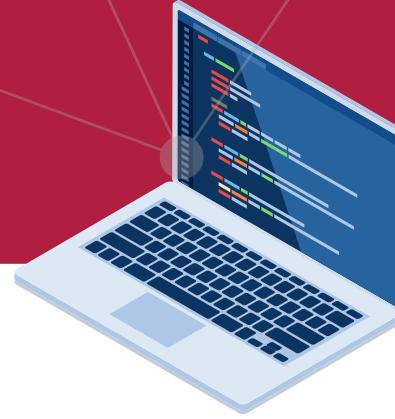
Database ID: 1



**DATABASE**

**WE NEED TO CREATE  
DATA TRANSFER OBJECTS**

# TIME TO CODE #1



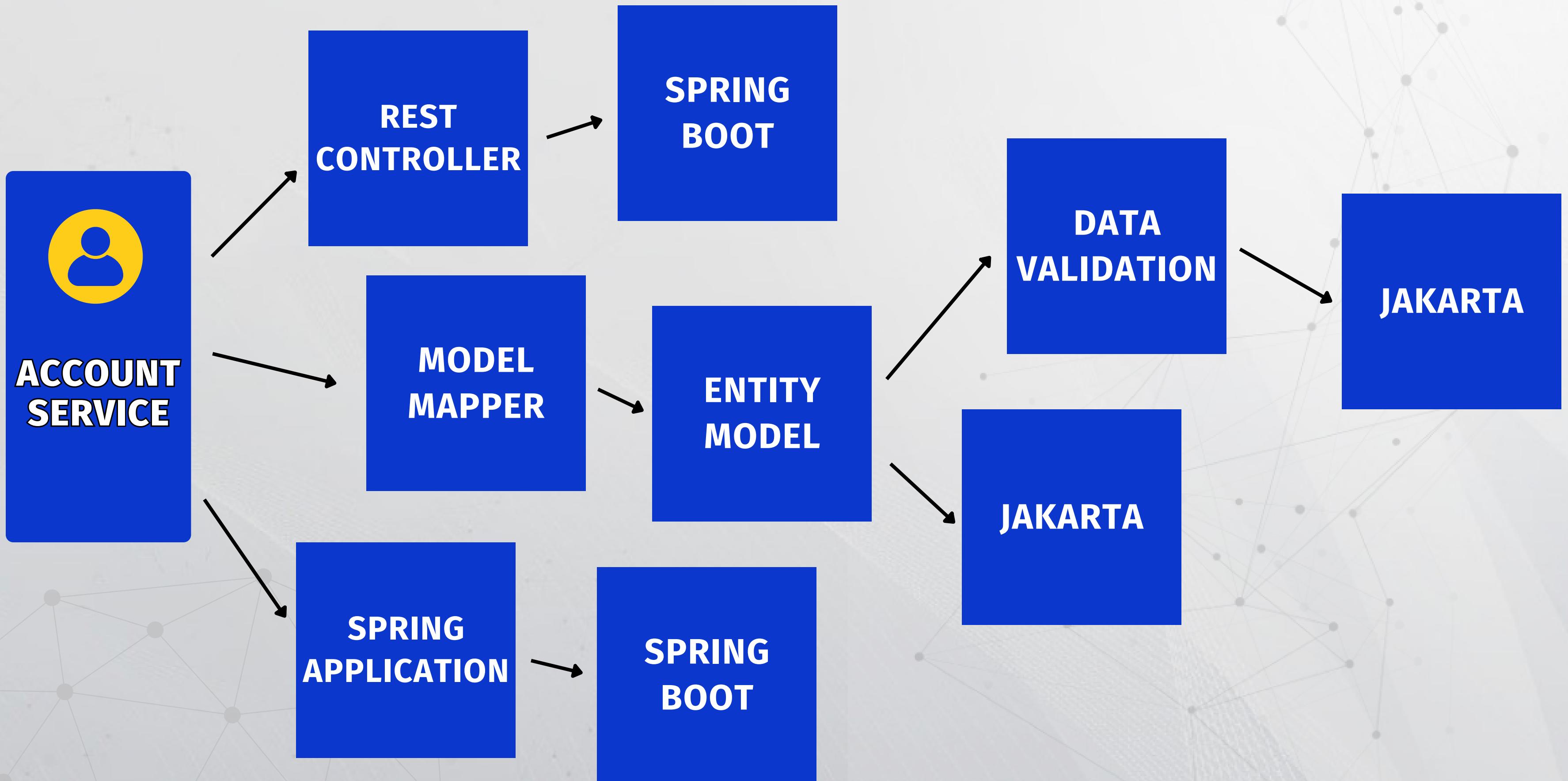
The below code takes an Account object as a parameter, and returns the Account object back.

Rewrite the code so that the function takes an AccountRequestDto object as a parameter, and returns an AccountResponseDto object that has the same *name*, *address*, *email*, and *mobNo* fields as the original AccountRequestDto object.

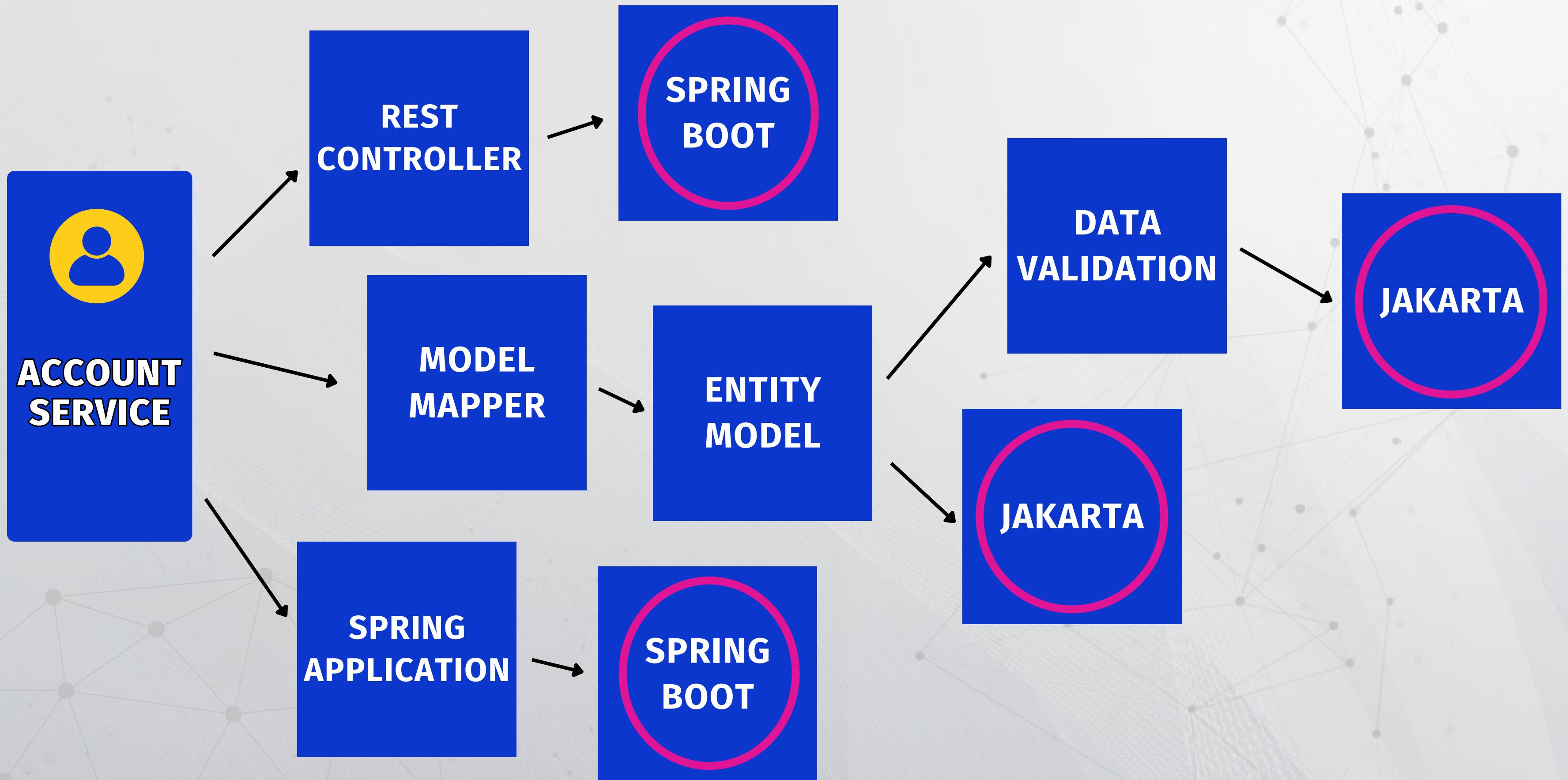
Use proper dependency injection/inversion of control.

```
@Autowired  
ModelMapper modelMapper;  
  
public Account createAccount(Account account) {  
    return account;  
}
```

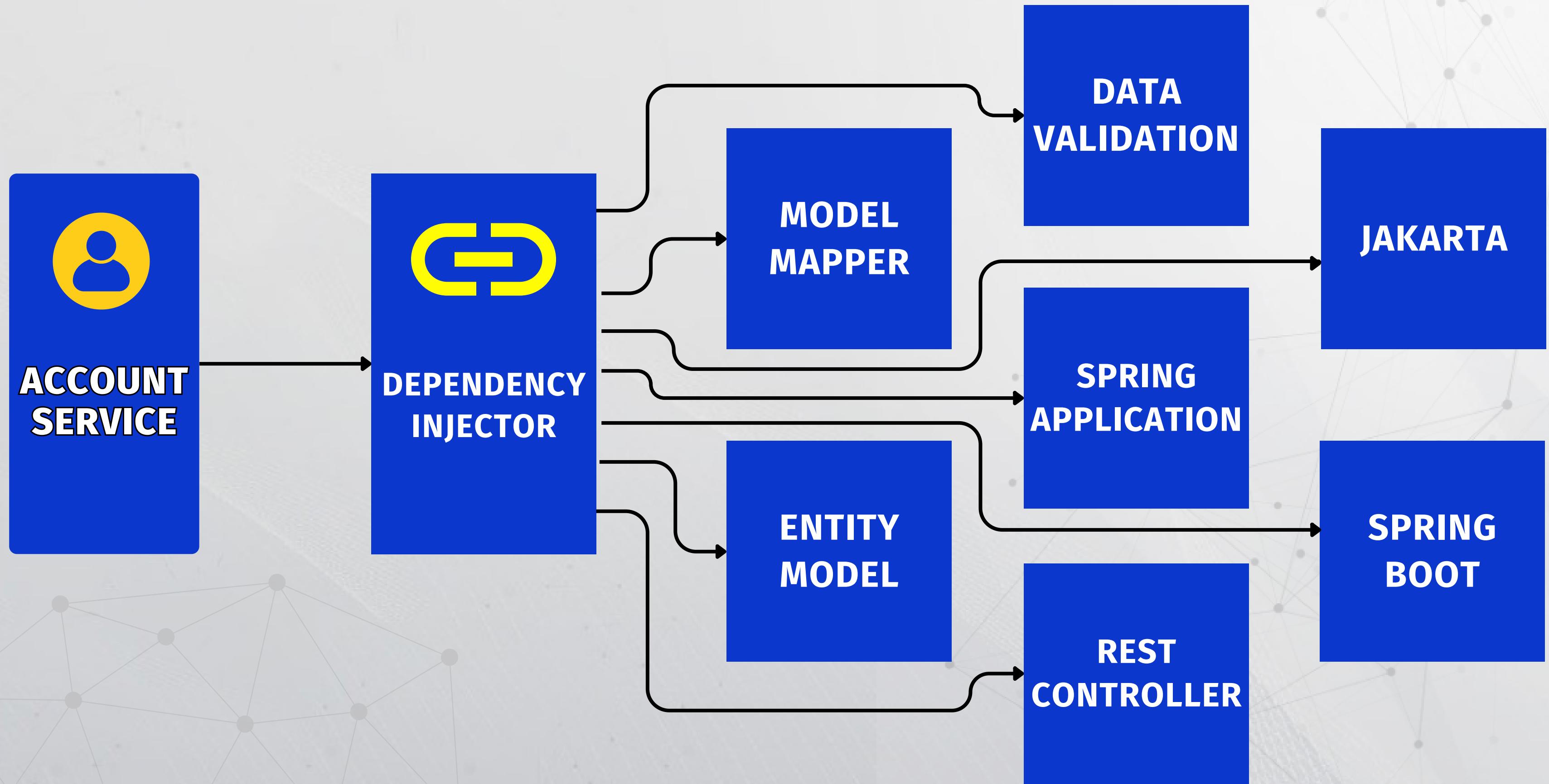
# WHY DEPENDENCY INJECTION?



# WHY DEPENDENCY INJECTION?



# WHY DEPENDENCY INJECTION?



# DEPENDENCY & REST API

## Modes of DI

- Constructor Injection
- Setter Injection
- Field Injection

## Entity to DTO

Modeling or Mapping the Entity data to the format that is required. It can be of any type JSON, XML.,,

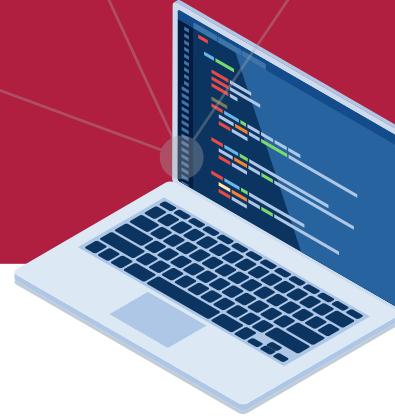
## Scope of a bean

- Singleton
- Prototype
- Request
- Session
- Global

## REST API

Request Mapping from Controller to Service

# TIME TO CODE #2



The below code is our REST API endpoint for creating an account in our AccountController class. It is intended to take an AccountRequestDto as a parameter using Jakarta validation, and returns a ResponseEntity containing an AccountResponseDto as a response.

The code currently does not work as intended. What is missing from this code?

```
@PostMapping  
private ResponseEntity<AccountResponseDto> createAccount(AccountRequestDto accountRequestDto) {  
  
    return new ResponseEntity<>(accountService.createAccount(accountRequestDto), HttpStatus.OK);  
}
```



**THANK YOU**

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Crash Course

We will see you tomorrow