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# Pair Programming

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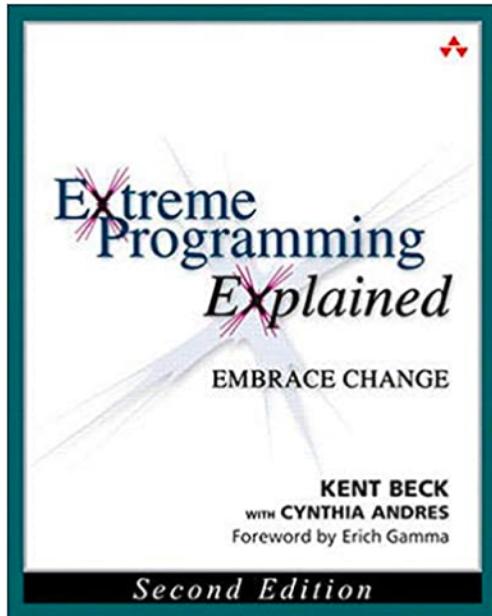
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# What is Pair Programming?

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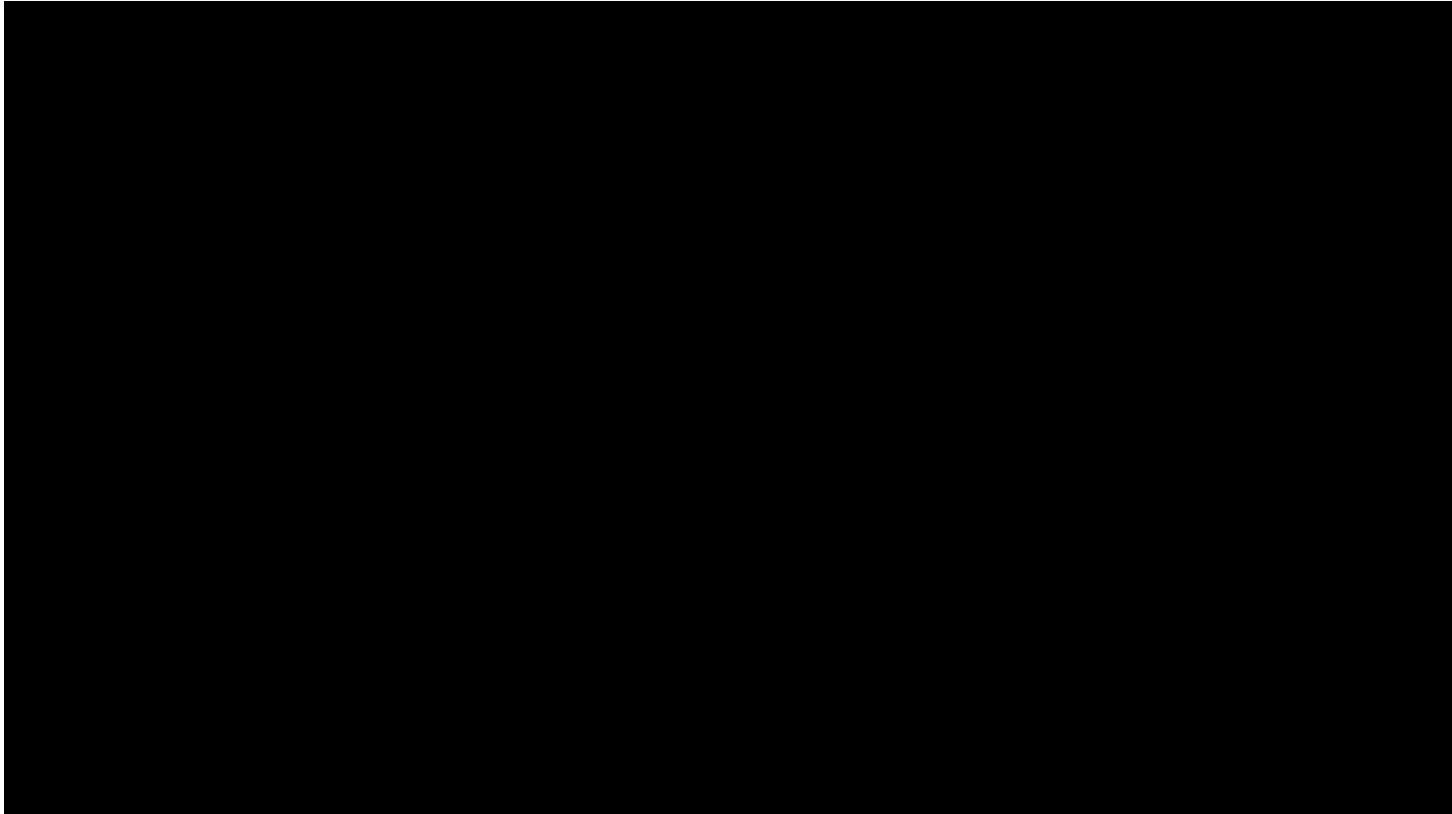
# What is Pair Programming?



**Pair programming** is an **agile** software development technique in which two **programmers** work together at one workstation.

Pair Programming is proposed as one of the core practices of XP in the book

# Pair Programming





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# Why Pair Programming?

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# Why Pair Programming?



More focused



Improve efficiency



Fewer defects



Knowledge transfer/  
sharing



Enhance friendship



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# How to do Pair Programming?

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# Two Pair Programming styles

A large blue circle containing the text "Ping-Pong".

Ping-Pong

A large blue circle containing the text "Navigator-Driver".

Navigator-Driver

# Some Reminders

Communicate  
more

Change roles  
regularly

Be open  
minded

Confirm the  
tasks first

Show your  
gratitude

Give  
feedback to  
your pair



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# Spring Boot

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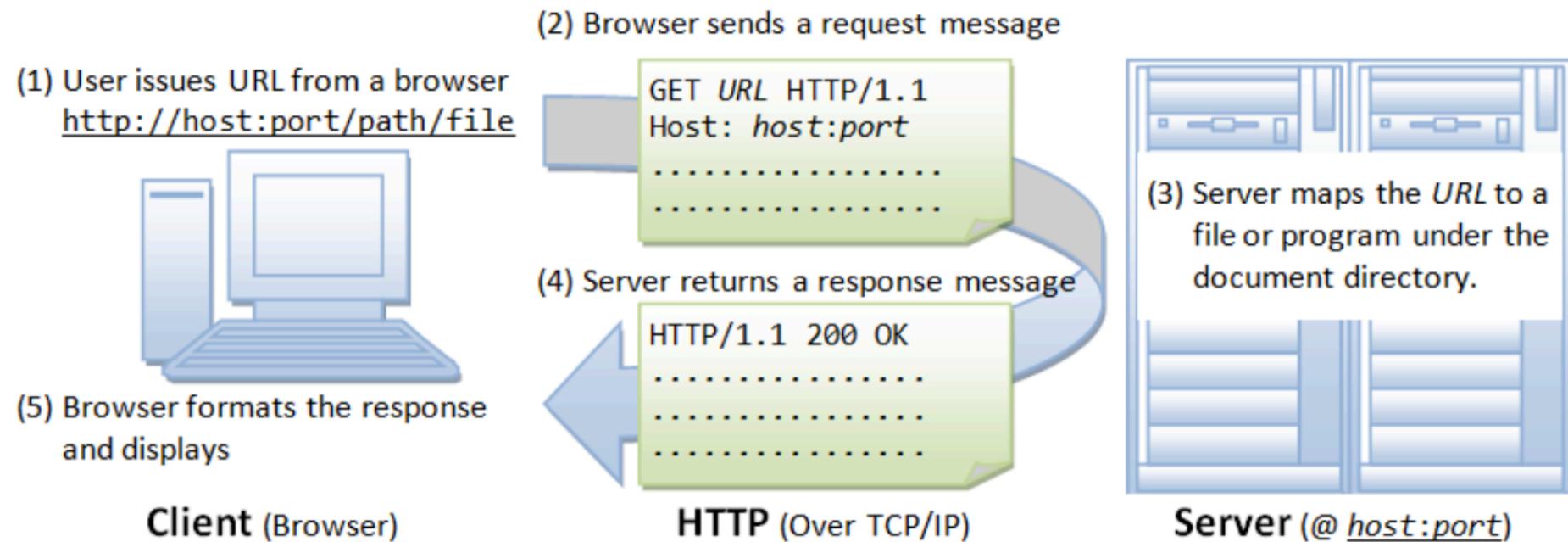
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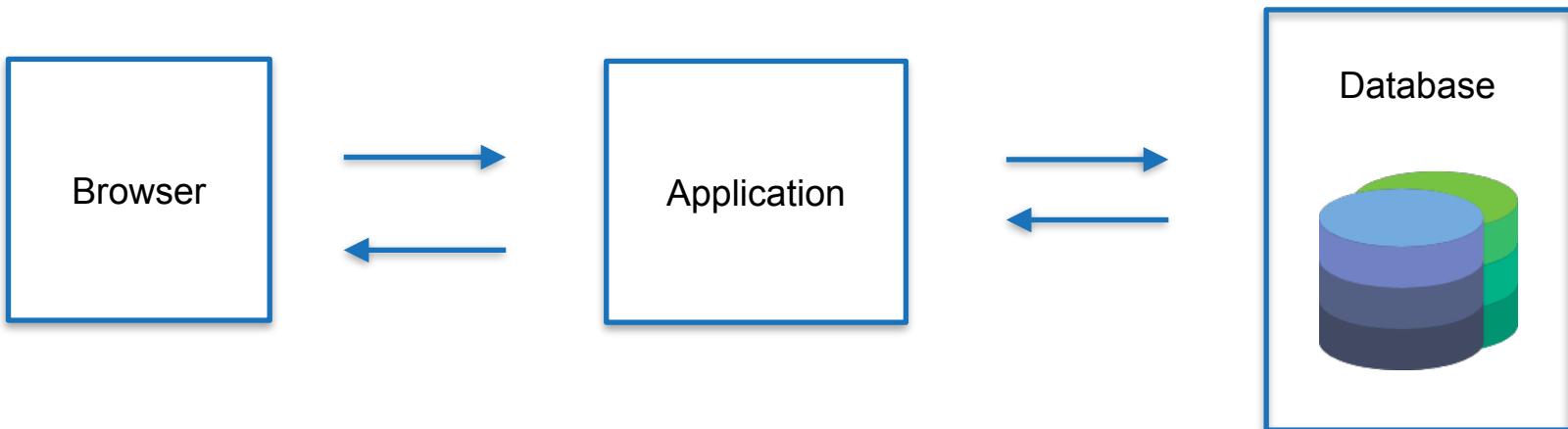
# Spring Boot 101

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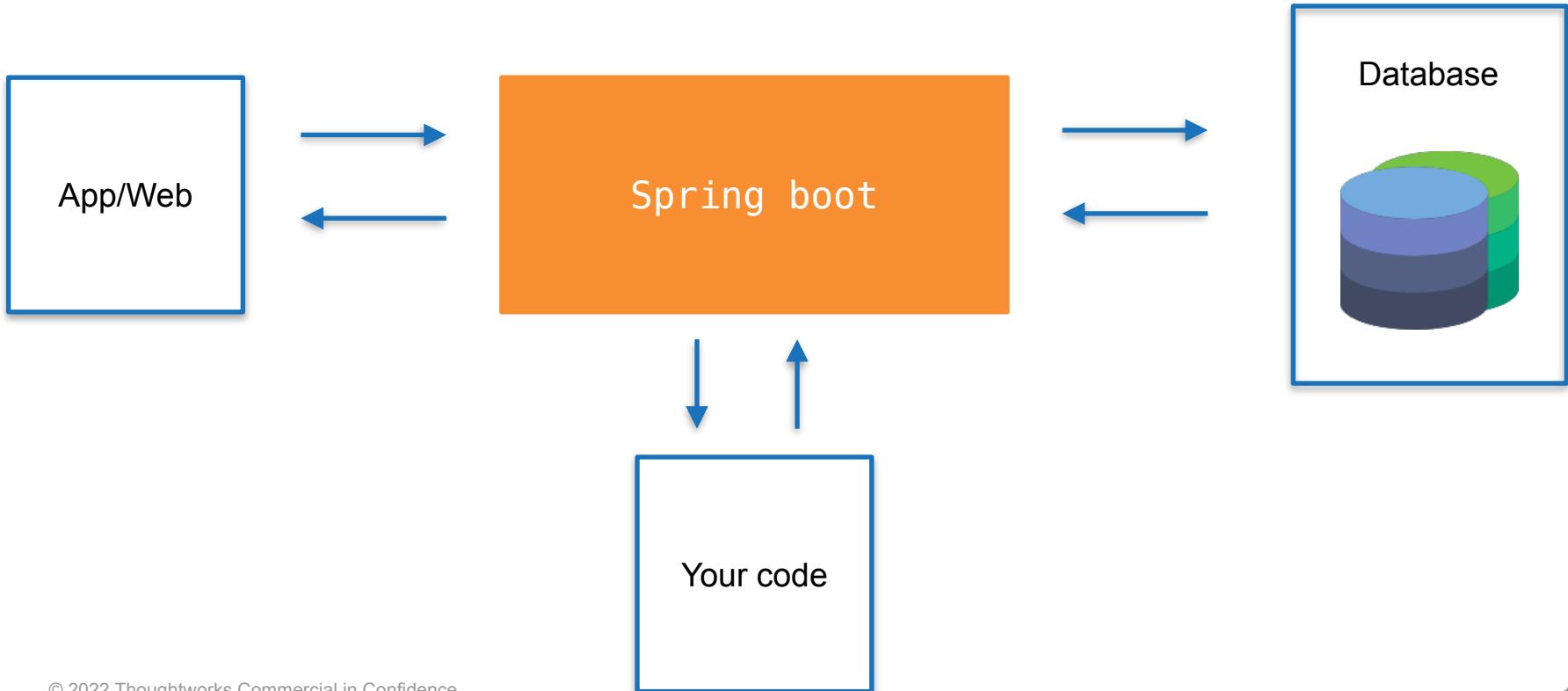
# Web Development



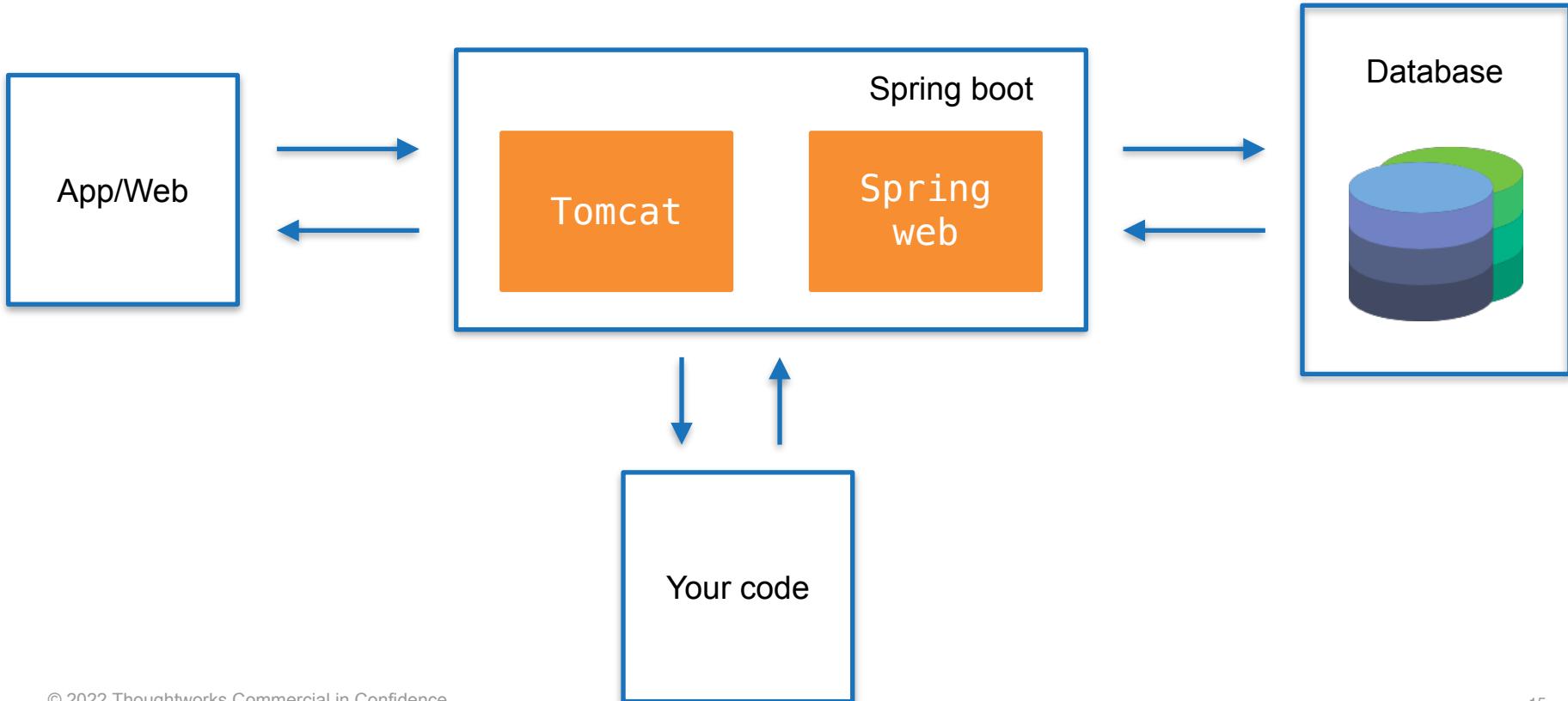
# Web Development



# Spring Boot is a box



# Spring Boot is a box



# Annotation is like the tag



@SpringBootApplication

@RestController

@RequestMapping

.....

# Spring Boot

<https://start.spring.io/>

# Spring Boot

## Code Demo



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# Restful API Practice

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# Employees API demo I

```
GET      /employees          # get employee list  
GET      /employees/1        # get a specific employee by ID  
GET      /employees?gender=ma# get all male employees
```

```
{  
    "id": 5,  
    "name": "Lily",  
    "age": 20,  
    "gender": "Female",  
    "salary": 8000  
}
```

Employee:

<https://github.com/afs-public-202211/practice-springboot-employee>

# Employees API Practice

## Pair Programming

Preparation: select one repo and add partner as collaborator

### Round 1: Kick-off

Partner A download the repo and implements the 1st API and push.  
Partner B plays as Observer and provide feedback.

### Round 2: Take Turns

Partner B pull the latest change and implements the 2nd API and push.  
Partner A plays as Observer and provide feedback.

### Round 3: Take Turns

Partner A pull the latest change and implements the 3rd API and push.  
Partner B plays as Observer and provide feedback.

...

After the class, Partner A sends the copy of the code to B and finish the homework separately.

# Employees API Practice

## Pair Programming

|   |          |         |
|---|----------|---------|
| 1 | Alan     | Jenny   |
| 2 | Marie    | Alvin   |
| 3 | Thomas   | Michael |
|   | Heinrich |         |

|   |        |         |
|---|--------|---------|
| 4 | Joyce  | Vincent |
| 5 | Kelvin | Chris   |
| 6 | Polly  | Antony  |

# Employees API demo II

```
GET      /employees                      # get employee list
GET      /employees/1                     # get a specific employee by ID
GET      /employees?gender=male          # get all male employees

POST     /employees                      # add an employee
PUT      /employees/1                   response status 201 created
DELETE   /employees/1                   # update an employee age and salary
DELETE   /employees/1                   # delete an employee
                                                response status 204 no content

GET      /employees?page=1&pageSize=5    # Page query, page equals 1, pageSize equals 5
                                            {
                                                "id": 5,
                                                "name": "Lily",
                                                "age": 20,
                                                "gender": "Female",
                                                "salary": 8000
                                            }

Employee:
```

# Company API

```
GET      /companies    #obtain company list with response of id, name  
GET      /companies/1  #obtain a certain specific company with  
response of id, name  
GET      /companies/1/employees # obtain list of all employee under  
a certain specific company  
GET      /companies?page=1&pageSize=5 #Page query, if page equals 1,  
pageSize equals 5, it will return the data in company list from index  
0 to index 4.  
POST     /companies    #add a company  
PUT      /companies/1  #update a company name  
DELETE   /companies/1  # delete a company
```

Company:

```
/companies/1
{
  "id": 1,
  "name": "spring"
}  
  
/company/1/employees
[
  {
    "id": 5,
    "name": "Lily",
    "age": 20,
    "gender": "Female",
    "salary": 8000
},
...  
]
```



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# Homework

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# Homework



22:00pm

- Finish spring boot practice
  - Implement all APIs for employee individually(fork the existing repo)
- Diary using ORID

## Requirement

1. Baby step commit with meaningful message
2. Format code before commit
3. Using meaningful names



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# Thank You !

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