DailyHW\_Day2\_Week6

04/01/2022

Notes and Q&A:

<https://docs.google.com/document/d/1O7ogrWUuttxBATKADPk98zPqyQcgCWbdF18YKx0xcSQ/edit?usp=sharing>

Checklist:

<https://docs.google.com/document/d/1fmYhFHUIy44UIId1fpUUV-vWt9RdjD0ghkv9n5PqzBw/edit?usp=sharing>

1. What have you reviewed today?

Application Architecture

MVC pattern

* Model
* View
* Controller

Frontend-backend separation

* Backend servers send data to frontend through APIs using JSON and other formats.
* Frontend includes the UI related elements and rendering logic.

3 tier architecture

* Web layer
* Service layer
* Data layer

Monolithic

* Pro:
* Simplicity of development, debugging, deployment
* Cross-cutting concerns and customizations are used only once
* Low cost in the early stages of the application
* Con:
* High code coupling
* Lack of flexibility
* Problem of deployment

SOA

* Service oriented architecture
* Focusing on interaction and integration between independent services, usually using a service bus, SOAP or messaging system.

Microservice

* Service Discovery
* Eureka, AWS
* Communication
* Http, restful api
* Log tracing
* Spring Cloud Sleuth, Zipkin
* Config Server
* Fault Tolerance
* Spring Cloud Sleuth

1. What new things you have learned today?

**AWS**

* IAAS
* PAAS
* SAAS

Service overview:

* EC2

- It provides user servers with CPU, memory, disk, network and OS.

* S3

 - file storage using bucket and key to indicate the id. Fast and lots of space.

* SQS

- Message Queue. Very simple one.

* SNS

 - Notification service, can send SMS, Email, SQS, HTTP etc.

* Lambda

- It hosts functions which could be triggered by other services. It is serverless.

- Could be used for small tasks which don't need a dedicated server.

* RDS

- RDBMS hosts, like Oracle, MySql, PostgreSQL, etc..

* ECS

- Orchestration and management of Docker containers.

* ECR

- Registry of Docker Images.

* ELB

- Elastic Load Balancing

* AutoScaling
* Add capacity on-the-fly to elb so that the application is never down due to a load

1. What is your learning plan tomorrow?

* 2 coding questions
* Review what has been covered this week.