

Software Architecture - 101

FULL Stack Architecture Training Program

Assignment -3

Deadline : 31st Oct 2019



Assignment -3

Implement the single tenant online pizza shop with microservice architecture with following specification

Data base : Mongodb , Middletier: node.js and express.js, Frontend : react.js

Data Model:

1. Roles :
 1. Admin can add the list of new pizzas, Customers can view the Pizzas
 2. Admin can not order pizza, customers can
2. Pizza : name, description, type:veg/non-veg, toppings:[onion, tomato, capsicum], price
3. User : Role, Name, password
4. Shopping Cart
5. Order

Microservices :

1. Pizza Search/List
2. Shopping cart management service
3. Orders Service
4. Authorization Service
5. User management
6. Frontend : To be done as part of Assignment-4



Assignment -3

Implement the online pizza shop with microservice architecture with following specification

Expectations:

1. Ensure that APIs created have proper security headers (use helmet module)
2. Secure the services using Authentication and Authorization. Authentication is done is using json web tokens
3. Use GraphQL for pizza search
4. Use API gateway to handle authorization for all the services.
5. Add docker file to crate docker images for microservices.
6. Health check/monitoring/tracing is implemented for microservices
7. Create Kubernetes deployment and services manifest for deploying on Kubernetes cluster
7. Setup CI-CD using gitlab (optional)

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Implement the online pizza shop with microservice architecture with following specification

Evaluation criteria:

1. % Assignment tasks completion
2. Code Quality
3. Solution Quality in terms of Scalability/high availability/ Performance/Resiliency etc
4. Clarity on using the right concepts/technology

Deliverables:

1. Working source code checked into bitbucket/gitlab
2. Readme file with steps to run the whole applications
3. A block diagram of communication/data flow between all the components. (pod/or std image format)

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