

Serverless Architecture

CSSE6400

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Oxymoron 1. Serverless

Logic running on someone else's server.

Developers can focus on logic, not infrastructure to deliver it.

Definition 1. Backend as a Service (BaaS)

Cloud-hosted applications or services that deliver functionality used by an application front-end.

Front-end may be a SPA or mobile app.

Back-end provides sophisticated functionality (e.g. database, machine learning, location services, authentication, ...).

Front-end ties back-end services together to deliver the application's functionality.

Definition 2. Functions as a Service (FaaS)

Application logic that is triggered by an event and runs in a transient, stateless compute node.

Node may only exist for duration of function call.

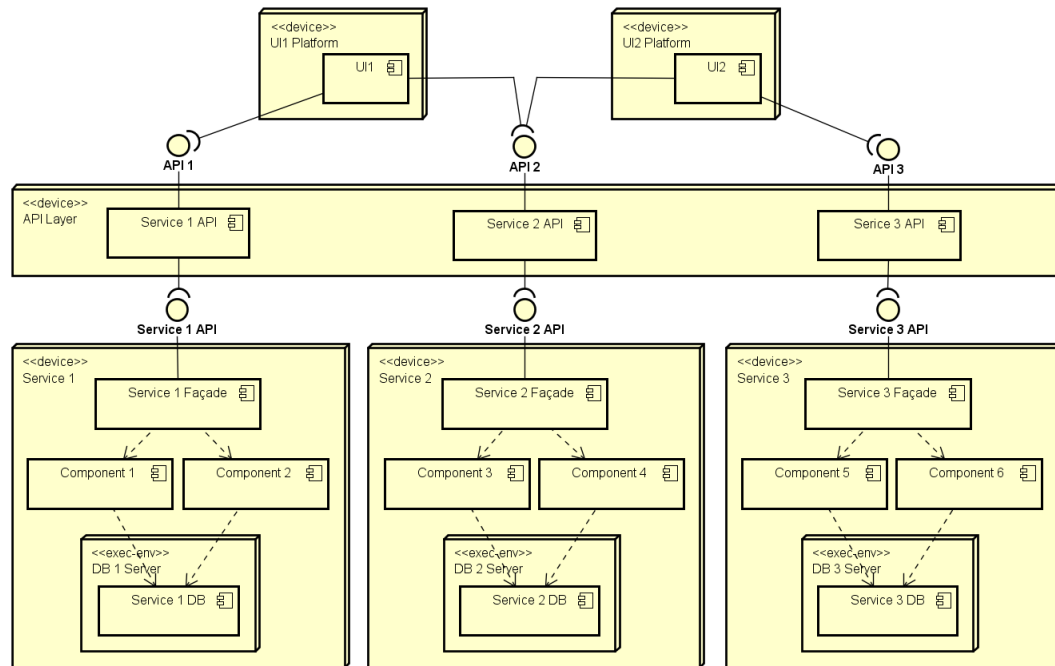
Server infrastructure (e.g. type of node, lifespan, scaling, ...) are managed by hosting provider.

e.g. AWS Lambda, Google App Engine, Azure Automation,

Definition 3. Serverless Architecture

- a) Rich client layer that uses BaaS to deliver functionality.
- b) Functionality running in a FaaS environment and used by other services.

Serverless now commonly implies definition (b).



Basic structure of a microservices architecture.
UIs are fairly monolithic to provide a rich interface.
Fairly common to have multiple UIs, some of which use a different combination of services.

Corollary 1. No Reuse

Services do not reuse components from other services, to avoid dependencies.

Pros & Cons

Modularity



Extensibility



Reliability



Interoperability



Scalability



Security



Deployability



Testability



Simplicity

