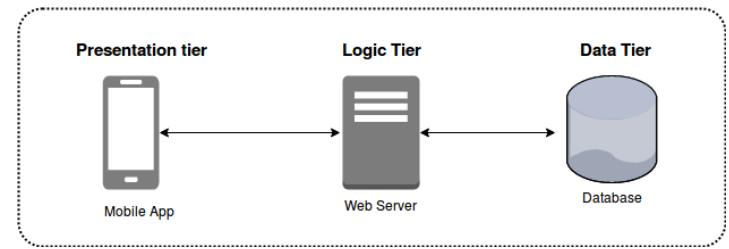


# Serverless

- **Serverless computing**
- **API Gateway + lambda**

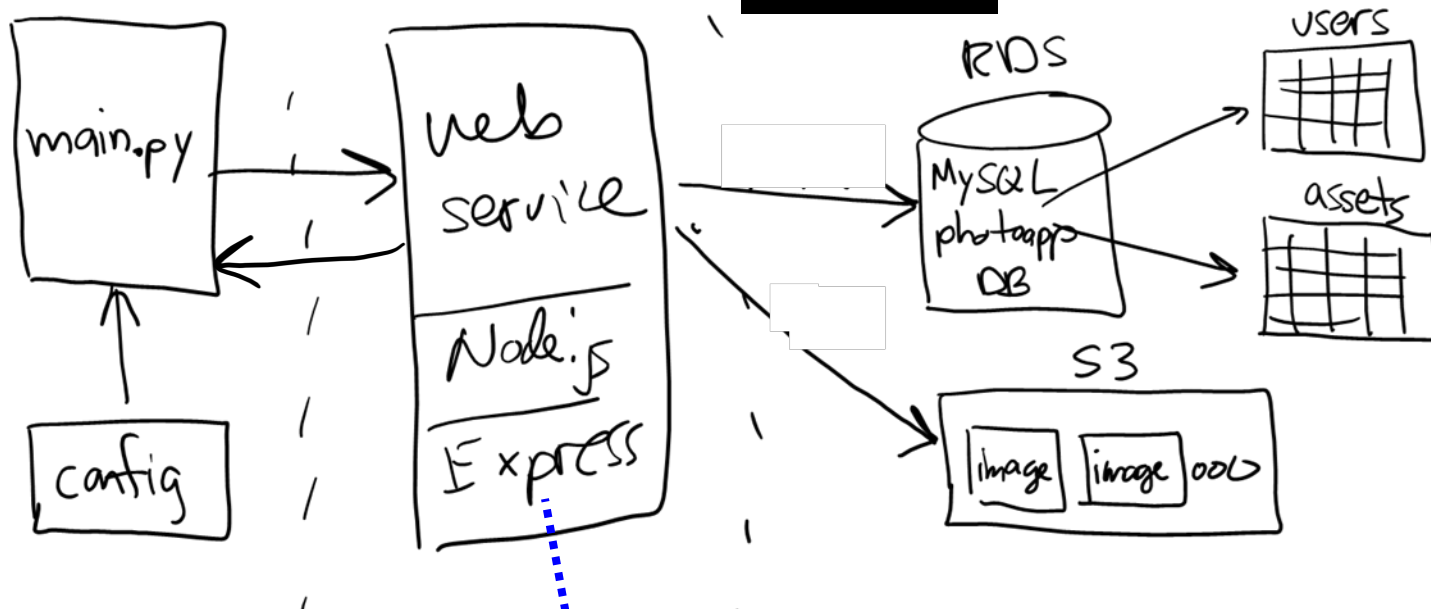


# Monolithic multi-tier



- Traditional software design for the cloud
- Monolithic approach --- one large code base on server
  - *Safe, conservative engineering*
  - *No one gets fired for building systems this way :-)*

# Project 02 --- monolithic web service

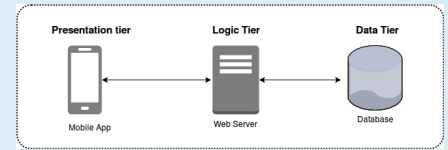


```
//  
// PhotoApp web service  
//  
app.get('/stats', (req, res) => {...});  
app.put('/user', (req, res) => {...});  
app.get('/users', (req, res) => {...});  
app.get('/assets', (req, res) => {...});  
app.get('/bucket', (req, res) => {...});  
app.get('/image/:assetid', (req, res) => {...});  
app.post('/image/:userid', (req, res) => {...});
```

JavaScript



# Alternative designs?



## 1. Microservices

- *Break monolithic system apart --- easier to develop, update, release, but more moving parts to manage*
- *Example: **Netflix** was one of the first to do this*

## 2. Event-driven

- *Design based on events that occur / application states*
- *Example: food delivery => menu, order, purchase, prepare, deliver*

## 3. Serverless computing...