Creating Web Services with Go

GETTING STARTED

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Small fast binaries

Full featured Standard Library

Concurrency

Easy to learn

Overview

Course Outline

Web Services Overview

Environment Setup

Demo Application

Web Services Overview

- REST (Representation State Transfer)

Handling HTTP Requests

- GET, PUT, POST, DELETE
- Encoding Data
- Debugging Tools

Data Persistence

- Databases and File Servers
- Database Connection Pooling

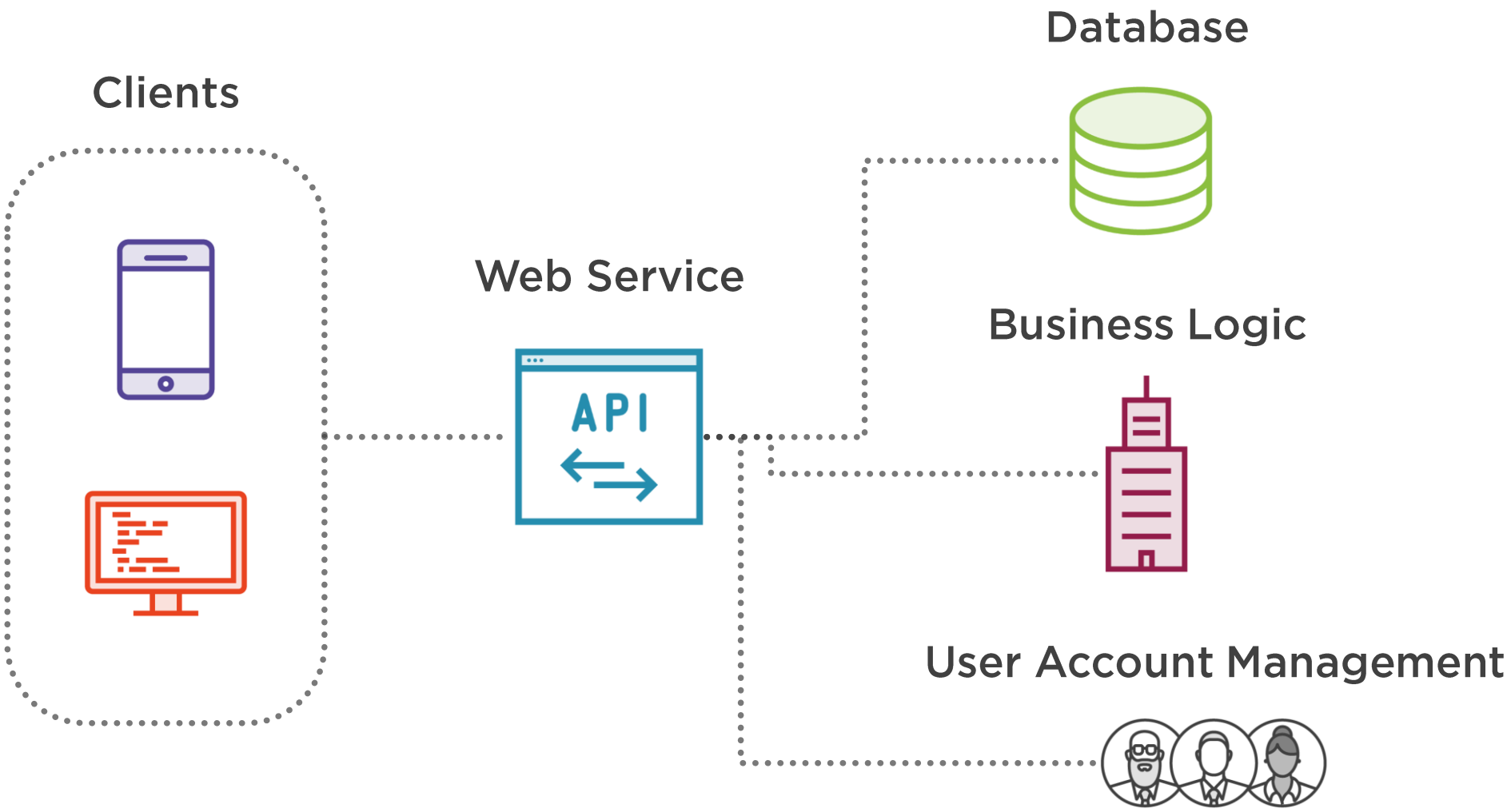
Web Sockets

- Two-way communication

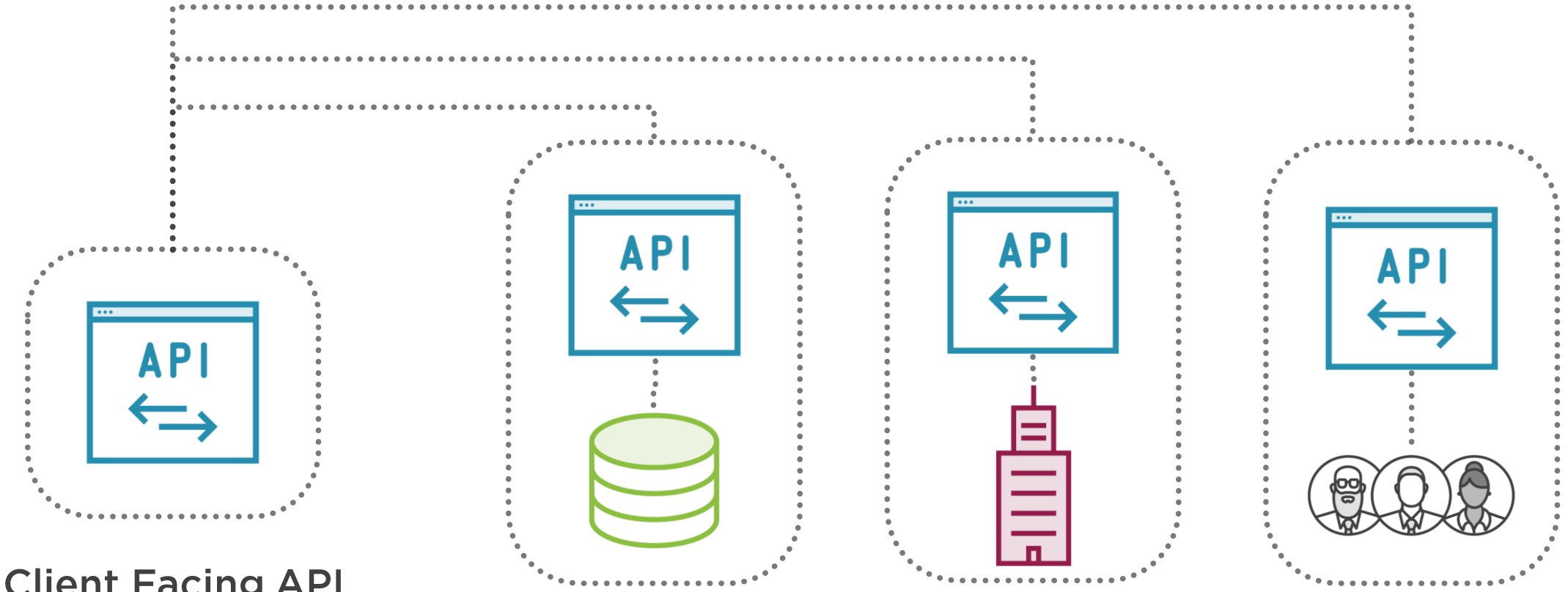
Templates

- Data formatting
- Data transformation

Web Services



Web Services



REST

Representational State Transfer

REST API

Client / Server

- Request / Response
- HTTP

Uniform Resource Identifier

- Maps to resources

URI Patterns

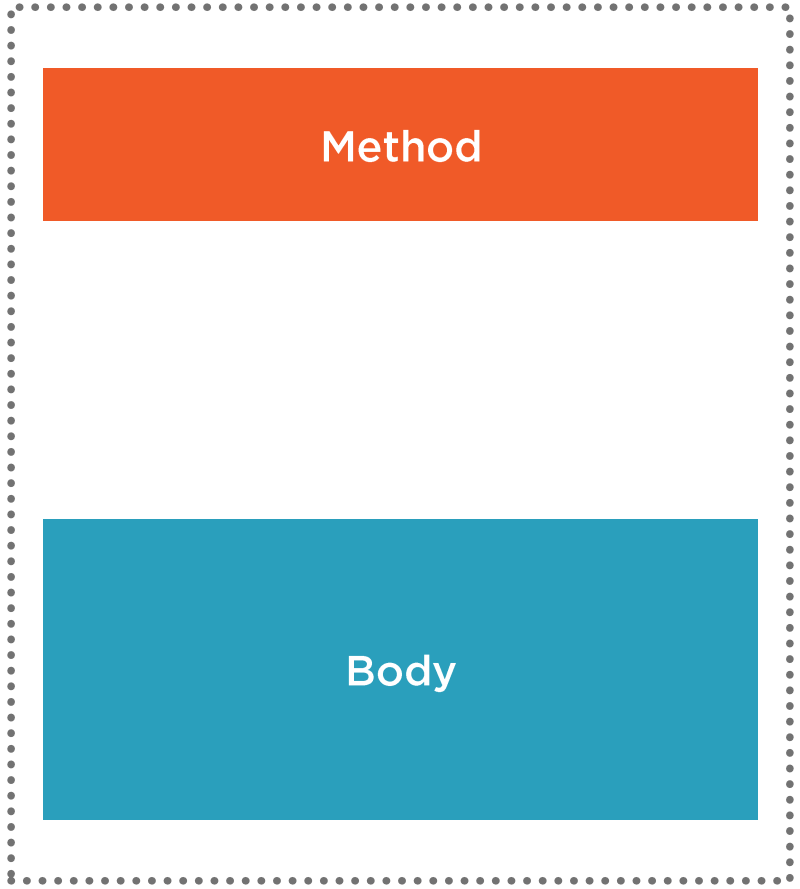
Endpoint	Resource
http://globomantics.com/api/products	All product resources
http:// glob....cs.com/api/products/123	Single product with ID “123”

HTTP Request

Request Methods

HEAD	GET	CONNECT
PUT	TRACE	POST
OPTIONS	DELETE	PATCH

HTTP Request



```
[

  {
    "productId": 4568,
    "manufacturer": “Big Box Mfg",
    "sku": "x78426lq1",
    "upc": “93986215015”,
    "pricePerUnit": "$57.90",
    "productName": “Robot Controller"
  }

]
```

- Square brackets are used to enclose arrays
- Curly Braces are used to enclose objects
- Allowed data types include:

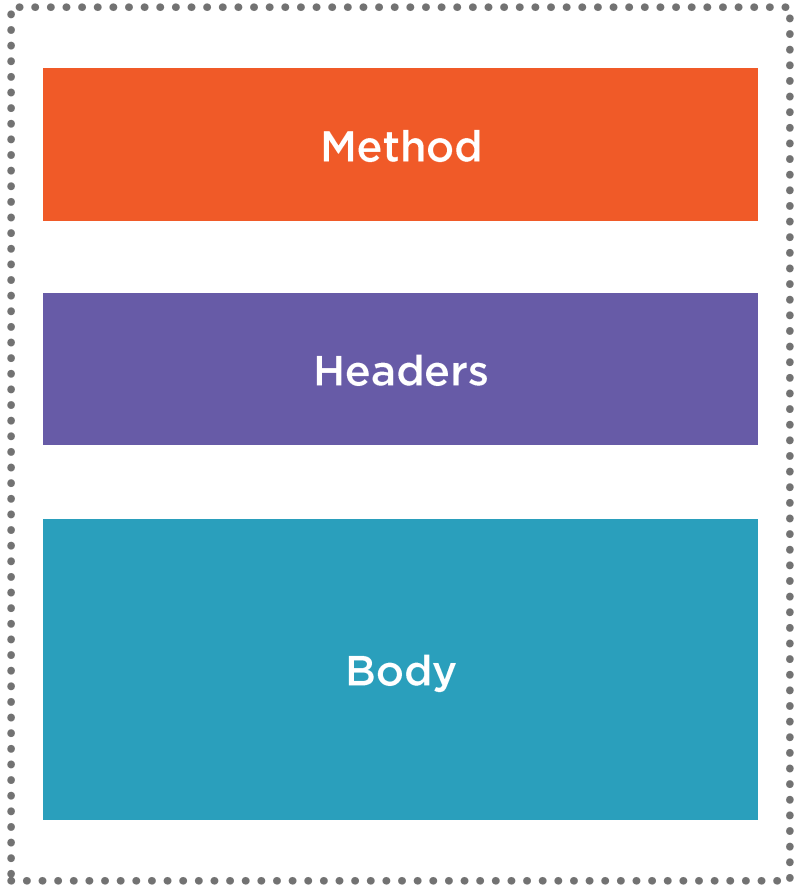
  string

  number

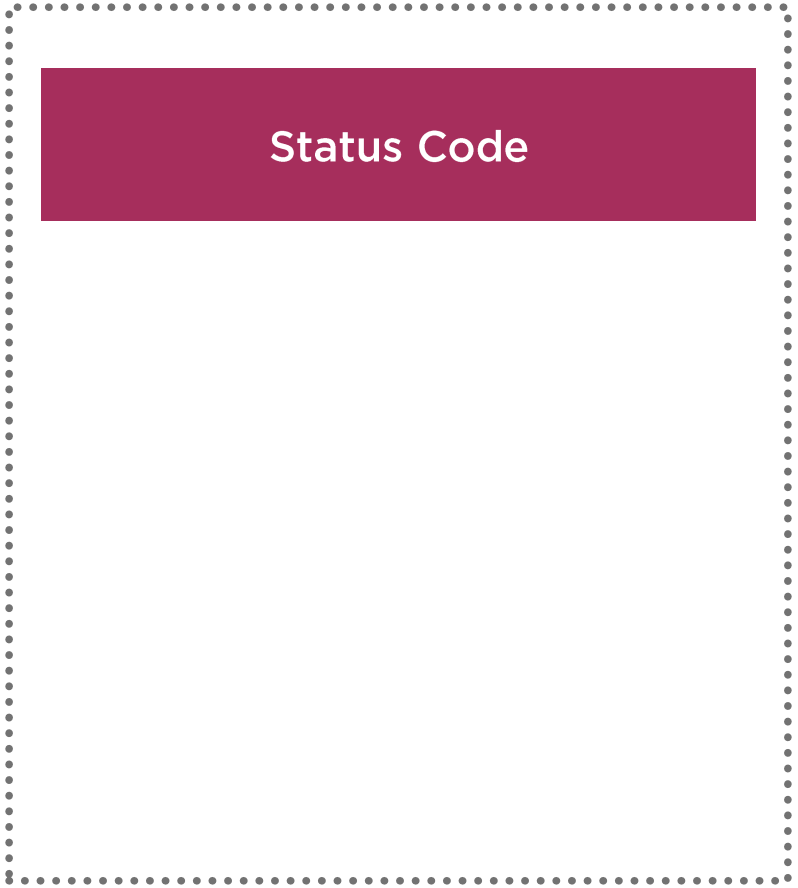
  boolean

  null / empty

HTTP Request



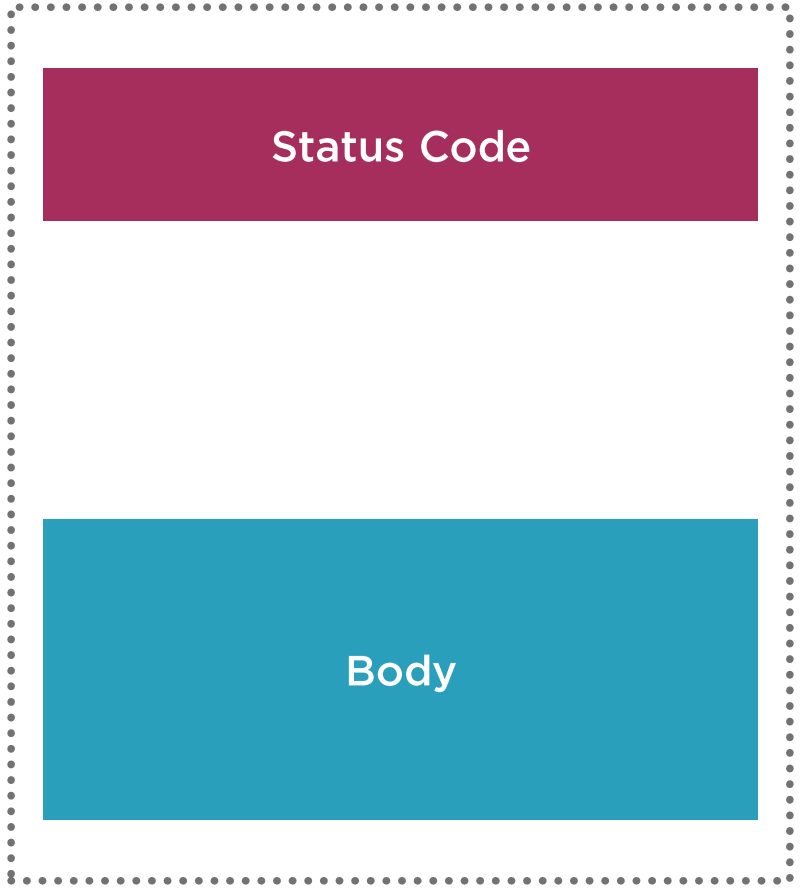
HTTP Response



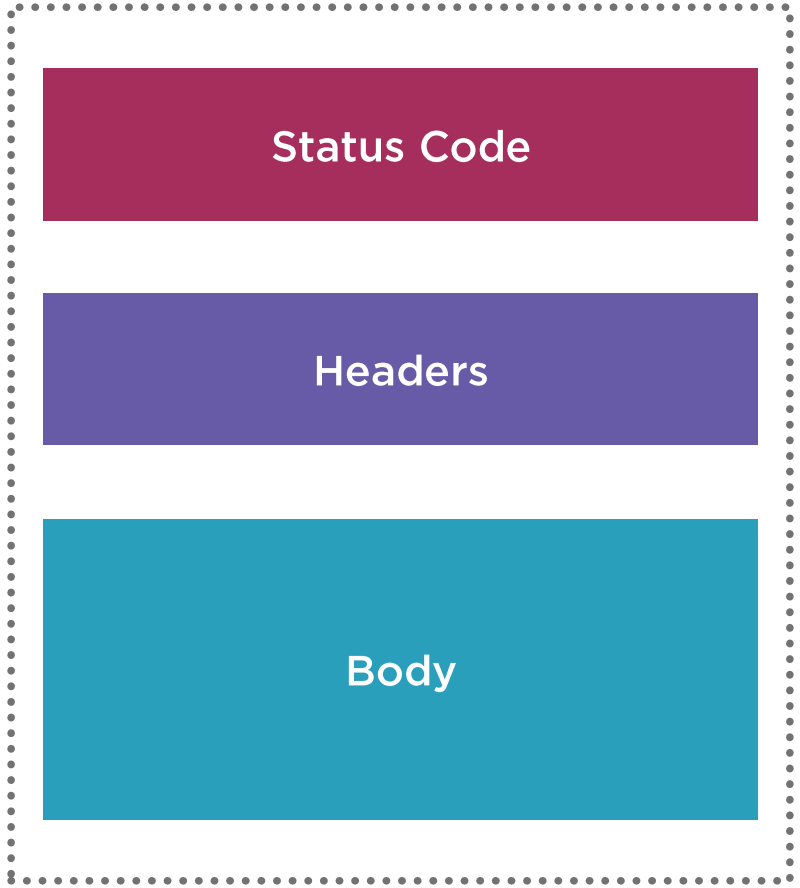
Status Codes

Code	Description
200: Success	Request was received and successfully processed
300: Redirection	Used to redirect the user agent in order to fulfill the request
400: Client Error	Something was wrong with the request sent from the client
500: Server Error	Something unexpected happened while processing the request

HTTP Response



HTTP Response



REST API

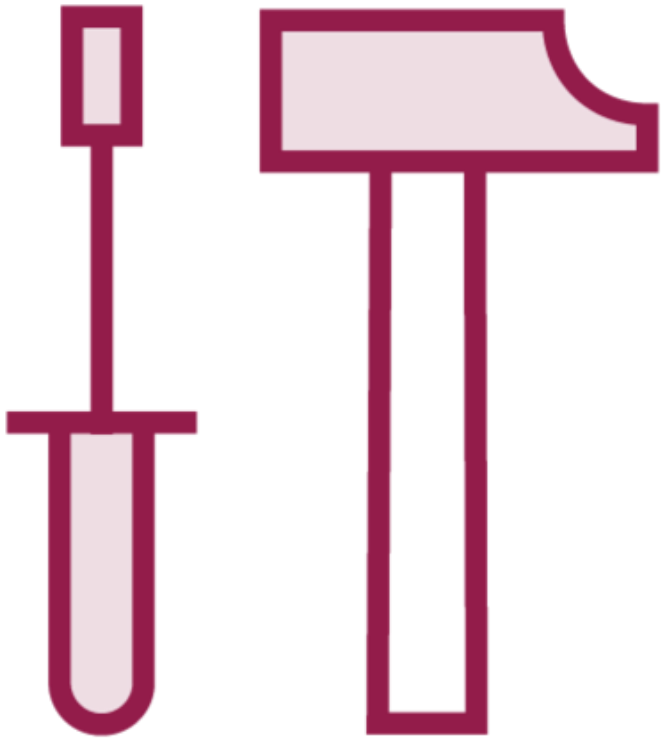
Client / Server
- Request / Response
- HTTP

Uniform Resource Identifier
- Maps to resources

Request

Response

Stateless
- Allows for scalability



Go

Microsoft Visual Studio Code

Postman

MySQL

Web Hosted MySQL

Cloud Providers

Security

Access Controls

Sample Application

Client Application

Visual user facing layer of the application

Written in Angular

Web Service

The REST API we will be building to supply our application with real data

Written in Go

Summary

Course Outline

Overview of Web Services

- REST
- Request / Response
- Stateless

Environment Setup

Application Demo