Backend Developer Roadtrip

Random Collection of Knowledge

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Part I: Basics

1 APIs

1.1 RESTful APIs

1.2 JSON APIs

1.3 SOAP APIs

1.4 GraphQL APIs

1.5 gRPC APIs

1.6 Authentication

1.6.1 JWT

1.6.2 Basic Auth

1.6.3 Token Auth

1.6.4 OAuth

1.6.5 Cookie Based

1.6.6 OpenID & SAML

2 Caching

2.1 Client Side

2.2 Server Side

2.3 Content Delivery Network (CDN)

2.4 Redis

2.5 Memcached

3 Web Security

3.1 Hashing Algorithms

3.2 API Security Best Practices

4 Testing

4.1 Unit Testing

4.2 Integration Testing

4.3 Functional Testing

5 CI/CD

6 Databases

6.1 Database Indexes

6.2 Sharding Strategies

6.3 CAP Theorem

6.4 Data Replication

6.5 ACID vs BASE

6.6 Transactions

6.7 N+1 Problem

6.8 Normalization

6.9 Failure Modules

6.10 Profiling performance

7 Software Design & Architecture

7.1 Design and Development Principles

7.1.1 Separation of Concerns

7.1.2 Reusability

7.1.3 Keep It Simple Stupid (KISS)

7.1.4 Don't Repit Yourself (DRY)

7.1.5 Scalability

7.1.6 Security

7.2 GOF Design Patterns

7.3 Domain Driven Design

7.4 CQRS

7.5 Event Sourcing

8 Architectural Patterns

8.1 Monolithic Apps

8.2 Microservices

8.3 SOA

8.4 Serverless

8.5 Service Mesh

8.6 Twelve Factor App

9 Message Brokers

9.1 RabbitMQ

9.2 Kafka

10 Containerization Vs Virtualization

10.1 LXC

10.2 Docker

10.3 Kubernetes

10.4 Elasticsearch

10.5 Solr

11 Web Servers

11.1 Server Sent Events

11.2 WebSockets

11.3 Long Polling

11.4 Short Polling

12 GraphQL

12.1 Apollo

13 NoSQL Databases

13.1 Document DBs - MongoDB

13.2 Time Series - InfluxDB

13.3 Realtime - Firebase

13.4 Column DBs - Cassandra

13.5 Key Value - Redis

13.6 Graph DBs - Neo4j

14 Building for Scale

14.1 Difference + Usage

14.2 Mitigation Strategies

Part II: Infraestructure Knowledge

15 Go Programming Language

15.1

15.2

16 Networking and Protocols

16.1

16.2

17 Docker

17.1

17.2

18 Amazon Web Services

18.1

18.2

19 Terraform

19.1

19.2

20 Ansible

20.1

20.2

21 Github Actions

21.1

21.2