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# Building APIs

What are APIs

HTTP

HTTP Versions

HTTP Methods

HTTP Status Codes

HTTP Headers

Cookies

CORS

HTTP Caching

## Learn the Basics

URL, Query & Path Parameters

Content Negotiation

Understand TCP / IP

Basics of DNS

## Different API Styles

RESTful APIs

Simple JSON APIs

SOAP APIs

GraphQL APIs

REST Principles

URI Design

Versioning Strategies

Handling CRUD Operations

## Building JSON / RESTful APIs

Pagination

Reate Limiting

Idempotency

HATEOAS

Error Handling

## API Authentication and Authorization

### Authentication Methods

Basic Auth

Token Based Auth

JWT

OAuth 2.0

Session Based Auth

### Authorization Methods

Role Based Access Control (RBAC)

Attribute Based Access Control (ABAC)

### API Keys & Management

Common Vulnerabilities

Best Practices

### API Documentation Tools

Swagger / Open API

Readme.com

Stoplight

Postman

### API Security

Unit Testing

Integration Testing

Functional Testing

Load Testing

### API Integration Patterns

Synchronous vs Asynchronous APIs

Event Driven Archite

API Gateways

Microservices Architectur

Webhooks vs Polling

Batch Processing

Messaging Queues

### API Testing

Mocking APIs

Contract Testing

### Real-time APIs

Web Sockets

Server Sent Events

### API Lifecycle Management

### Standards and Compliance

GDPR

CCPA

PCI DSS

HIPAA

PII

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