

Building APIs

Find the detailed version of this roadmap along with other similar roadmaps

[roadmap.sh](#)

Related Roadmaps

- ✓ Backend Roadmap
- ✓ DevOps Roadmap
- ✓ Full Stack Roadmap

- 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
- Rate Limiting
- Idempotency
- HATEOAS
- Error Handling

[Visit GraphQL Roadmap](#)

API Authentication and Authorization

[RFC 7807 - Problem Details for APIs](#)

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

[API Security Best Practices](#)

[API Performance Best Practices](#)

API Performance

- Performance Metrics
- Caching Strategies
- Load Balancing
- Rate Limiting / Throttling
- Profiling and Monitoring
- Performance Testing
- Error Handling / Retries

API Integration Patterns

- Synchronous vs Asynchronous APIs
- Event Driven Architecture
- API Gateways
- Microservices Architecture
- Webhooks vs Polling
- Batch Processing
- Messaging Queues
 - Rabbit MQ
 - Kafka

API Testing

- Unit Testing
- Integration Testing
- Functional Testing
- Load Testing

API Testing

- Mocking APIs
- Contract Testing

API Lifecycle Management

Real-time APIs

- Web Sockets
- Server Sent Events

Standards and Compliance

- GDPR
- CCPA
- PCI DSS
- HIPAA
- PII

Continue Learning with following relevant tracks

- [Backend Roadmap](#)
- [DevOps Roadmap](#)