#### Step 1: Understand the Role of a Backend Developer

- Handle server-side logic
- Manage databases and APIs
- Ensure security and performance
- Authenticate users
- Integrate third-party services

#### **Step 2: Learn the Fundamentals**

- Client-server model
- HTTP/HTTPS
- REST API principles
- Web architecture

## Step 3: Learn a Backend Programming Language

#### Choose one:

- Python (Flask, Django)
- JavaScript (Node.js, Express)
- Java (Spring Boot)
- C# (ASP.NET Core)
- PHP (Laravel)

#### **Step 4: Learn About Databases**

- Relational: MySQL, PostgreSQL
- NoSQL: MongoDB
- Schema design
- SQL queries
- Use ORMs

#### Step 5: Learn Authentication & Authorization

- JWT
- OAuth2
- Sessions & Cookies
- Role-based access control

## Step 6: Build RESTful APIs

- CRUD operations
- Use a framework to build routes
- Status codes
- Test with Postman or Insomnia

#### **Step 7: Version Control with Git**

- git init, commit, push
- GitHub
- Branching & merging

## Step 8: Testing & Debugging

- Unit testing
- Integration testing
- Logging
- Debugging tools

#### **Step 9: Learn About Deployment**

- Web servers: Nginx, Apache
- Cloud: Heroku, AWS, Azure
- CI/CD tools
- .env files

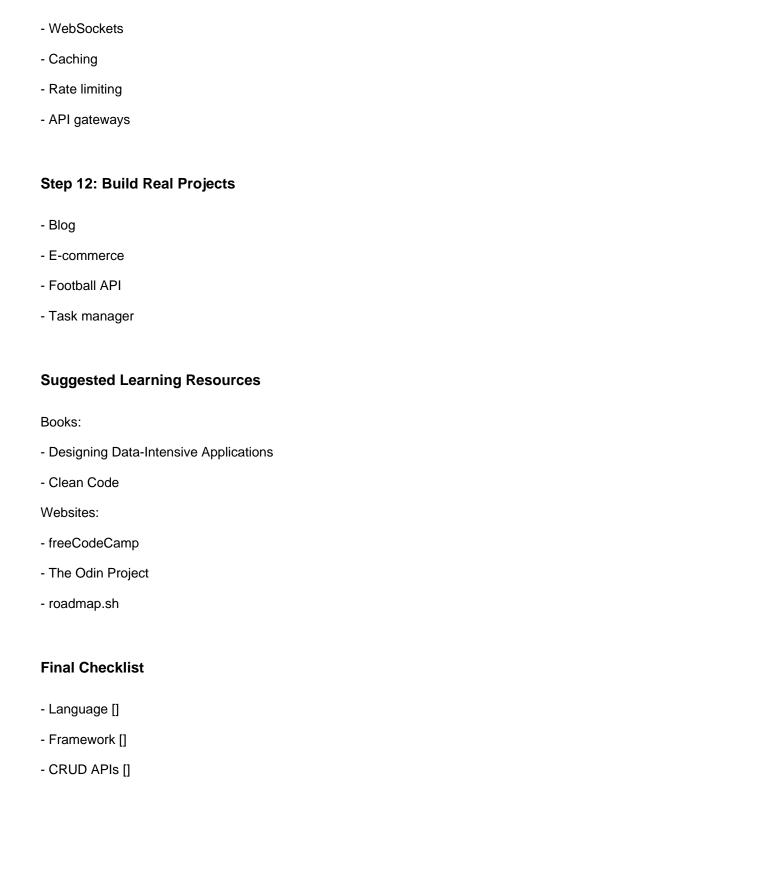
#### Step 10: Learn DevOps Basics

- Docker

- Kubernetes (optional)

**Step 11: Learn Advanced Concepts** 

- Monitoring tools



- Database []
- Auth & Security []
- Testing & Deployment []
- Git []
- 2+ Projects []