

Full-Stack .NET Developer Roadmap (Project-Driven)

Stage 1 — .NET Fundamentals (Console Apps)

Project: Personal Expense Tracker (Console App)

- Learn C# syntax, OOP, LINQ, and EF basics
- Use File I/O or SQLite for persistence
- Practice LINQ filtering, summing, grouping

Stage 2 — ASP.NET Core API Basics

Project: Task Management API

- Create RESTful CRUD APIs
- Use EF Core with PostgreSQL
- Implement proper HTTP response codes

Stage 3 — Authentication & Authorization

Project: User Management + JWT Auth System

- Implement JWT login, registration
- Use BCrypt for password hashing
- Add role-based access control

Stage 4 — Frontend Integration (Full-Stack App #1)

Project: Task Manager Web App

- Build React or Angular frontend
- Integrate with ASP.NET Core API
- Implement JWT authentication frontend flow

Stage 5 — Advanced Database & Query Skills

Project: Blog Platform API

- Learn EF Core relationships (1:N, N:N)
- Write raw SQL joins, subqueries
- Implement pagination and filtering

Stage 6 — Clean Architecture & Domain-Driven Design

Project: E-Commerce Backend

- Learn Clean Architecture principles
- Use CQRS, MediatR, AutoMapper
- Apply Repository + Unit of Work patterns

Stage 7 — Full-Stack App #2

Project: E-Commerce Web App

- Combine backend and frontend
- Add role-based admin features
- Use Redux or NgRx for state management

Stage 8 — Advanced Topics

Project: Event Booking Platform

- Learn SignalR (real-time updates)
- Implement payments (Stripe)
- Use Redis caching, deploy with Docker

Stage 9 — Deployment & DevOps

Goal: Deploy to Azure using CI/CD

- Containerize apps using Docker
- Set up GitHub Actions pipelines
- Host API + DB on Azure

Stage 10 — Capstone Project

Project: TeamCollab (SaaS App)

- Multi-tenancy, real-time chat (SignalR)
- JWT + refresh tokens
- Stripe subscriptions, Clean Architecture