Developer Training Plan with References

Week 1 - Monday

Database Basics & ER Modeling

- Relational model, keys, normalization
- ER diagram creation
- Schema creation in SQL
- Basic SQL queries

Week 1 - Tuesday

DSA Basics & HackerRank

- Arrays & Strings
- Easy HackerRank problems
- String operations
- Two-pointer pattern

Week 1 - Wednesday

.NET API Fundamentals

- Setup ASP.NET Core API
- CRUD endpoints
- EF Core setup
- Postman/Swagger test

Week 1 - Thursday

Angular Basics

- Angular CLI & components
- Binding & template syntax
- Reusable UI components
- Angular Material styling

Week 1 - Friday

Recap & Practice

- Full-stack CRUD app
- 2 HackerRank problems
- Review queries & API
- Scalable design research

Week 2 - Monday

Developer Training Plan with References

Advanced SQL

- Window functions

- Indexes & optimization

- Stored procedures

- Real-world queries

Week 2 - Tuesday

DSA: Linked Lists & Stacks

- Linked Lists & Stack implementation

- HackerRank problems

- Linked list reversal

- Debug session

Week 2 - Wednesday

API Layers & Best Practices

- Repository pattern

- DTOs, AutoMapper

- Validation & errors

- Swagger docs

Week 2 - Thursday

Angular Services & API

- Angular services

- HttpClient usage

- Render API data

- Error handling

Week 2 - Friday

Mini Project

- Plan app

- Schema + API + UI build

- Plan app

- Schema + API + UI build

- Plan app

- Schema + API + UI build

Developer Training Plan with References

Week 3 - Monday

Large-Scale DB Design

- Multi-tenant, partitioning

- Views for abstraction

- Dynamic SQL

- Case study

Week 3 - Tuesday

DSA: Trees & Recursion

- Binary trees

- Recursion patterns

- Tree problems

- Debug tree code

Week 3 - Wednesday

.NET Clean Architecture

- Clean folder structure

- Service/repo injection

- Unit of Work & DI

- AutoMapper, Validation

Week 3 - Thursday

Angular Dynamic Forms

- Reactive forms

- Dynamic JSON form

- Validation

- Save to API

Week 3 - Friday

Project Expansion

- Filtering, pagination

- Angular UI updates

- Error boundaries

- Bug fixes

Week 4 - Monday

Developer Training Plan with References

Query Optimization

- Execution plans

- Refactor queries

- Profiler/Query Store

- Optimization case study

Week 4 - Tuesday

DSA: Graphs & Review

- Graph basics

- BFS/DFS

- Medium HackerRank problems

- Pattern review

Week 4 - Wednesday

Final Project Build

- Define schema/API

- Backend coding

- Angular frontend

- Integrate & test

Week 4 - Thursday

Polish & Dynamic Patterns

- JWT Auth

- Angular UI polish

- Logs & optimization

- Testing/review

Week 4 - Friday

Deployment & Showcase

- Deploy backend

- Deploy frontend

- Write docs/README

- GitHub portfolio

Developer Training Plan with References

Reference Materials & Learning Resources

Database

- SQL Tutorial: https://www.w3schools.com/sql/

- SQL Indexing & Optimization: https://use-the-index-luke.com/

- ER Diagram Tool: https://dbdiagram.io/

DSA

- DSA Basics: https://www.geeksforgeeks.org/data-structures/

- HackerRank Practice: https://www.hackerrank.com/domains/tutorials/10-days-of-javascript

- NeetCode Patterns: https://neetcode.io/

.NET API

- ASP.NET Core Docs: https://learn.microsoft.com/en-us/aspnet/core/?view=aspnetcore-7.0

- Entity Framework Core: https://learn.microsoft.com/en-us/ef/core/

- Clean Architecture: https://github.com/jasontaylordev/CleanArchitecture

Angular

- Angular Docs: https://angular.io/docs

- Angular Reactive Forms: https://angular.io/guide/reactive-forms

- Angular Material: https://material.angular.io/