Docker, AWS Services & Node.js – Going to production

40 hours learning and exercises

Prerequiesites

- Javascript & Typescript
- Command line, powershell
- Basic network understaning
- Server & Client side development

To ensure a smooth learning experience throughout the course, please make sure you have the following:

- Laptop or Desktop Computer
- Open Network & Internet Access

- Unrestricted access to the open web (no firewalls or network restrictions that block development tools).
- Permissions - Administrator privileges

Installations (exact instructions will be given in the first day of the course)

- Docker
- Node.js
- Git
- VSCode

Course Content:

Docker – From basics to cloud

- Introduction
- What is Docker?
- Why containers?
- Install docker on windows & linux
- Docker CLI basics
- Running containers
- Managing Images
- Docker compose
- Network in Docker

Containerizing .NET application

- Setting up .NET core application
- Creating Dockerfile app
- Environment variables and secrets
- Containerizing .NET core application
- Debugging containers in VScode
- Hands on – building using .NET core application with Selected Database
- Docker compose Scale

Docker Advances topics & AWS

- Development setup
- Nginx
- Storage
    - Persisting data using Docker Volumes & Bind Mounts
    - Handling logs
- Secure Docker containers
    - Best practices
    - Non root users
    - Secrets
- AWS ECS
    - Introduction
    - Setting up cluster
    - ECR
    - Deploying
    - Auto scaling

Node.js – Writing API

- Introduction
- Why using node.js
- Using Typescript
- Express
    - Middleware
    - Working with Databases
    - Error handling
    - Logging and mounting
- Containerizing Node.js application

Microservices

- What are microservices?
- Key concepts & communications
- Architecture
- Angular Microfrontends
- Communicate between the Containers

  - Combine .NET with Node.js applications in Microservices architecture
  - Using Angular as Frontend
- Hosting Frontend application, compare and examples
  - S3 + Cloudfront
  - Node.js application, custom deployment