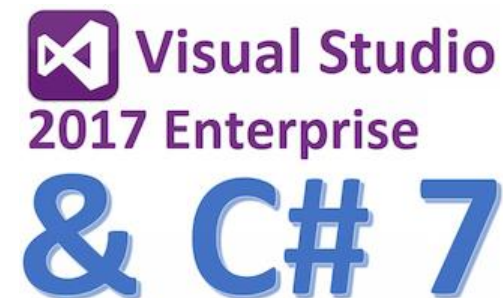


ASP.NET Core MVC

The Future of Web Apps



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- Xu hướng Web 2019
- Giới thiệu ASP.NET Core 2.2
- Sử dụng ASP.NET Core MVC để xây dựng Web UI và Web API

□ HTML + CSS

□ Javascript (without any library or framework)

- Data Types, functions, conditionals, loops, operators
- DOM Manipulation & Events
- JSON
- Fetch API
- ES6+ (Arrow function, promises, async/await, destructuring)

□ Node.JS



Some choices

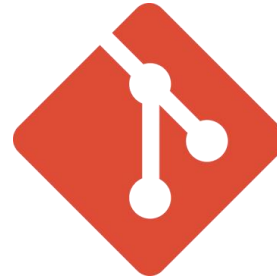
☐ HTML/CSS framework

- BootStrap



☐ Git & Tooling

- Basic Command Line (used for so much)
- Git (version control)
- NPM or Yarn (install packages)

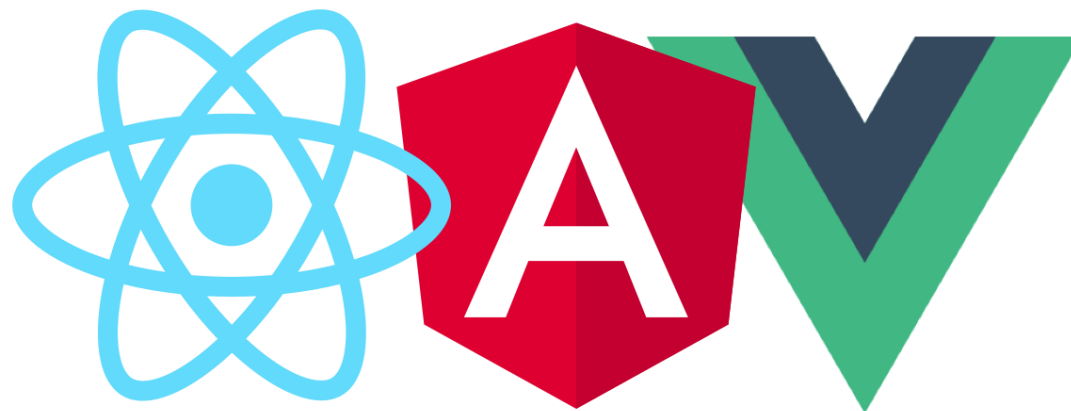


☐ Front-end JS framework

☐ Server Side language & Database

Front-end JS framework

- ❑ **React** – most popular in the industry
- ❑ **Angular** – used in enterprise
- ❑ **Vue** – easy to use and really gaining traction



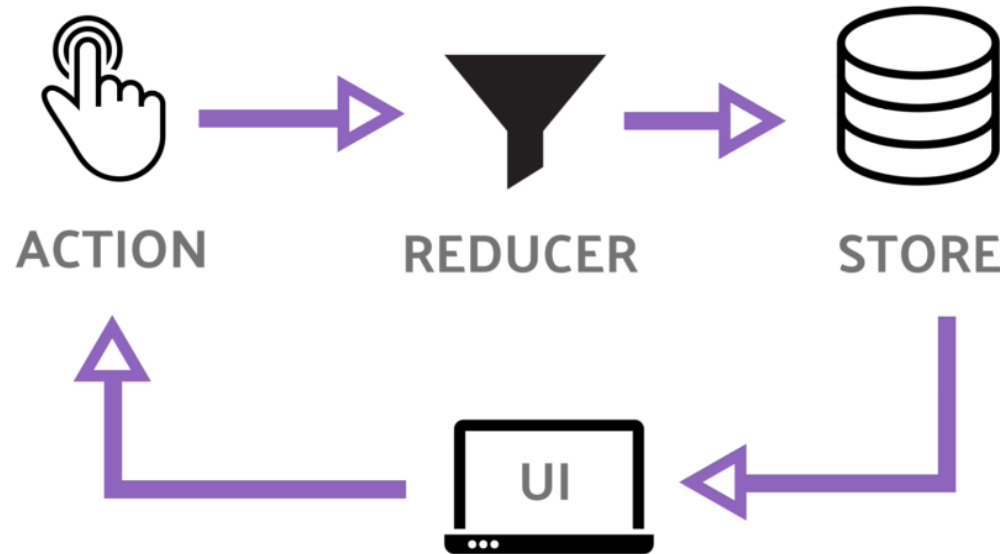
State Management

For larger apps with a framework, you may need to learn methods to manage app-level state

- ❑ Redux, Context API
- ❑ Apollo (GraphQL client)
- ❑ Vuex
- ❑ NgRx



Redux



Server Side language (choose one)

- ☐ Node.js Express
- ☐ Python Django, Flask
- ☒ **C#** **ASP.NET**
- ☐ PHP Laravel, Symfony
- ☐ Go

Things To Learn

- Fundamental Syntax
- Structure & Workflow
- Package Management
- HTTP/Routing

2019 Trends

- ❑ GraphQL & Apollo
- ❑ TypeScript
- ❑ Serverless Architecture
 - 3rd party services
 - AWS
- ❑ AI & Machine Learning
 - Python
 - Tensorflow.js
- ❑ Blockchain Technology
- ❑ Progressive Web App (PWA)
- ❑ **Single Page Application**

ASP.NET Core

C# Recommended Software

❑ Software needed for this course:

- Microsoft Windows 10
- Visual Studio 2017 – <https://www.visualstudio.com>
- MS SQL Server - <https://www.microsoft.com/en-cy/sql-server/sql-server-downloads>



Microsoft®
SQL Server®



Visual Studio



.NET Core Platform

Something New, Something Old

.NET Core Platform

☐ Cross-platform

- .NET Core apps that run on Windows, Linux and macOS

☐ Flexible

- Each component is a package
- Metapackages

☐ Lightweight

- Projects include only required dependencies

☐ Fully open-source at [GitHub](#)

ASP.NET Core Overview

- ❑ **ASP.NET Core** is a cross-platform, open-source framework
 - You can build web applications and services, **IoT** apps, and mobile backends with **ASP.NET Core**.
- ❑ **ASP.NET Core** provides:
 - Integration of **modern client-side frameworks** and **development workflows**.
- ❑ **ASP.NET Core** applications run both on **.NET Core** and **.NET Framework**.

ASP.NET Core histories

ASP.NET Core Releases



ASP.NET Core 2.2

❑ Install

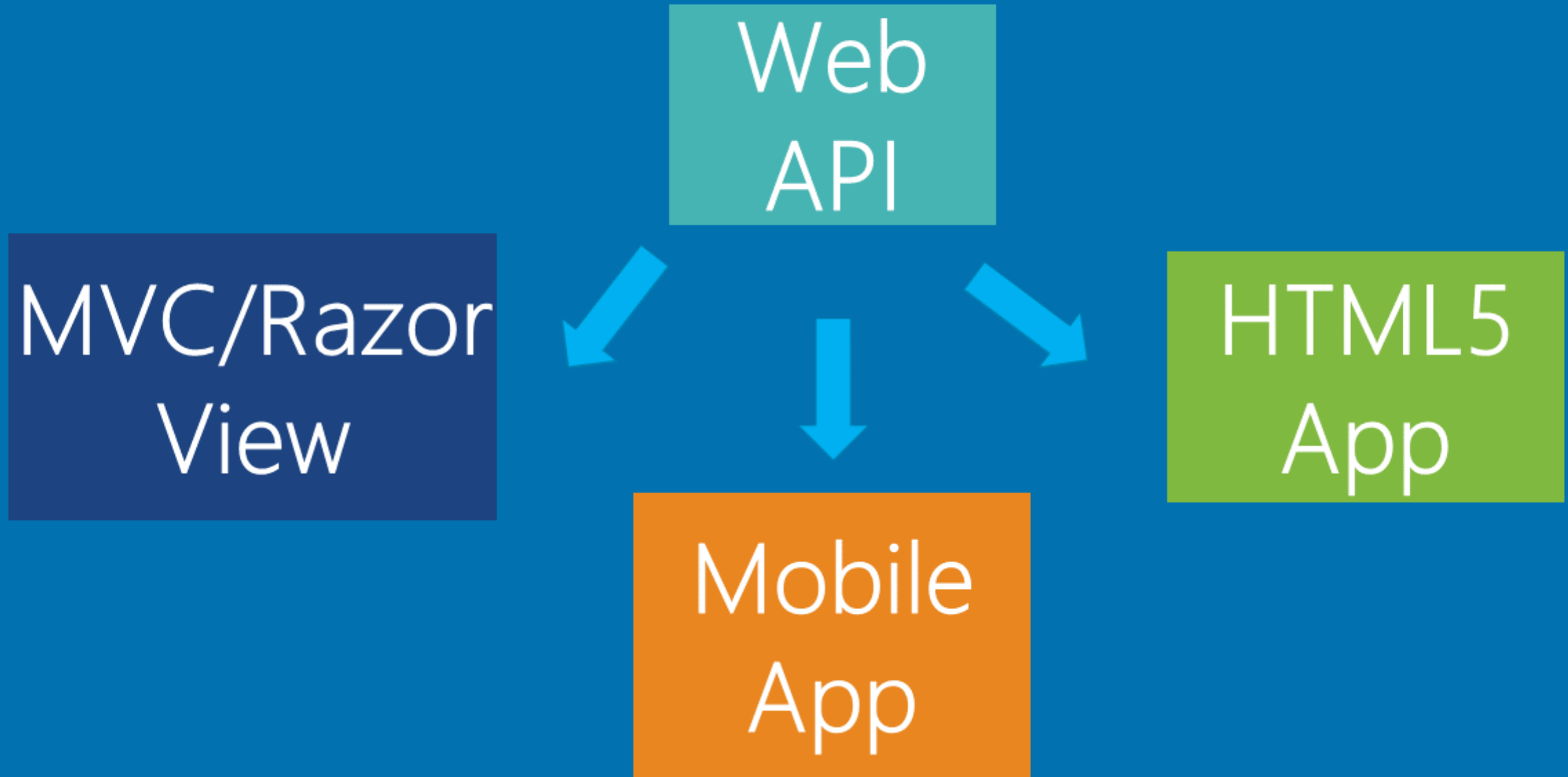
- Visual Studio 15.9.x
- [Upgrade] ASP.NET Core SDK 2.2

❑ New:

- BootStrap 4
- Angular 6.x
- [New Health Checks API for application health monitoring](#)
- Improve performance

<https://www.hanselman.com/blog/UsefulASPNETCore22Features.aspx>

Consuming Web APIs in ASP .NET Core



**IMPROVED COLLABORATION &
CROSS-PLATFORM SUPPORT**



MVC ARCHITECTURE

**IN-BUILT DEPENDENCY
INJECTION SUPPORT**



RAZOR PAGES



**SUPPORT FOR POPULAR
JAVASCRIPT FRAMEWORKS**

Why use ASP.NET Core?

BENEFITS OF MICROSOFT ASP.NET CORE



Complete Web
Server
Independence



Cross-Platform
Development



Built-In
Dependency Injection



Open Source and
Community Focused



Side-by-Side App
Versioning



Unified Stack for MVC
and Web API



Rapid Development



Better Portability



Rich Controls



Better Security



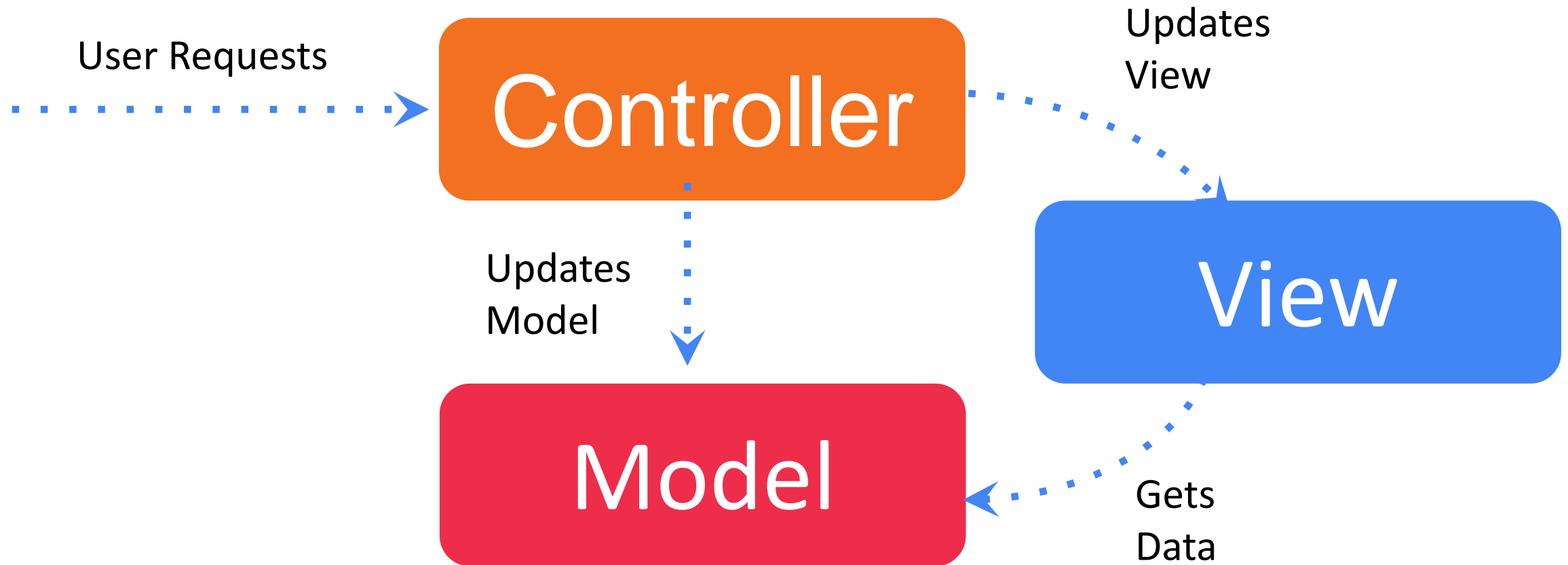
More Scalable



More Maintainable

- ❑ **ASP.NET Core MVC** is a rich framework for building web apps and APIs
 - Uses the **Model-View-Controller** design pattern
 - Lightweight, Open Source & Highly Testable
 - Optimized for use with **ASP.NET Core**
 - Provides patterns-based ways to build dynamic websites

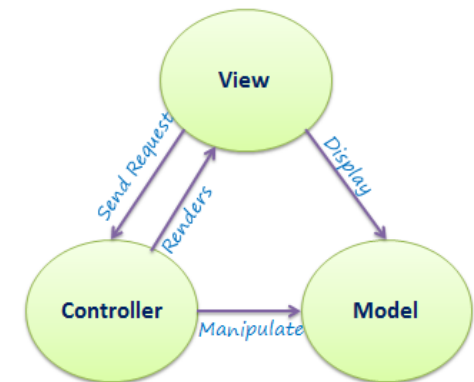
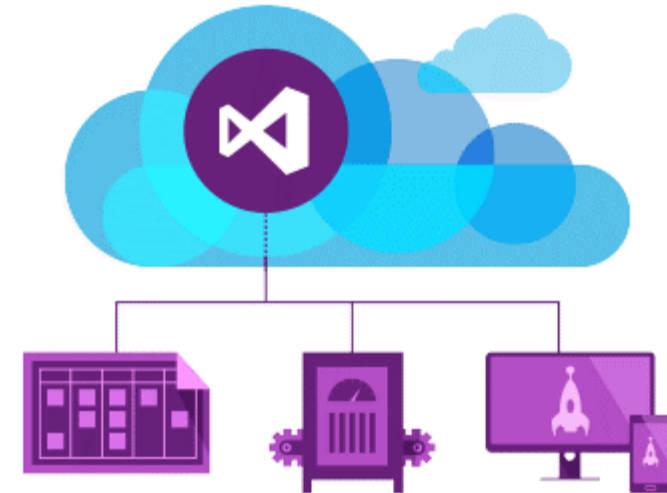
MVC Basics



ASP.NET Core MVC

❑ **ASP.NET Core MVC** makes it easy to

- Create SEO-friendly URLs
- Create Single Page applications
- Achieve Separation of Concerns
- Adopt REST concepts
- Implement Test Driven Development
- Achieve high-quality architecture design, optimizing developer work (**Convention** over **Configuration**)



□ **ASP.NET Core MVC** provides cool features like:

- **Razor View Engine**
 - One of the greatest view engines
 - With IntelliSense, integrated in Visual Studio
- Support for **building Web APIs**
 - Building services that can reach a broad range of clients
 - Support for **cross-origin resource sharing** (CORS)

□ Along with those **ASP.NET Core MVC** provides features like:

- Routing
- Model binding & Model Validation
- Dependency Injection
- Filters & Areas
- Strongly-Typed Views & View Components
- Tag Helpers
- And many more ...



ASP.NET Core
ASP.NET Core

Using ASP.NET Core MVC for development Web UI and Web API

References

- ❑ Web Development In 2019 - A Practical Guide
<https://www.youtube.com/watch?v=UnTQVlqmDQ0>
- ❑ <https://dashbouquet.com/blog/web-development/web-development-trends-that-will-dominate-in-2019>
- ❑ <https://www.uriahsolution.com/blog/website-development-trends-2018/>
- ❑ <https://github.com/kamranahmedse/developer-roadmap>

Chương trình ASP.NET Core 2.2

☐ <http://nhatnghe.com/chuongtrinhhoc/aspcore>

☐ 96 giờ, 4 triệu

- Chiều T7, sáng CN: 4 giờ/buổi
- Tối 357/246: 3 giờ/buổi

☐ Nội dung

- Ôn tập C# cơ bản
- HTML5/CSS3/jQuery/BootStrap cơ bản (FrontEnd development)
- ASP.NET Core MVC/Web App
- Entity Framework Core
- Web API
- Đồ án

