

An overhead view of a man and a woman on a red picnic blanket on a green lawn. The man is lying on his back, holding a camera up to his eye to take a photo of the woman. The woman is lying on her side, facing away from the camera. Various items are scattered on the blanket, including a purple folder, a brown bag, a pair of white sunglasses, a bunch of yellow flowers, and a small green object. A blue semi-transparent banner with white text is overlaid on the left side of the image.

# .NET Framework: Developing Modern Web Apps with ASP.NET MVC – Workshop*PLUS*

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v1.0



# Course Outline

- **Module 1: Overview**

- MVC design pattern versus web forms and web pages
- Overview of ASP.NET & application models
- ASP.NET MVC projects and file layout
- .NET Standard Library
- Package Managers
- Middleware

- **Module 2: Models**

- Model development
- Entity Framework
- Database first versus code first
- Code based modeling (Code-first)
- Database & Model-first approach
- Advanced model design
- Fluent API; Entity Framework Power Tools

# Course Outline

- **Module 3: Controllers**

- Controller development
- Model binding
- Filters
- Advanced controller design and extensibility
- Dependency Injection (DI); comparison of DI libraries
- Controller best practices
- Debugging & diagnostics

- **Module 4: Views**

- View fundamentals
- HTML 5 and Bootstrap
- Scaffolding
- Razor view engine

# Course Outline

- **Module 5: Web API**

- REST, Web API fundamentals
- Web API routing
- HTTP messages and content negotiations
- Hosting and consuming Web API
- Hypermedia
- Web API usage patterns

- **Module 6: Client-Side Development**

- MVC and JavaScript
- Npm/Bower/Grunt
- jQuery and Asynchronous JavaScript and XML (AJAX)
- AngularJS
- Single Page Applications (SPA)

# Course Outline

- **Module 7: Validation**

- Validation fundamentals
- Model validation
- UI validation

- **Module 8: Routing**

- Routing and URL fundamentals
- MVC routing techniques
- Conventional and attribute routing
- Route debugging

- **Module 9: Security**

- Fundamental security principles
- OWIN
- Authentication and authorization
- ASP.NET Identity
- ASP.NET MVC security threats and defenses

