



# Session 9

## *Advanced Features of ASP.NET MVC and Core MVC*

# Session Overview

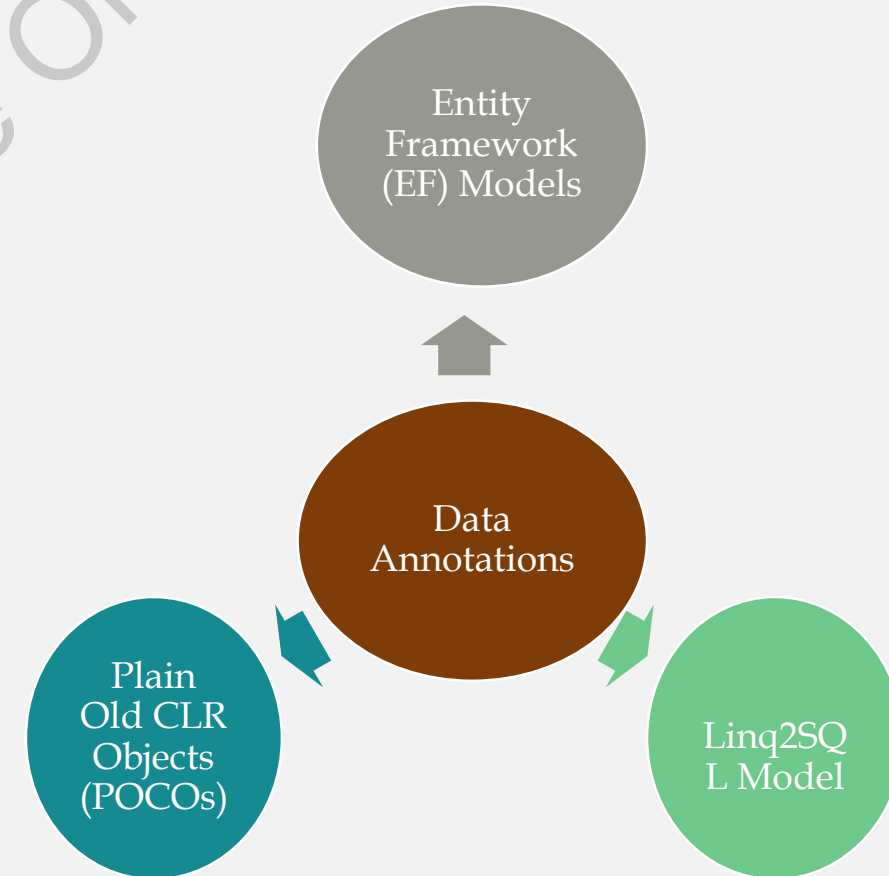
- Explain data annotations
- Define routing
- Define dependency injection
- Describe how to create a single page application

# Data Annotations (1-3)

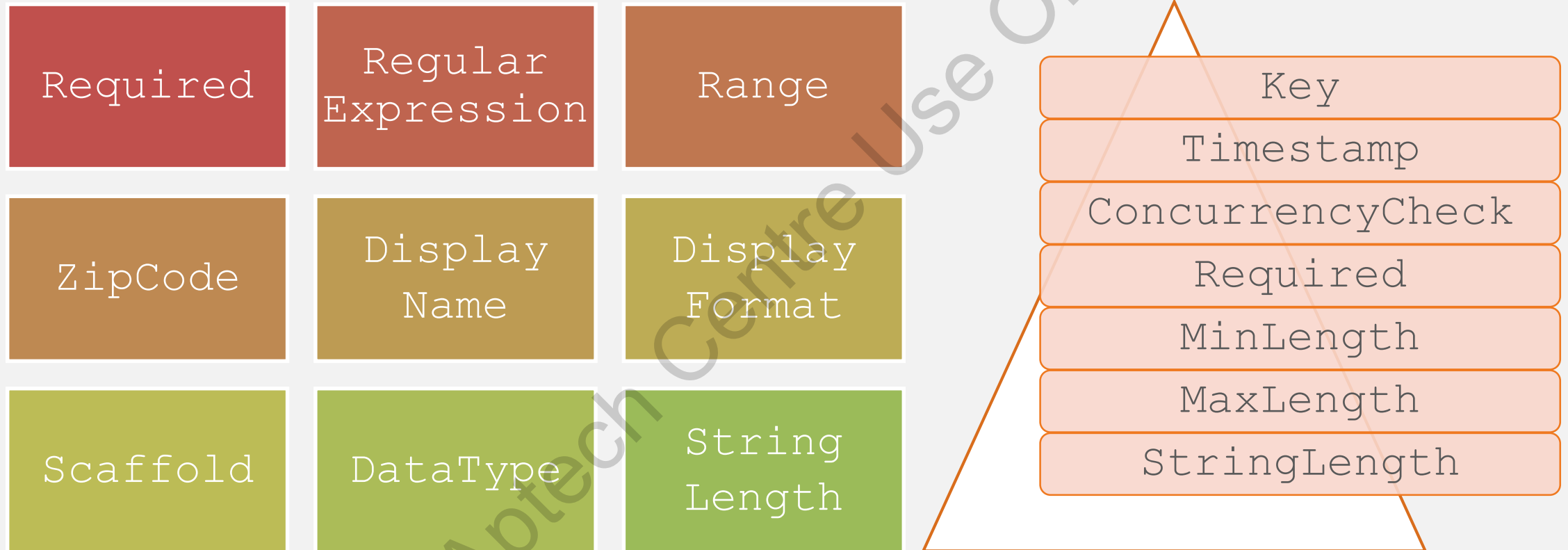
Help developers can describe the rules they want to apply to model properties

Are defined in `System.ComponentModel.DataAnnotations` namespace and are attribute classes

Used together with MVC pattern makes writing, maintaining, and testing validation code become simpler



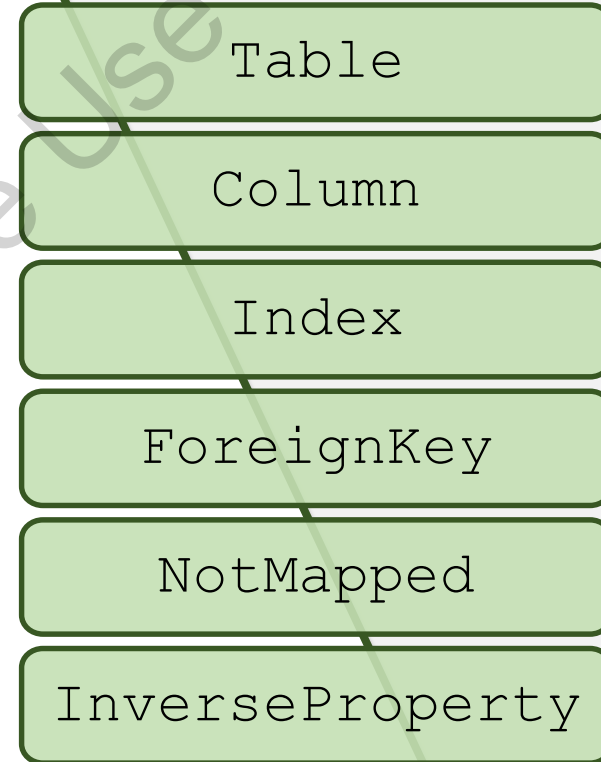
# Data Annotations (2-3)



***Attributes available in  
System.ComponentModel.DataAnnotations***

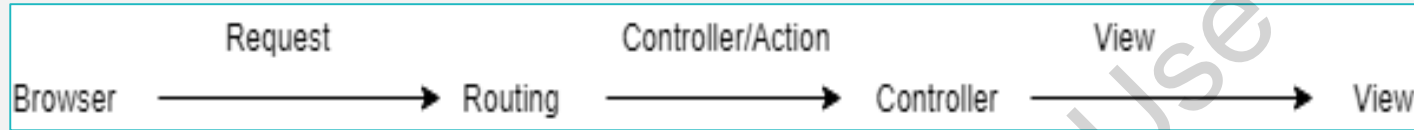
# Data Annotations (3-3)

*Attributes available in the  
System.ComponentModel.DataAnnotations.Schema  
namespace*



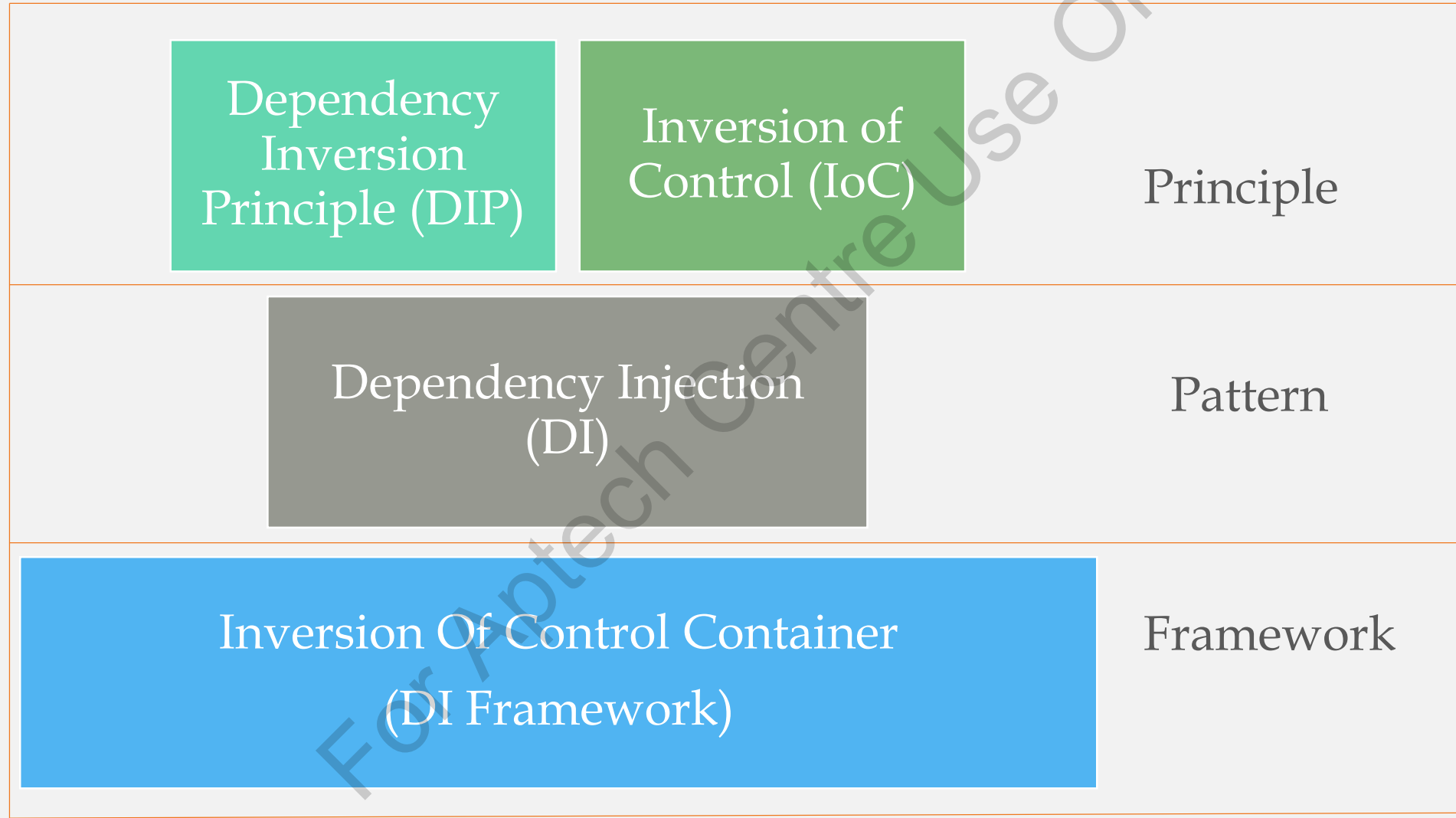
# Routing

## *Role of Routing*



- Routing maps an action method to a request.
- Being part of the MVC architecture, by default, ASP.NET MVC supports routing.
- The request handler is decoupled from the URL request with routing.

# Dependency Injection



# Creating a Single Page Application (SPA)

SPA is a Web application that fits on a single Web page.

Static HTML views, CSS, and JavaScript are provided by the server.

Data is loaded by application by making Ajax calls to the server. No postback to the server is observed while subsequent views and navigation occur.

SPAs improve user experiences and are most helpful for touch screen applications.



# Advantages of Single Page Application (SPA)

SPA is faster.

It offers simplified and streamlined development.

Easy to debug with Chrome.

The same backend code can be used for Web application and native mobile application.

Local storage can be cached effectively.

# Summary

- Data annotations is an attribute class that is applied (decorated) to classes or properties to enforce pre-defined validation rules.
- Some primary keys consist of more than one property. These are called composite keys and are supported by EF.
- All the registered routes in the application are contained in the `RouteCollection`, which is a collection of routes. The routes are registered by the `RegisterRoutes` in this collection.
- A design pattern where one object provides the dependencies of another object is DI.
- A Web application that fits on a single Web page is a Single Page Application (SPA).