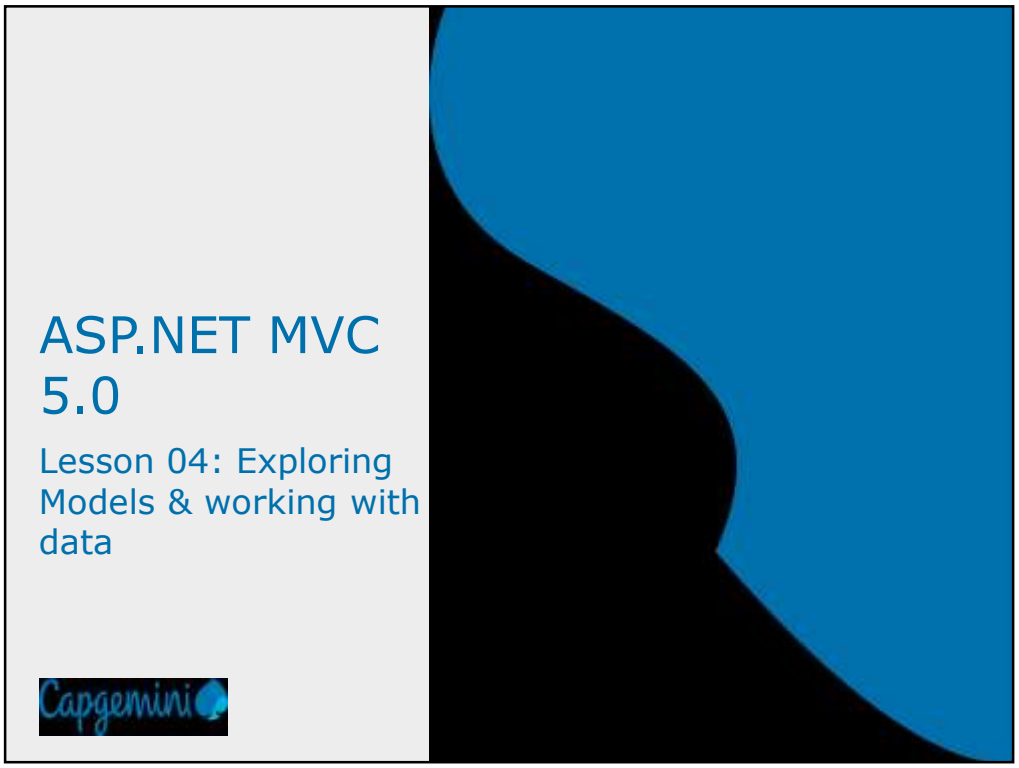

ASP.NET MVC
5.0
Lesson 04: Exploring
Models & working with
data
Capgemini

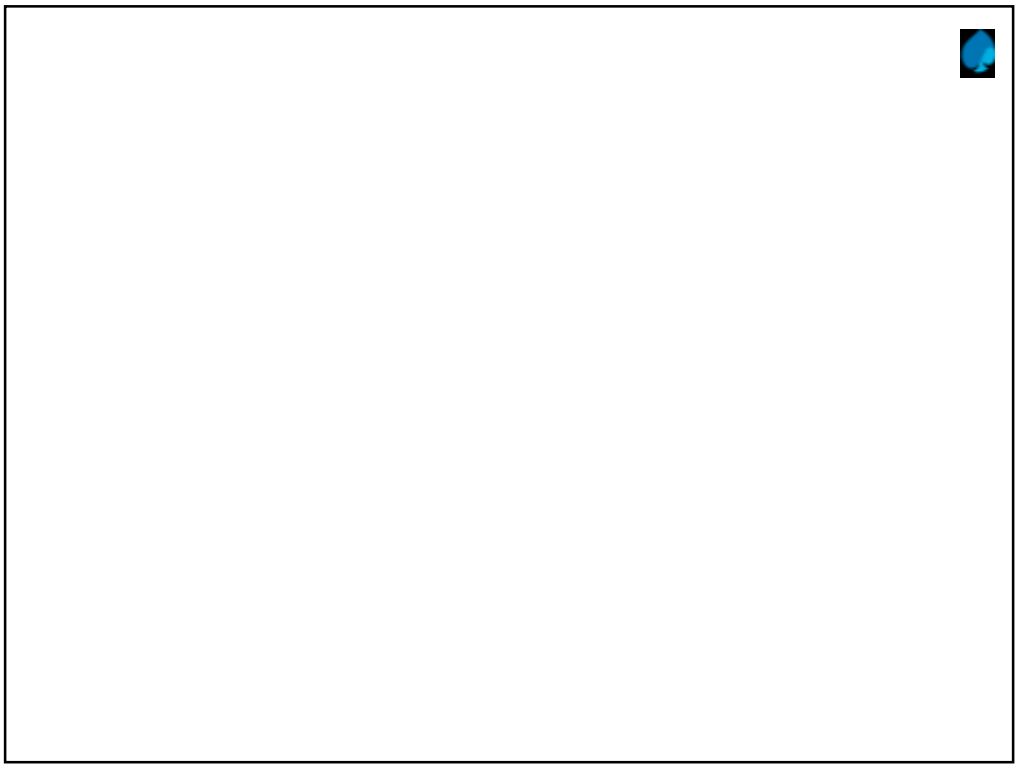
Lesson Objectives

- Model Binding
- Data Annotations

4.1

Model Binding

- Model Binding is mapping the HTTP request data directly to Action method parameters and .NET objects (a Model).
- ASP.NET MVC framework provides a very powerful model binder that can bind most of the data types like
  - Primitive types
  - Array & Collection
  - Objects



Binding to Primitive Values

Query String Parameters can directly map to the Action method parameters(Primitive types)

Request Uri:

http://hostname/home/printemployeeidname?employeeid=1&name=Karthik

HomeController.cs

```
 public ActionResult PrintEmployeeIdName(int employeeId,string name)
 {
   return Content(string.Format("EmployeeId = {0} Name= {1}",employeeId,name));
      }
   }
```

Binding to Collections

Collection can be simply an array, or a collection like IEnumerable<T>, ICollection<T>, and IList<T>. The type IDictionary<TKey, TValue> can also be binded.

HomeController.cs

```
 public ActionResult PrintListNumbers(IList<int> numbers)
      {
          StringBuilder sb = new StringBuilder();
          foreach (var number in numbers)
          {
              sb.AppendFormat("{0}<br/>", number);
          }
          return Content(sb.ToString());
      }
```

Index.cshtml

```
<form method="get" action="@Url.Action("PrintListNumbers")">
    <input type="text" name="numbers[0]" value="1" />
    <input type="text" name="numbers[1]" value="2" />
    <input type="text" name="numbers[2]" value="3" />
    <input type="submit" value="Submit" />
</form>
```

Binding to Object

Trainer.cs(Model)

```
 public class Trainer     {
        public int TrainerId { get; set; }
        public string TrainerName { get; set; }
        public Technology Subject { get; set; }          }
```

Technology.cs(Model)

```
    public class Technology     {
        public int TechnologyId { get; set; }
        public string TechnologyName { get; set; }        }
```

HomeController.cs

```
 public ActionResult PrintTrainer(Trainer trainer)         {
           return Content(string.Format("TrainerId = {0} Name= {1} Technology = {2}",
trainer.TrainerId, trainer.TrainerName, trainer.Subject.TechnologyName));          }
```

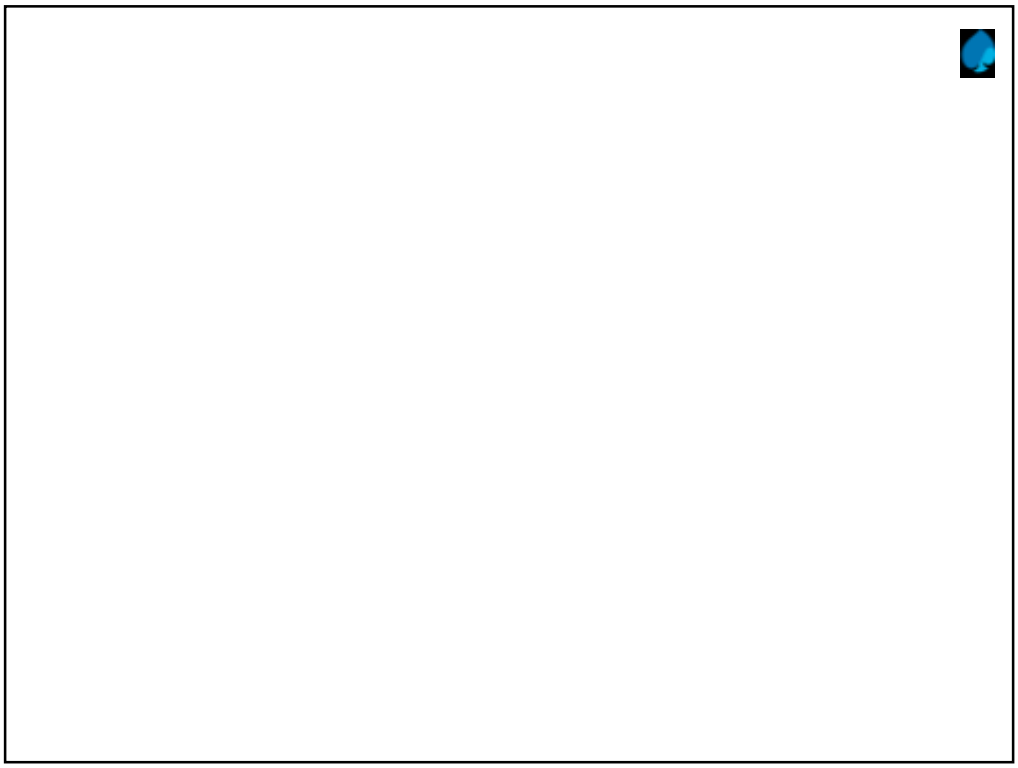
We can add binding attribute to instruct model binder when to bind property and when to exclude property

```
public ActionResult Create([Bind(Exclude="StudentId",
Include="StudentName")]Student student)
{ ... }
```

4.2

Data Annotations

- Data Validation can be easily applied to models by using Data Annotation attribute.
- Data Annotation attributes classes are present in System. Component Model. Data Annotations
- Data Annotations help to define the rules to the model classes or properties for data validation and displaying suitable messages to end users.
- Client side validation can be enabled by referring jquery.validate.js and jquery.unobtrusive-ajax.js



MVC framework provides rich support to use data annotation to describe the model for data validation and visual hint.

Required - Specify a property as required.

```
[Required]
public int ID { get; set; }
```

RequlerExpression - validate the value of a property by specified regular expression pattern.

```
[RegularExpression(@"^\d{6}$")]
public int TrainerId { get; set; }
```

Range - validate the value of a property with in a specified range of values.

```
[Range(15, 100)]
public int age { get; set; }
```

StringLength - specify min and max length for a string property.

```
[StringLength(50, MinimumLength = 2)]
public string name { get; set; }
```

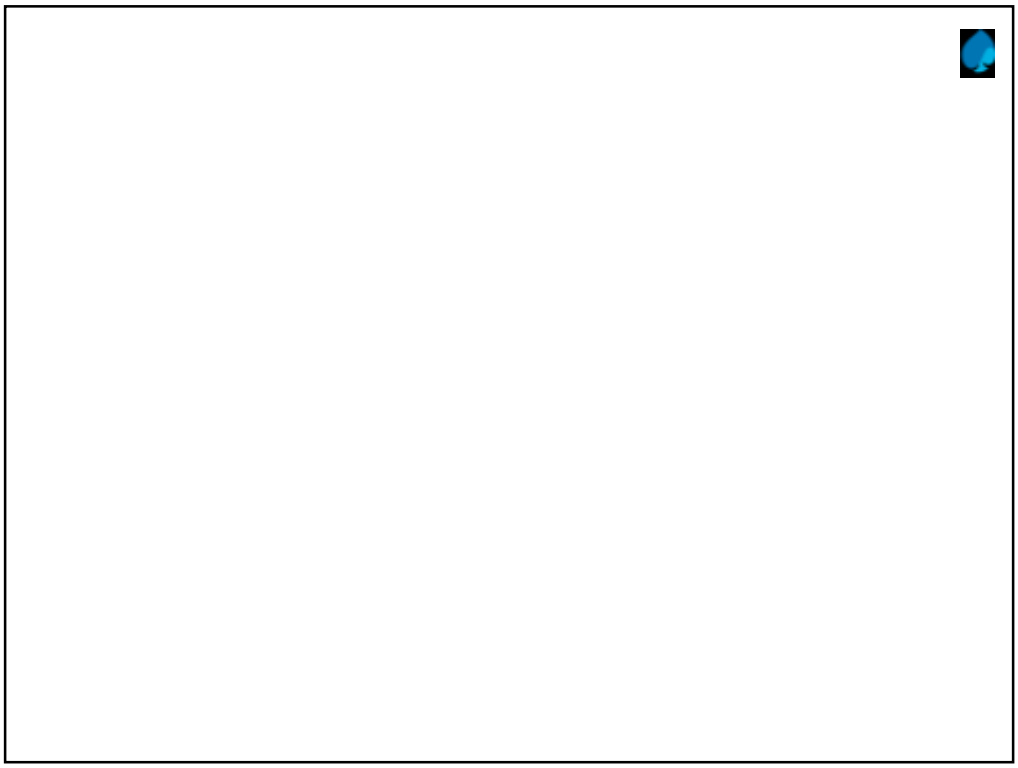
MaxLength - specify max length for a string property.

```
 [MaxLength(30)]
 public string TrainerName { get; set; }
```

DataType
Specify the datatype of a property

```
[DataType(DataType.Date)]
public DateTime updatedate { get; set; }

[DataType(DataType.PhoneNumber)]
public string phone { get; set; }
```



Other Datatypes

DateTime	-Represents a date and time of day.
Date	-Represents a date value.
Time	-Represents a time value.
PhoneNumber	-Represents a phone number value.
Currency	-Represents a currency value.
EmailAddress	-Represents an e-mail address.
Password	-Represent a password value.
Url	-Represents a URL value.
CreditCard	-Represents a credit card number.
PostalCode	-Represents a postal code.

DisplayName
Specify the display name for a property.

```
[DisplayName("Employee Name")]
public String EmpName { get; set; }
```

DisplayFormat
Specify the display format for a property like different format for Date property.

```
[DisplayFormat(DataFormatString = "{0:d}")]
  public DateTime JoiningDate { get; set; }
```

ScaffoldColumn
Specify fields for hiding from editor forms.

```
 [ScaffoldColumn(false)]
 public int EmpId { get; set; }
```

DEMO

- Models Demo

Summary

- We can bind most of the data types like primitive types, Array & Collection and Objects
- Data Annotations allows us to describe the rules which we need to apply to the model properties
- Using System. Component Model. Data Annotations attributes we can perform client and server validation without any additional coding
- We need to set Client Validation Enabled and Unobtrusive Java Script Enabled to true in the web. config file to perform client validation.