



# Models

Authored by : Sushant Banerjee  
Presented by: Sushant Banerjee

This presentation is the intellectual property of Cybage Software Pvt. Ltd. and is meant for the usage of the intended Cybage employee/s for training purpose only. This should not be used for any other purpose or reproduced in any other form without written permission and consent of the concerned authorities.

# Agenda

1. Purpose of Models
2. Entity Framework
3. Code First Conventions
4. Database Migrations
5. CRUD operations
6. Model Binding
7. Model Validations

# What are Models

- Models are business objects
- POCO classes with business logic
- Write code here to access database
- Apply data validation logic as well
- Don't write any UI logic or Input logic here

# Entity Framework

- Microsoft's main ORM
- Database First approach
- Model First approach
- Code First approach

# Code First Conventions

- Classes represent tables in the relational database
- Properties represent columns in the tables
- Data types of properties decides data types of columns
- Any property name Id is primary key
- Can have foreign key as well

# Database Migrations

- Package Manager Console helps executing commands
- Allow you to populate database
- Allow you to change schema
- Enable migration command
- Update database command

# CRUD Operations

- Create, Read, Update and Delete Data
- Scaffolding generates basic code
- It generates action methods
- It also generates related views

# Model Binding

- Framework implements Default Model Binder
- No need to use Request any more
- Automatically binds Form values, Route data and URL query string to Action Parameters
- Use Bind attribute to avoid Over posting Attack



# Model Validations

- DRY Principle – Don't Repeat Yourself
- `System.ComponentModel.DataAnnotations`
- Declarative style of validation using attributes
- Annotations are used to feed metadata to the framework
- The framework drives validation from the metadata
- Client-side and Server-side Validations

# Attributes

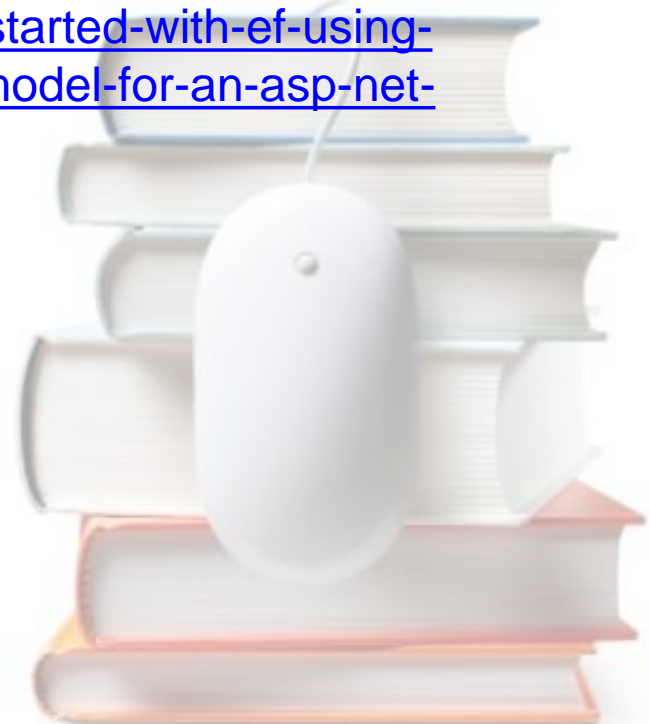
- Validation Attributes
  - Required
  - StringLength
  - Range
  - RegularExpression
  - Display Name
  - Bind
- Formatting Attributes
  - DataType
  - DisplayFormat

# Summary

- Models represents business entities
- Models contain data access logic
- Data migration allows schema changes
- Default model binder does all the magic
- Models include data validation logic

# Bibliography, Important Links

- [http://www.asp.net/mvc/overview/models-\(data\)](http://www.asp.net/mvc/overview/models-(data))
- <http://www.asp.net/mvc/tutorials/getting-started-with-ef-using-mvc/creating-an-entity-framework-data-model-for-an-asp-net-mvc-application>



# Any Questions?



Thank you!