

# ASP.NET MVC Core 2 Homework 03

## Chapter 03, Pro ASP.NET Core MVC 2

### Homework

#### Readings

Read chapter 03, in the *Pro ASP.NET Core MVC 2* book.

#### Discussion Questions

Be prepared to discuss each of the following questions in class.

#### Written Deliverable

Your written homework is due the Monday following our class discussion *unless otherwise directed*. Format your homework in Markdown. Copy your written homework to your clipboard and paste it into the text input box in Canvas for this assignment. Add and commit it to your local git repository, and push the homework up to your Github repository.

#### Homework Questions

1. List the three major components of an MVC application.
2. There is a software engineering principle called *separation of concerns*. Briefly describe the principle and give an example. (not in book)
3. The book notes that the *model* should *not* do the following. For each of these, briefly explain why these things should not be done and give a simple example of the violation of this principle.
  - (a) Expose details of how the model data is obtained or managed (in other words, details of the data storage mechanism should not be exposed to controllers and views)
  - (b) Contain logic that transforms the model based on user interaction (because that is the controllers job)
  - (c) Contain logic for displaying data to the user (that is the views job)
4. The book notes that the *controller* should *not* do the following. For each of these, briefly explain why these things should not be done and give a simple example of the violation of this principle.
  - (a) Contain logic that manages the appearance of data (that is the job of the view)
  - (b) Contain logic that manages the persistence of data (that is the job of the model)
5. The book notes that the *view* should *not* do the following. For each of these, briefly explain why these things should not be done and give a simple example of the violation of this principle.
  - (a) Contain complex logic (this is better placed in a controller)
  - (b) Contain logic that creates, stores, or manipulates the domain model
6. Consider figure 1. Please list the following:

- (a) What are the inputs to the controller?
- (b) What are the outputs from the controller?
- (c) What are the inputs to the model?
- (d) What are the outputs from the model?
- (e) What are the inputs to the view?
- (f) What are the outputs from the view?

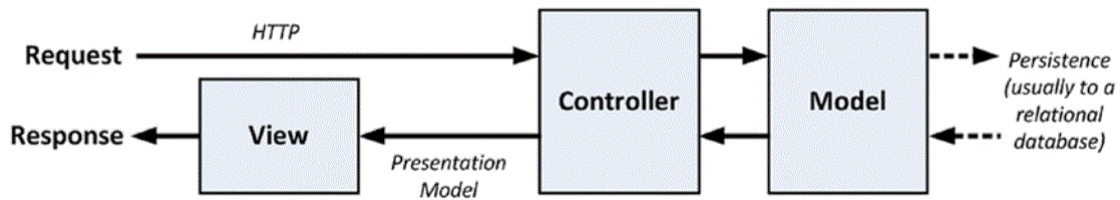


Figure 1: MVC architecture

7. What are the similarities between the Model-View-Controller architecture and the Classic Three Tier architecture? What are the differences?
8. The ASP.NET Core MVC project layout contains a large number of objects. Here are some of the more important files and directories. Please explain the purpose of each.
  - (a) Components/
  - (b) Data/Migrations/
  - (c) appsettings.json
  - (d) Program.cs
  - (e) Startup.cs
  - (f) /wwwroot/