



STAMFORD UNIVERSITY BANGLADESH

Department of Computer Science and Engineering

Finalterm Examination, Summer 2022 Semester

MCSE 541: Web Computing and Mining

CT: Prof. Dr. Shamim Akhter

Date and Time: 25/11/22 & 10:00AM-13:00PM

Batch: MCSE

Duration: 3 hours

Campus: Siddeswari

Full Marks: 40

(Answer all the following questions. Figures in the right margin indicate Course Learning Outcomes (CLO), Cognitive Levels(C), and Marks. Writing anything on the question paper is strictly prohibited.)

1.

- a) Figure 1 presents a branch of two pipelines (Pipeline 1 and Pipeline2). Explain the solution of the two pipeline implementations. The Activities of the pipelines are given below: CLO2, [4]
C2

- Pipeline 1 consists of two (2) middleware components so that the first component responses “Welcome MCS541-ASP.NET” and the second component responses “Welcome To SUB” messages sequentially for <http://localhost:1234/Home> URL request.
- Pipeline 2 consists of two (2) middleware components. The first component calls a service routine named getMessage1() to response “It is from Service1” and the second component calls another service routine named getMessage2() to response “It is from Service2” for <http://localhost:1234/Friend> URL request.

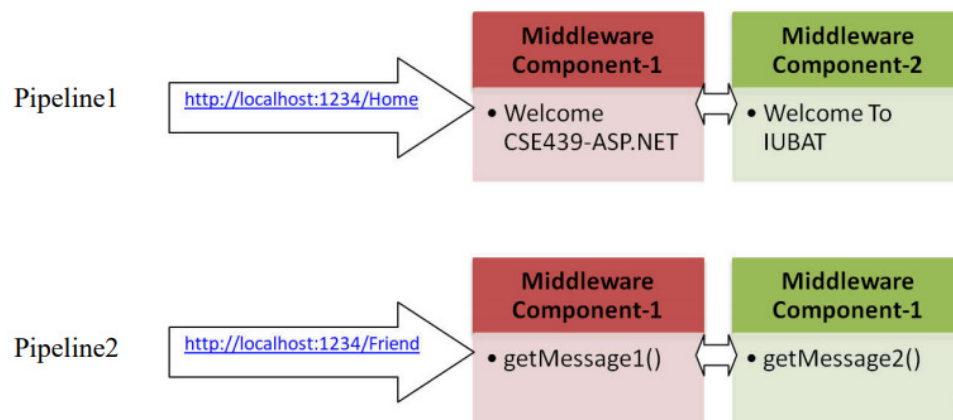


Figure 1: Pipelines for URL request

- b) You can use different ways including Without View (middleware only), With View (through ViewBag, ViewData, etc), and With View (through ViewModel/@model) to display data on the browser. Explain the basic differences among them with examples. CLO2, [4]
C2

- c) You configure to run an ASP.NET Core program with IIS. However, the administrator enabled the permission for both anonymous authentication and ASP.NET impersonation in IIS server and you do not have access to the server to change the permission settings. CLO3, [4]
C4
- Identify the problem that an ASP.NET Core program will face due to the permission settings.
 - Explain the procedure to solve the problem.
- d) We can specify the lifetime of registered services in ASP.NET Core. Write the names of the three separate lifetimes and explain how they differ from one another using examples. CLO3, [4]
C2
2. Stamford university recently ports a virtual research center into an ASP.NET CORE-supported web server. People can request <http://www.iubat.edu/Research> URL to visit the center online. As a web designer you are asked to write the code of the MVC (Model, View, Controller) template to fulfill the following requirements:
- | URL Request Pattern | OUTPUT |
|---|--|
| http://www.iubat.edu/Research/Index | A list of 3 pieces of researches will show with their full features. |
| http://www.iubat.edu/Research/ResearchDetails/1 | Research Id:1
Research Title: Reduce water pollution in Turag river
Principal Investigator: Prof. Dr. Rahmat Ullah
Fund: 200000.00 Taka |
- Hints:** You can answer the question by doing the following activities:
- Define a model class of the Research with ResearchId, ResearchTitle, PrincipleInvestigator, and Fund properties. CLO2, [10]
C3
 - Define a controller class with proper action to create a list of three (3) researches using model class and call the corresponding view.
 - Define Index Razor view to show all three(3) research pieces of information in an HTML table.
 - Define ResearchDetails Razor view to show all information of research which id match with the given id in the URL.
3. Factory pattern and IoC container are the frameworks for implementing dependency injection(DI). You are now asked to analyze your written solution for question 2 and find a place(X) where you can apply both mentioned DI frameworks. Implement and find out the common characteristics between them (factory pattern and IoC container frameworks) to solve the above DI problem inside your application. You also need to compare both implementations and find the best for your application. CLO3, [4]
C4
4. As a database designer, you are asked to design a system to manage databases for the problem mentioned in question 2. You plan to use the code-first approach of the Entity Framework(EF) to create the DBMS. Write the necessary changes(files or codes) are required to implement the code-first EF approach. CLO3, [10]
C3

==== GOOD LUCK ====