Fpt University

Introduction to Web-Based Java Applications (PRJ321)

Prerequisites

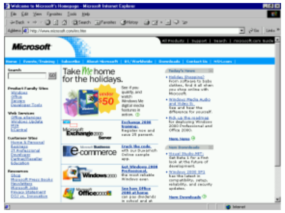
- **Completed:**
  - PRJ311 (Desktop Java Applications)
  - DBI202 (Database Systems)

Course Objectives

- This course **explores the features** of JavaEE (J2EE)
  - Understand the **core technologies** of **Java web** programming (Servlets, JSP, JavaBeans, Custom Tags, Filtering)
  - Understand and be able to **apply MVC architecture** for the web **combining with framework** (Struts 2)
  - Develop a **Web Application** (Servlets, JSP)

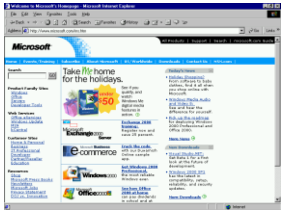
Course Objectives

- The MVC architecture is applied in web application


Welcome to Microsoft's Homepage - Microsoft Internet Explorer
Microsoft
Take Me home for the holidays.
under $50
Microsoft Exchange 2000 Server
Microsoft Business e-commerce
Windows2000
Microsoft Office2000

Course Objectives

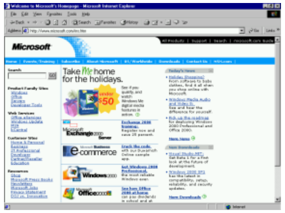
- The MVC architecture is applied in web application

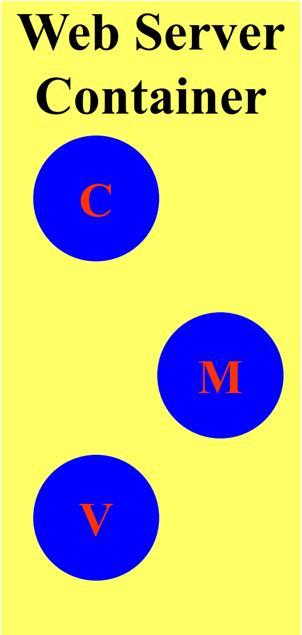


Web Server Container

Course Objectives

- The MVC architecture is applied in web application

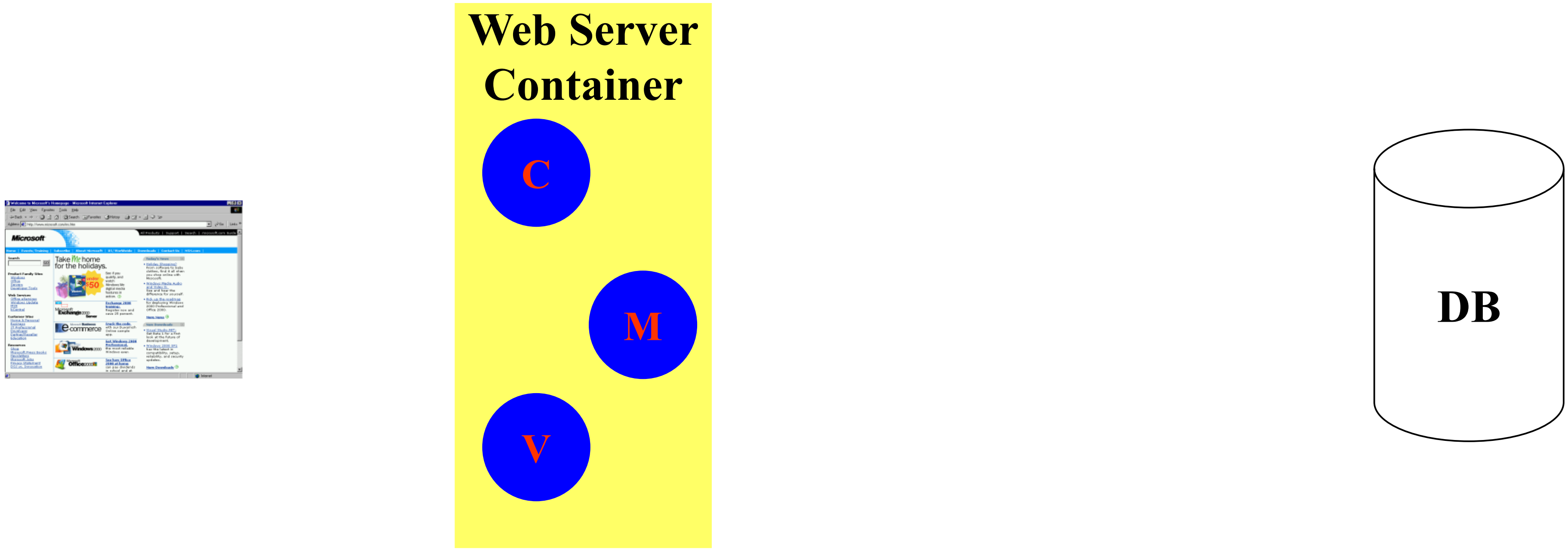




Web Server Container

Course Objectives

- The MVC architecture is applied in web application



Web Server Container

C

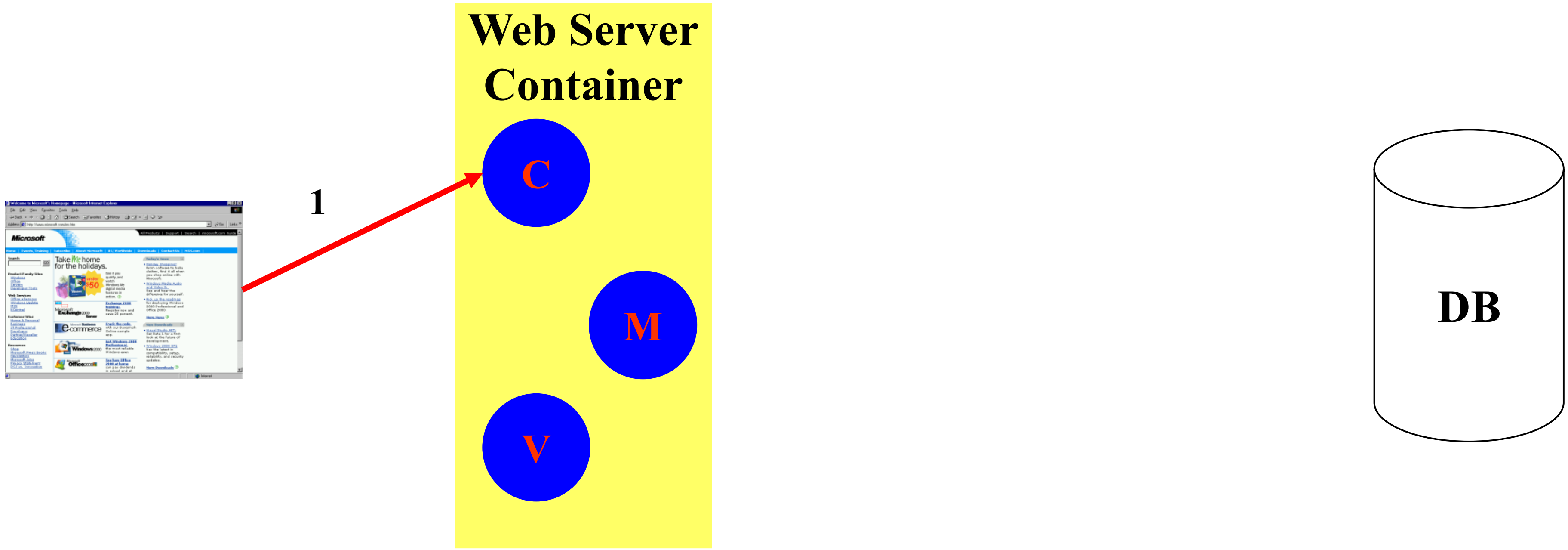
M

V

DB

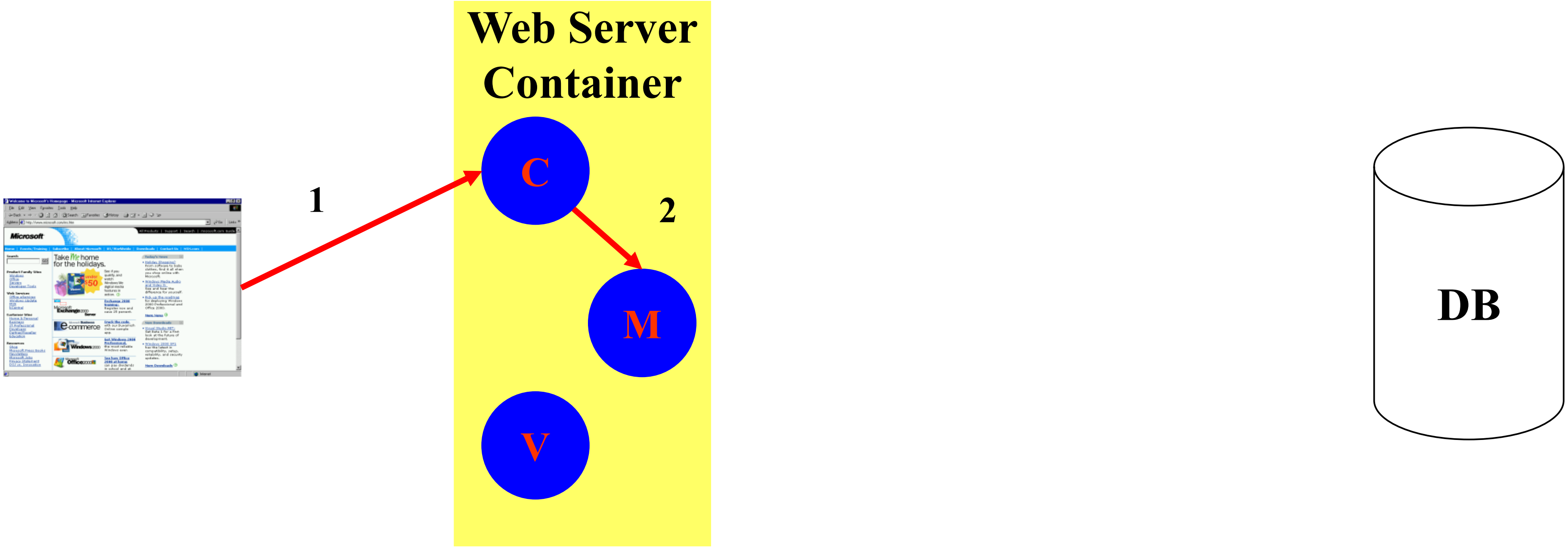
Course Objectives

- The MVC architecture is applied in web application



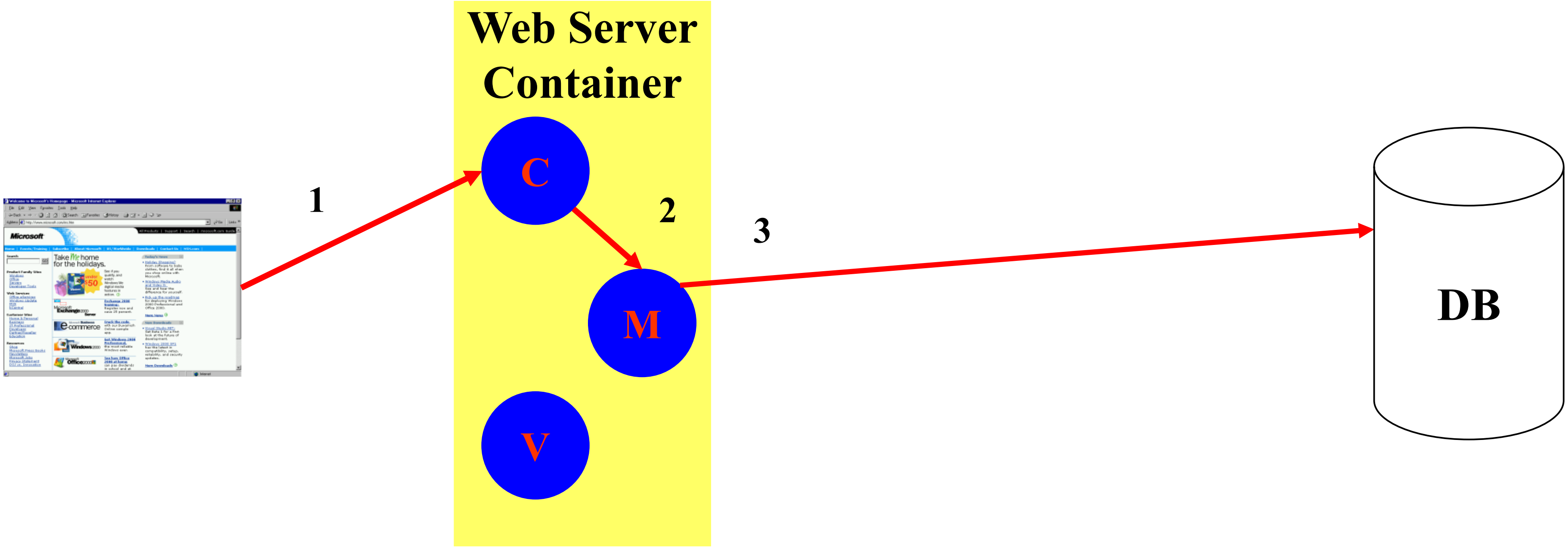
Course Objectives

- The MVC architecture is applied in web application



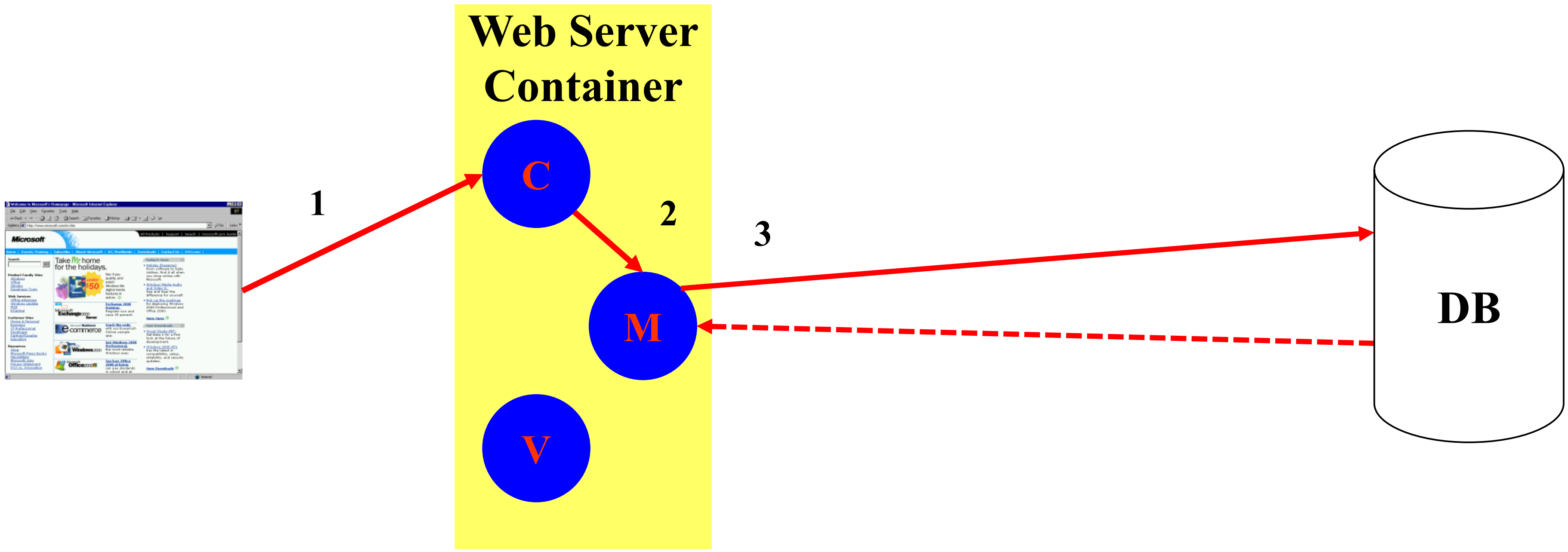
Course Objectives

- The MVC architecture is applied in web application



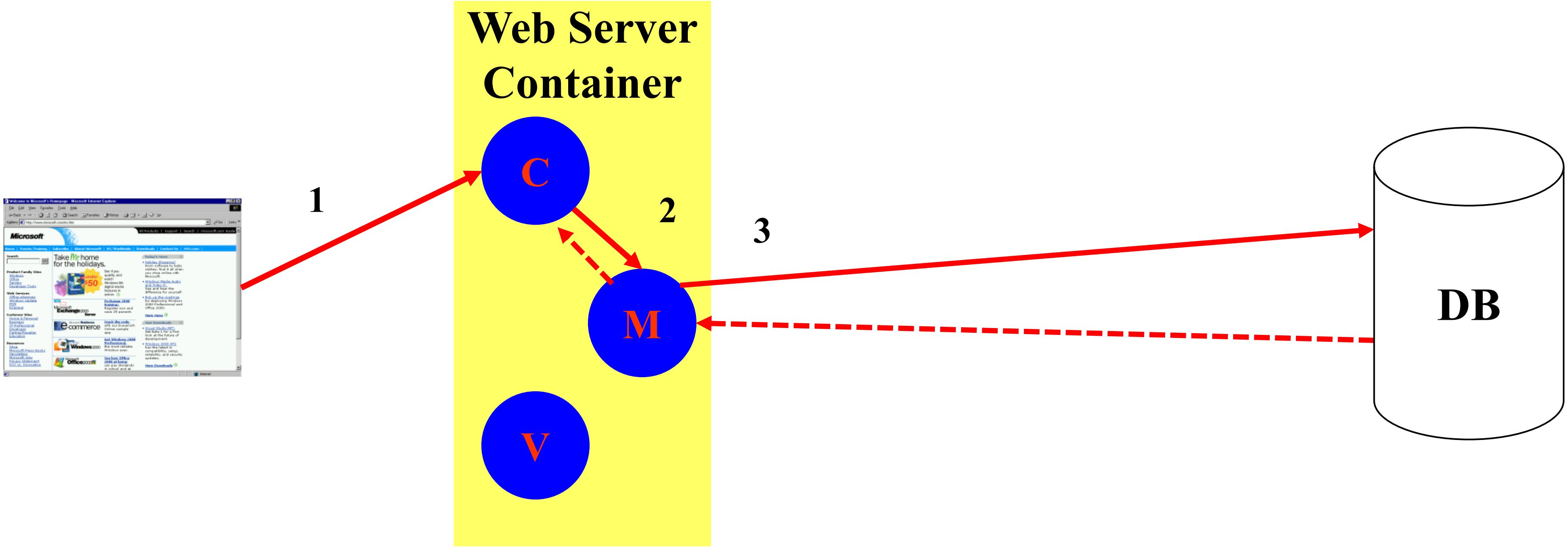
Course Objectives

- The MVC architecture is applied in web application



Course Objectives

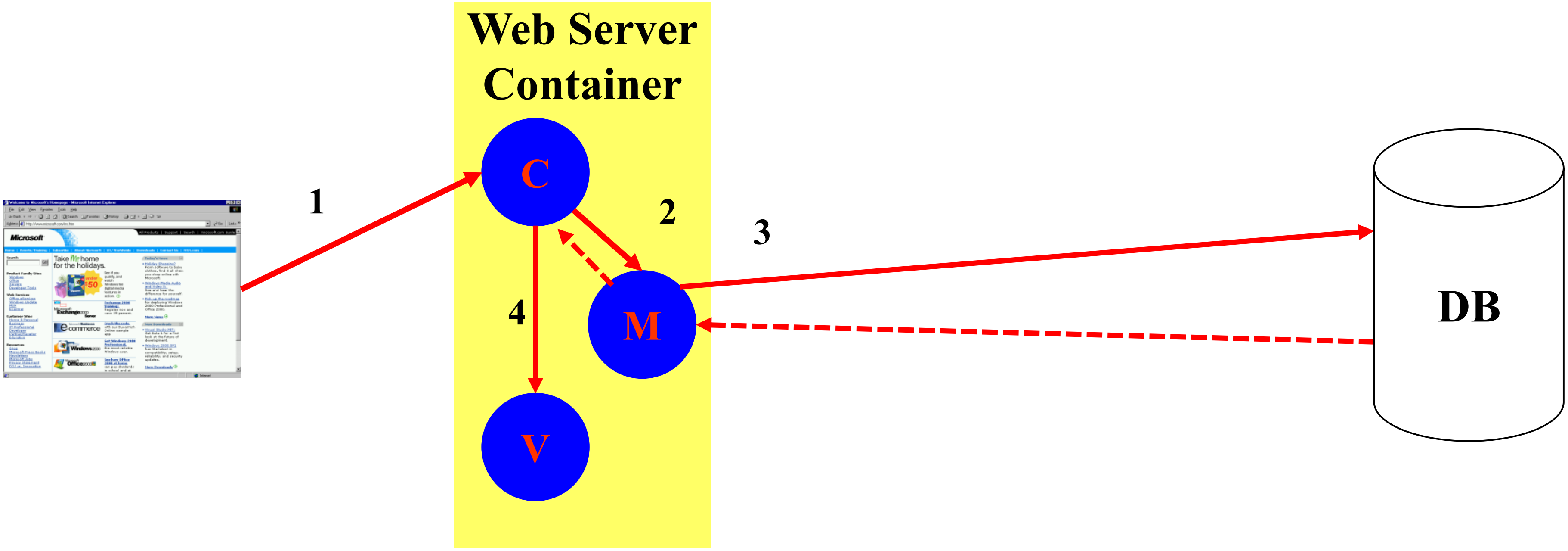
- The MVC architecture is applied in web application



Web Server Container

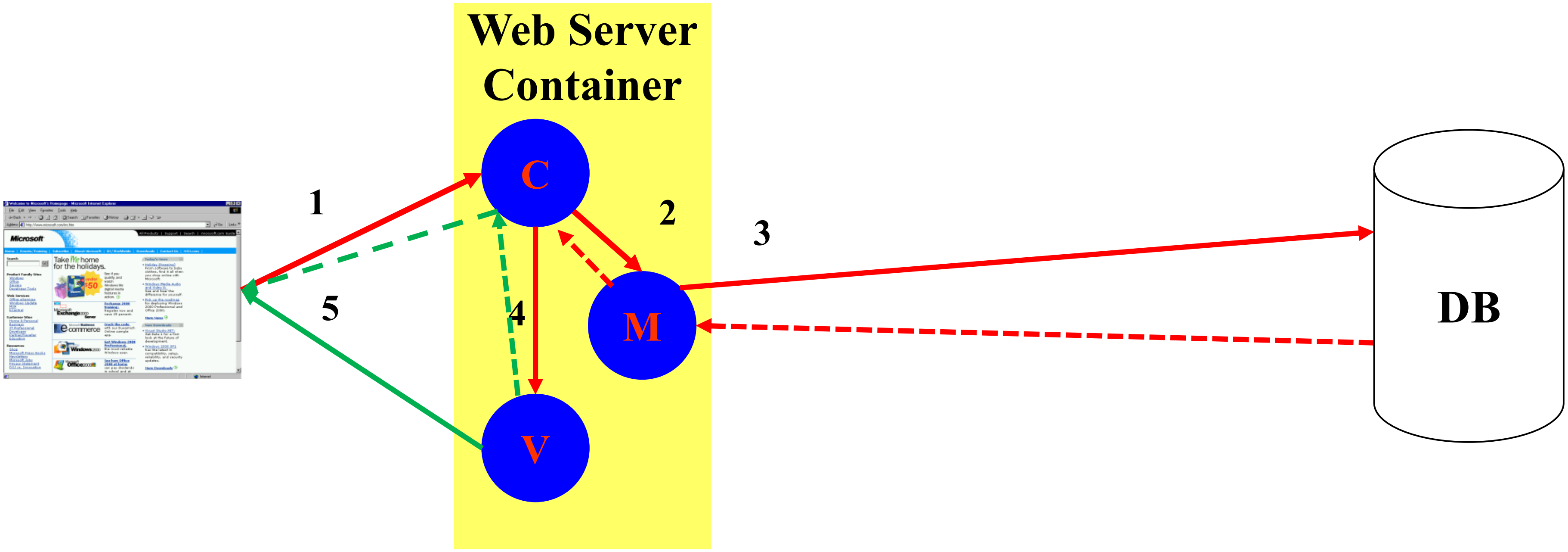
Course Objectives

- The MVC architecture is applied in web application

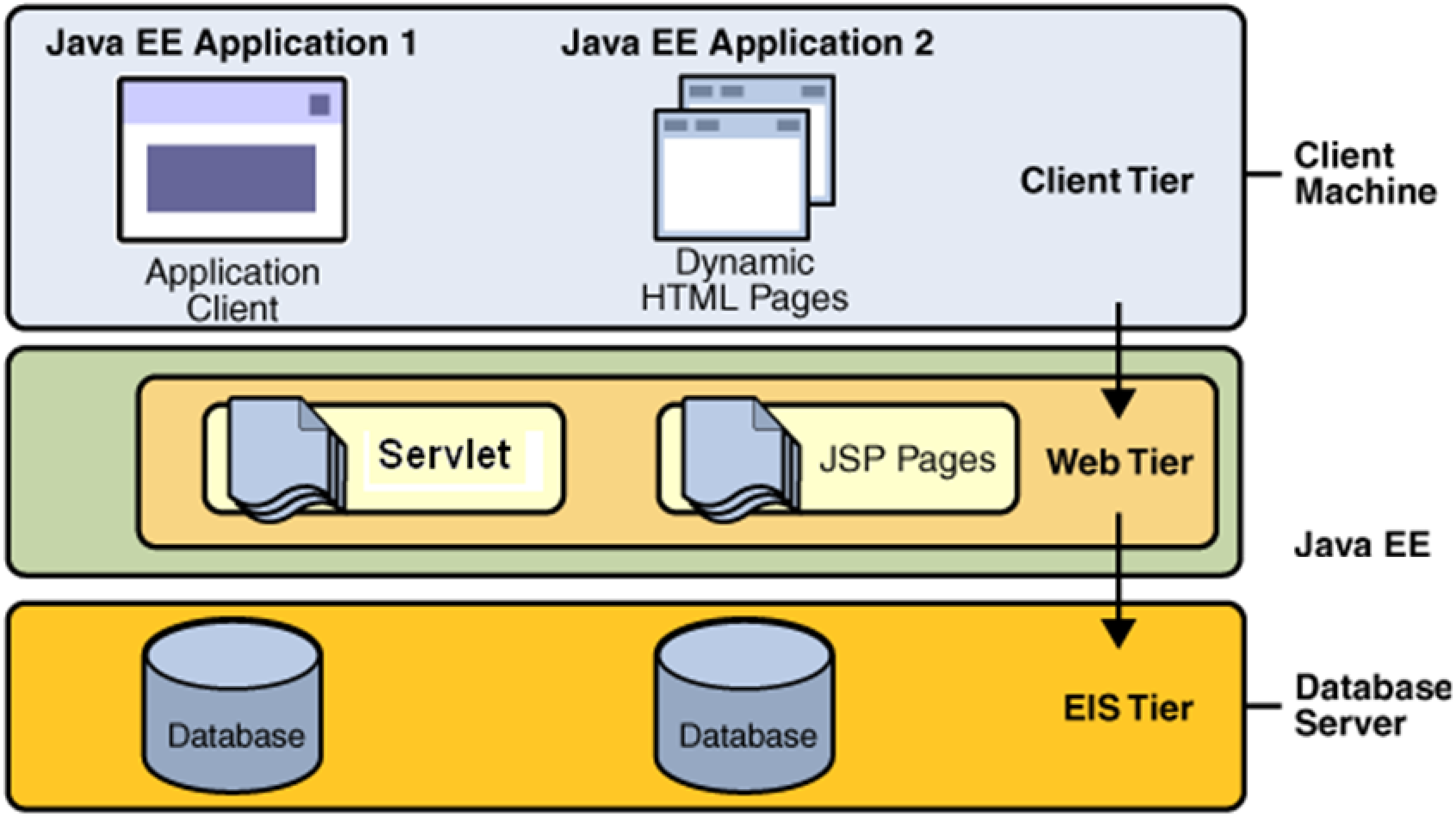


Course Objectives

- The MVC architecture is applied in web application

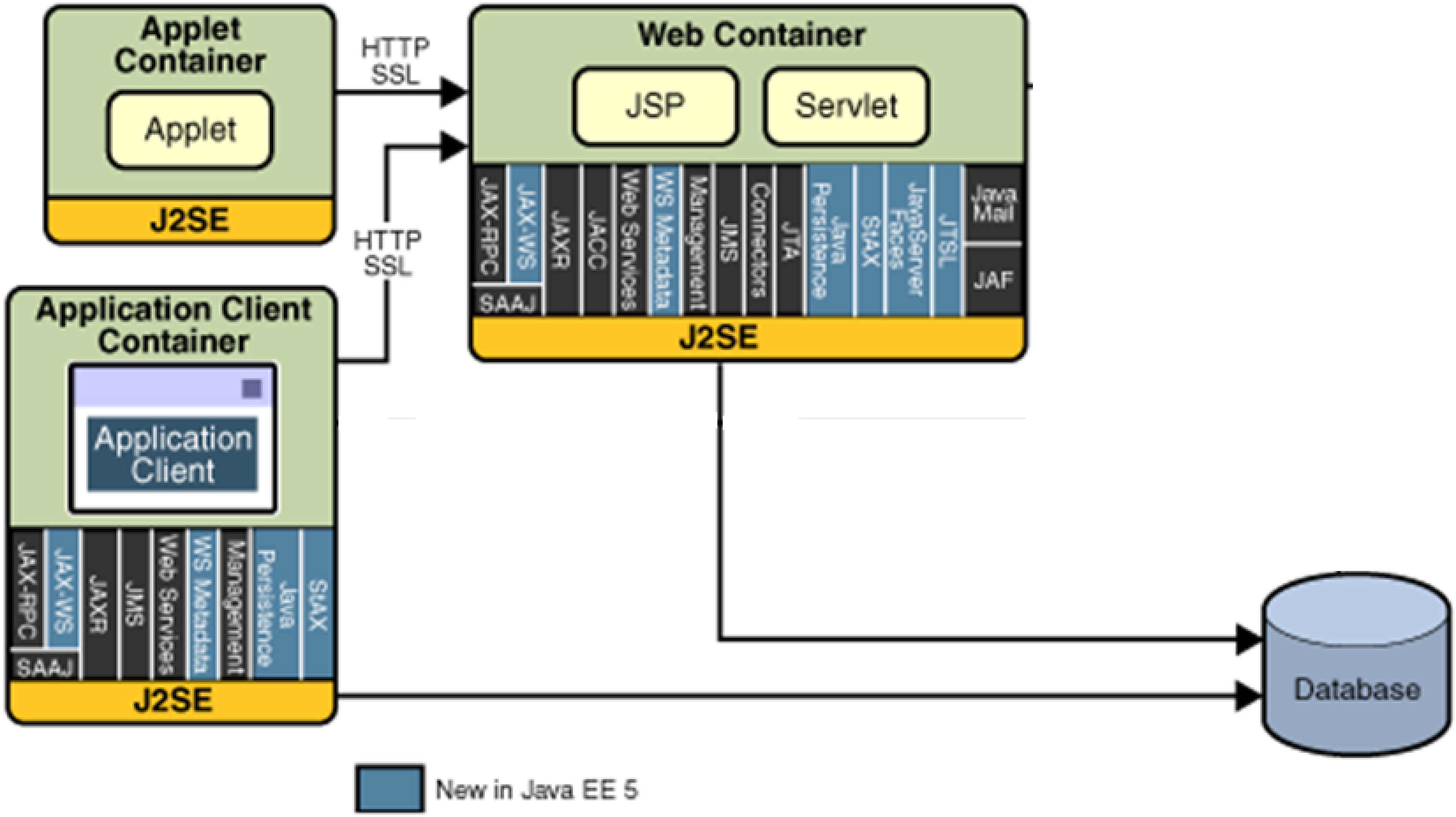


Course Objectives



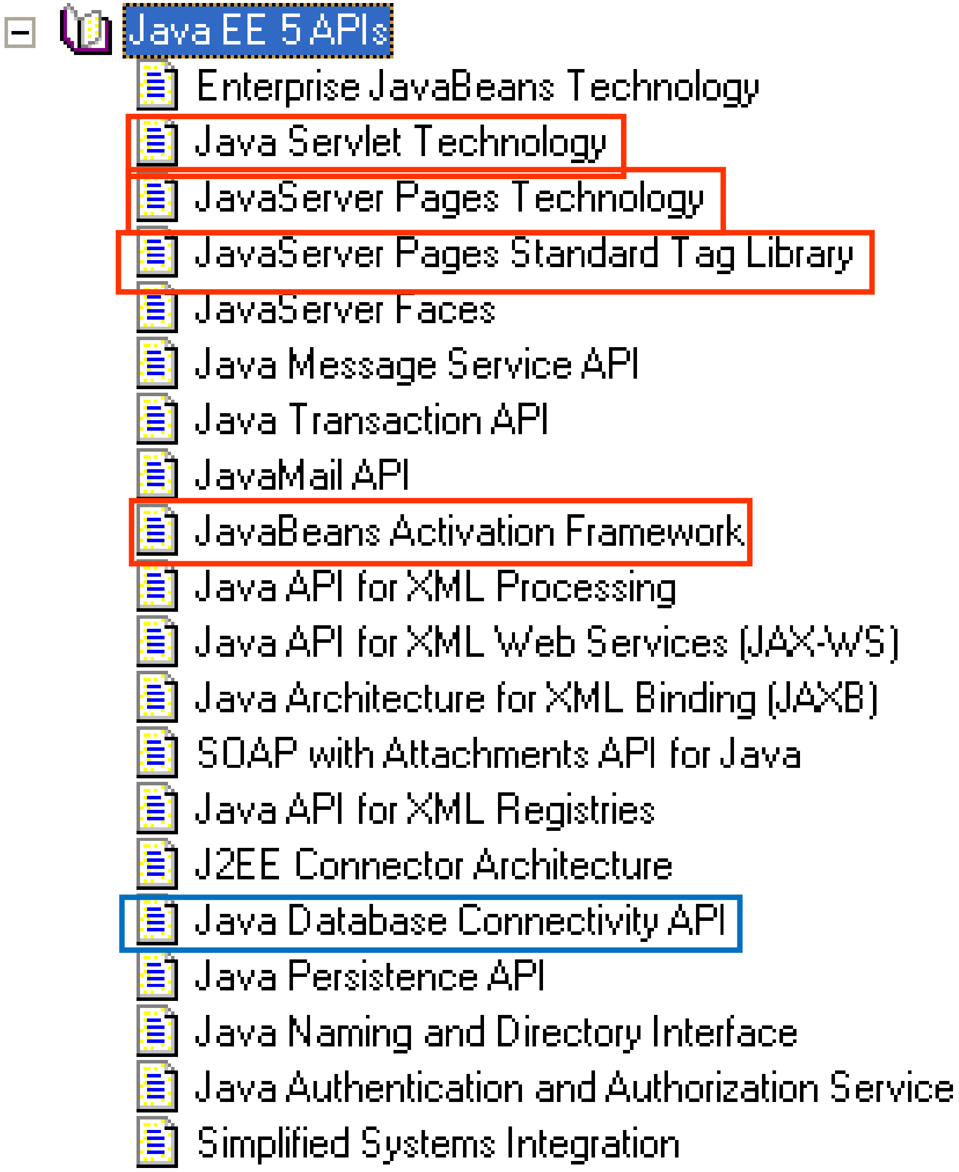
Course Objectives

- **J2EE 1.4/ JavaEE5**/ JavaEE6 Platform API



Course Objectives

- J2EE/JavaEE Technologies



Java EE 5 APIs

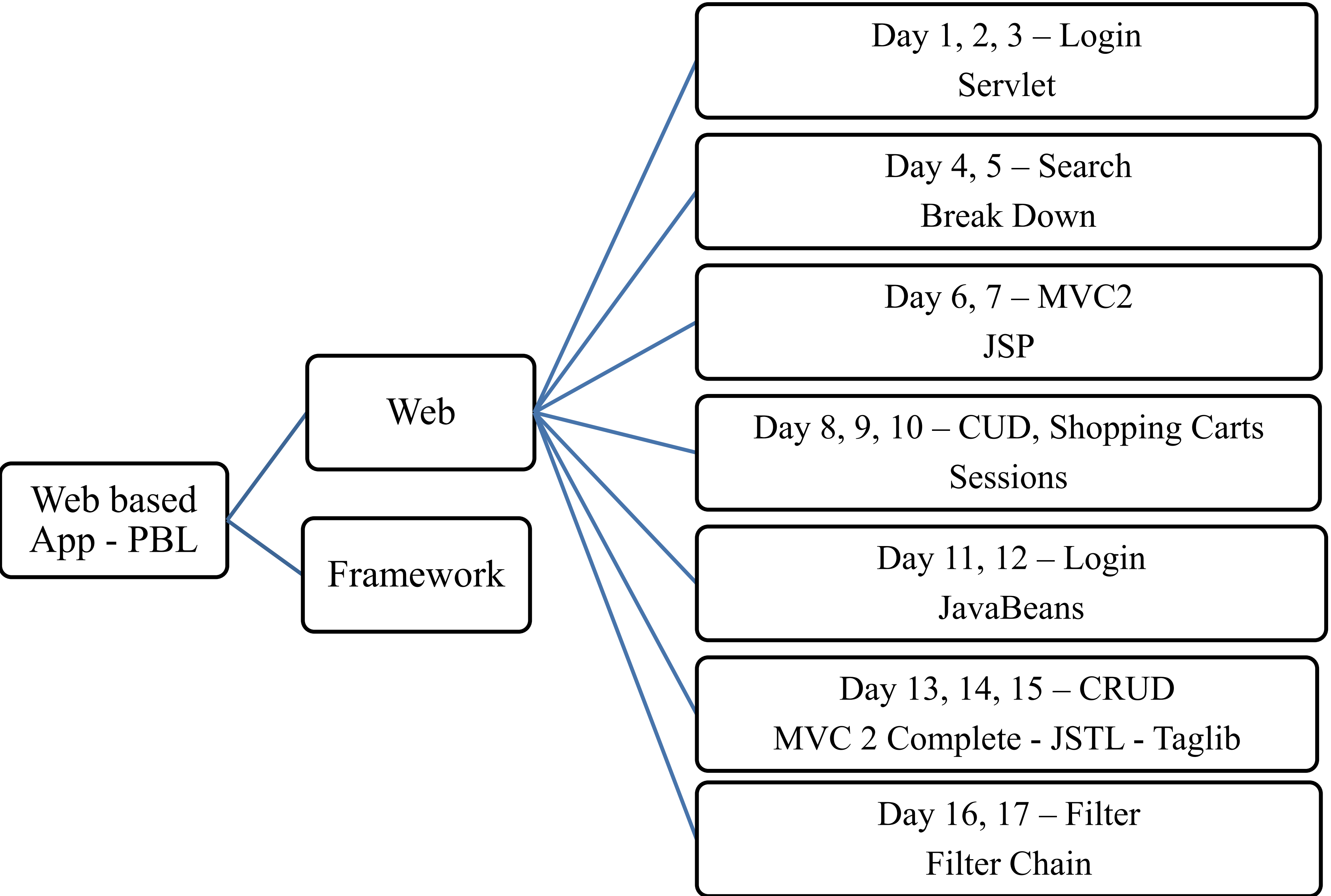
- Enterprise JavaBeans Technology
- Java Servlet Technology
- JavaServer Pages Technology
- JavaServer Pages Standard Tag Library
- JavaServer Faces
- Java Message Service API
- Java Transaction API
- JavaMail API
- JavaBeans Activation Framework
- Java API for XML Processing
- Java API for XML Web Services (JAX-WS)
- Java Architecture for XML Binding (JAXB)
- SOAP with Attachments API for Java
- Java API for XML Registries
- J2EE Connector Architecture
- Java Database Connectivity API
- Java Persistence API
- Java Naming and Directory Interface
- Java Authentication and Authorization Service
- Simplified Systems Integration

Course Description

1. **Servlets Model**
2. **Web Application & Web Container**
3. **Java Server Pages (JSP)**
4. **Session Management**
5. **JavaBeans**
6. **JSP Tag Libraries – Custom Tags**
7. **Filters**
8. Introduction to Struts
9. Struts 2 Basics
10. Struts 2 Advanced

Course Plan

- **See course plan on LMS**



Web based App - PBL

Web

Framework

Day 1, 2, 3 – Login
Servlet

Day 4, 5 – Search
Break Down

Day 6, 7 – MVC2
JSP

Day 8, 9, 10 – CUD, Shopping Carts
Sessions

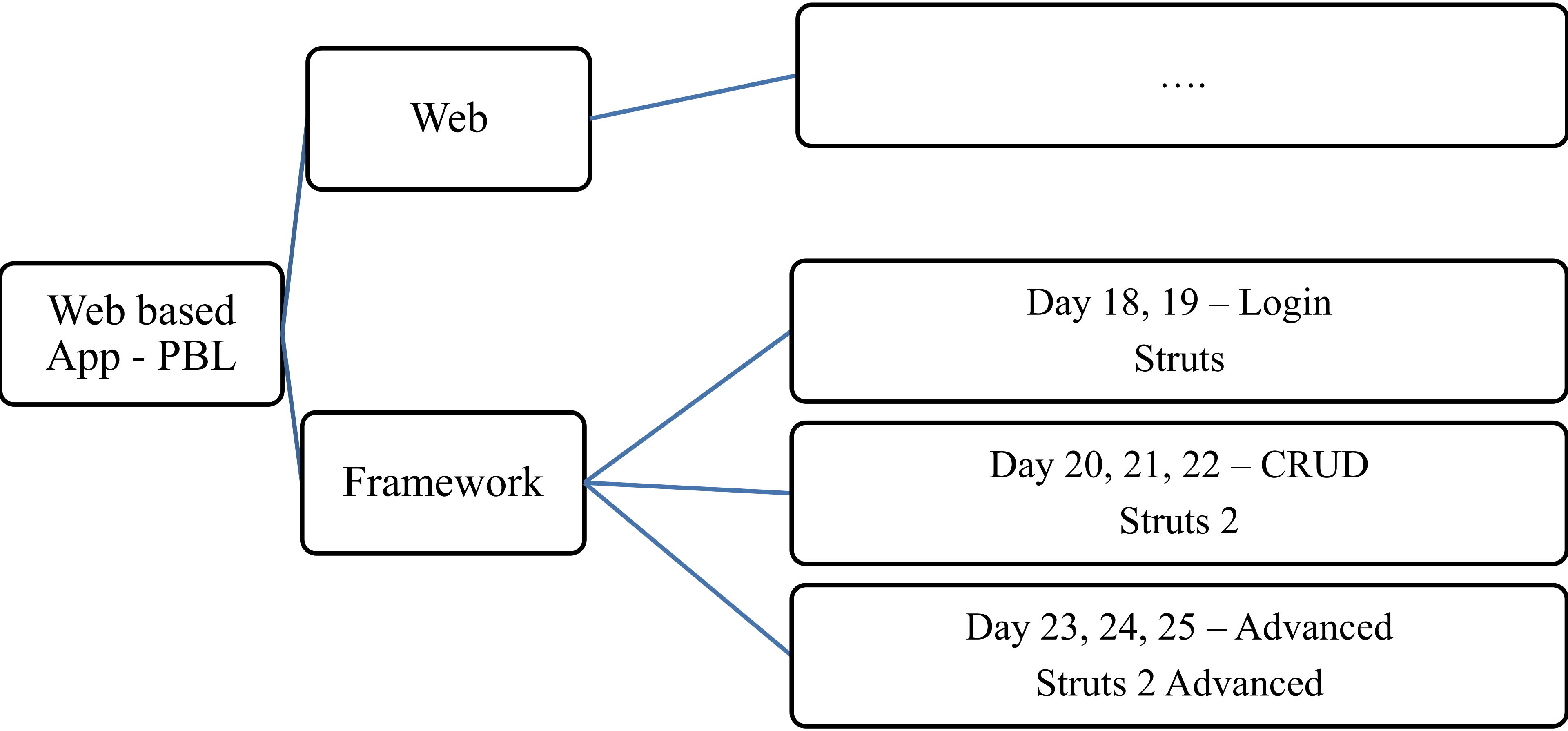
Day 11, 12 – Login
JavaBeans

Day 13, 14, 15 – CRUD
MVC 2 Complete - JSTL - Taglib

Day 16, 17 – Filter
Filter Chain

Course Plan

- **See course plan on CMS**



Web based App - PBL

Web

….

Framework

Day 18, 19 – Login
Struts

Day 20, 21, 22 – CRUD
Struts 2

Day 23, 24, 25 – Advanced
Struts 2 Advanced

Course Plan

- **See course plan on LMS**
- **Agenda**

1. **The Servlet Model**
2. **Web Application & Web Container**
3. **Java Server Pages (JSP)**
4. **Session Management,** Session & Listener (self-study)
5. **JavaBeans**
6. **JSP Tag Libraries – Custom Tags**
7. **Filters**
8. Introduction to Struts
9. Struts 2
10. Strut2 Advanced
11. ***Practical test***
12. ***Project Presentation***

Materials/ References

- **Required Textbook**
  - Online Text book: Nicholas S. Williams, 2014, Professional Java® for Web Applications, Wrox Press
  - http://library.books24x7.com/toc.aspx?bookid=62587
- **Required References**
  - http://java.sun.com/docs/books/tutorial/jdbc/
  - http://struts.apache.org/
- **References**
  - http://java.sun.com/
  - Fan Page: https://www.facebook.com/TrongKhanh.Kieu/

Learning Environments

- JDK 7 (http://www.oracle.com/technetwork/java/index.html)
  - **Recommend**: JDK 7 Update 51, JDK 8 Update 66
- JDK 7 Documentation
- J2EE 1.4/JavaEE5 Core Patterns
- **NetBeans IDE 7.4/8.0.2/8.1/8.2 with supporting JavaEE** (http://www.netbean.org)
- **Bundle Tomcat 8.0.x/7.0.x** (http://tomcat.apache.org/)
- DBMS: **MS. SQL Server 2005/2008/2014** (http://www.microsoft.com/sqlserver/2008/en/us/default.aspx)
- Browser: **Internet Explorer ≥ 8.x**
- Driver Type 4 for MS. SQL Server: **sqlserver4.jar** **(**http://lms-undergrad.fpt.edu.vn/mod/resource/view.php?id=4566 **)**
- **Team Viewer 11/12 for supporting**

Course Rules

- **How to conduct**
  - Prepare contents of the next session/ topic at home
  - Following lessons in classrooms and *review previous session at the beginning of class in every day (penalty marks on workshops)*
  - Completing chapter assessments in time and Quizzes (via LMS)
- **Communication**
  - Class
  - Interchange by FU-HCM LMS, Forum
  - Discussing actively in your teams and in classrooms
  - Free to question and answer
- **Others**
  - Off phone
  - Use laptops under teacher's instruction (No game, no chat in class)

Evaluation Strategy

- Must attend more than 80% of contact hours (if not, not allow to take exam).
- **Evaluating**

– **02 Progress Test (Q)**	10 %
– **02 Workshop (Lab)**	10 %
– **01 Assignment (Prj)**	30 %
– **01 Practical Exam (P)**	20 %
– **Final Exam (FE)**	30 %

- **Total score**
  - 10% (Q) + 10% (Lab) + 30% (Prj) + 20% (P) + 30% (FE)
- **Pass**
  - Total score ≥ 5 and Final Examination ≥ 4 (of 10)
  - **Every components > 0**
- **Retake** only the Final Exam when not passed

How to study

- This course is **complex knowledge** (**however**, it’s **attractive and exciting**), so you need to keep tight grip on it
  - **Read**
    - On the books to get the general concept
    - Reference, study, collection from anywhere else (internet, your classmates, forum …)
  - **Attend lectures**
    - Listens, understand, then make your own notes
    - Give your explanation about some topic in lectures
    - Ask questions
    - Give some examples that are not existed in your book
    - Practice all the exercises, demo to make your sense
  - **After classes**
    - Discuss your classmate in directly, on forum
    - Do the lab, assignments to submit via CMS, and do more exercises
    - Build your teams in yourselves to support together in studying

How to exam/test

- This course is **required following rules**, so you **need to focus and practice** your exercises and homework in try your best everyday
  - **Progress Tests (if students violate, they take 0 marks)**
    - **No** books and **No** conversations
  - **Practical Exam (if students violate, they take 0 marks)**
    - **Obey requirements and lecturer's recommended in his lecture**
    - **No** internets, **No** emails, **No** chats, **No** conversation
    - **Not copy or paste** from available/previous code.
    - All are try it yourselves **manually**
    - … Nothing else
    - You do only work with **Netbeans IDE** tools and **DBMS.** **(without configuring svn)**
  - **Workshop/Assignment (if students violate, they take 0 marks)**
    - **Obey requirements and lecturer's recommended in his lecture**
    - **Not** copy (copy code, contents, style)
    - Submission of all source code **does not delete anything**

Academic policy

- Cheating, plagiarism and breach of copyright are serious offenses under this Policy.
  - **Cheating**
    - Cheating during a test, making a project, or an exam is construed as talking, peeking at another student's paper, or any other clandestine method of transmitting information.
    - Cheating during in making lab and assignment as copy source code, copy style, same meaning in progress, …
    - **To verify, student's code in project can be deleted, then he/she must be retyped to make the program running correctly. Or/And make new required functions (Otherwise, he/she takes 0 marks for his/her project/quiz)**
  - **Plagiarism**
    - Plagiarism is using the work of others without citing it; that is, holding the work of others out as your own work.
    - **To verify, student must be described functionality dataflow and how it work (Otherwise, he/she takes 0 marks for his/her project)**
  - **Breach of Copyright**
    - If you photocopy a textbook without the copyright holder's permission, you violate copyright law.

Enjoy the Course

- Be enthusiastic about the material because it is interesting, useful and an important part of your training as a software engineer.
- Our job is to help you learn and enjoy the experience.
- We will do our best but we need your help.
- So, let's all have fun together with Web-Based Java Applications!!!

Q & A