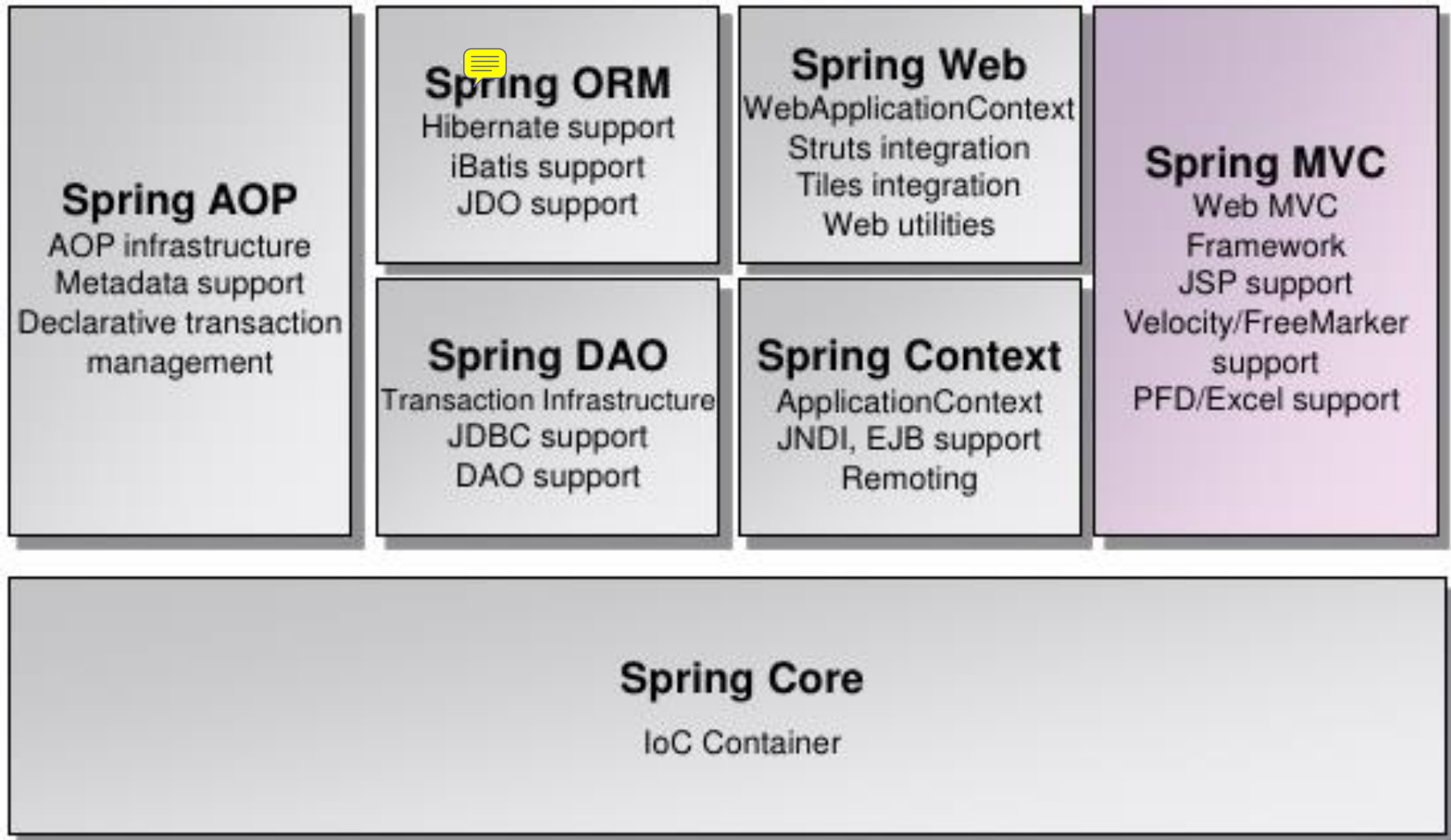- Giới thiệu Spring MVC
- Spring MVC Project
  - Controller
  - View
  - Configuration
  - ModelMap
- Request Mapping
  - Nhiều action
  - Phân biệt POST|GET
  - Phân biệt tham số
- Nhận dữ liệu từ người dùng
- Làm việc với web objects
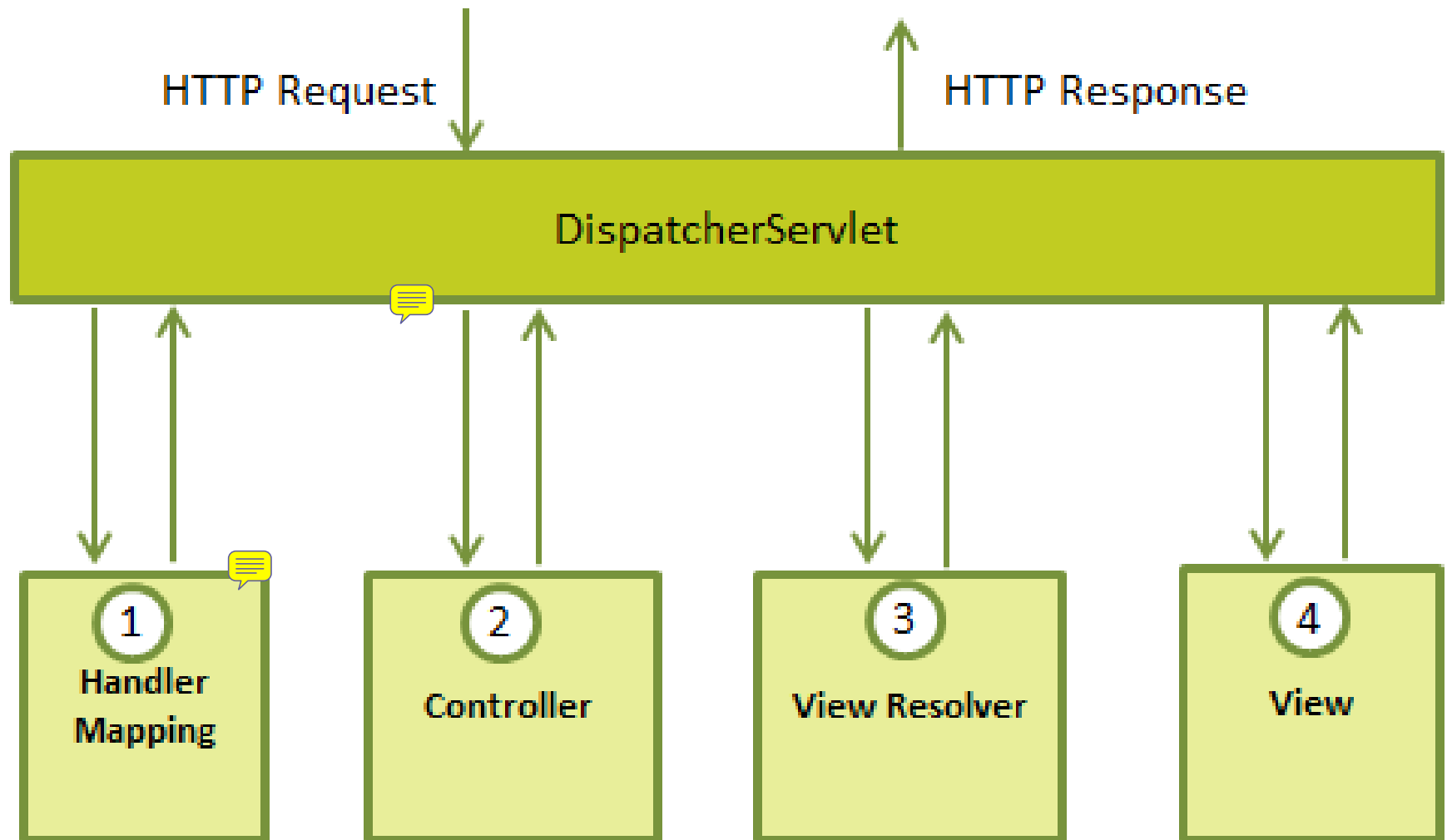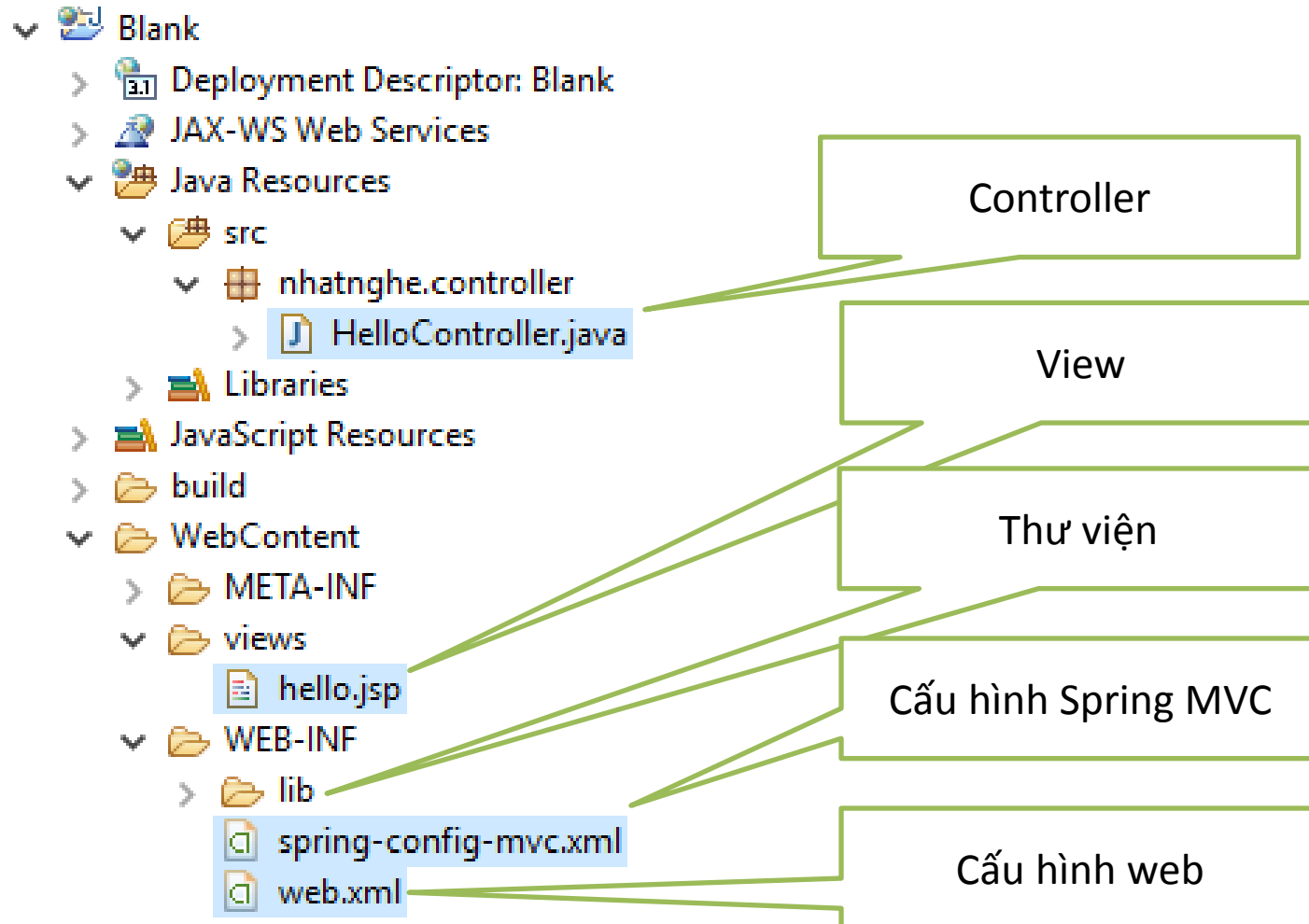 - Request, response, session, application, cookie

KIẾN TRÚC SPRING FRAMEWORK

QUI TRÌNH XỬ LÝ REQUEST

SPRING MVC PROJECT

- Tạo Dynamic Web Project

```
Blank
  Deployment Descriptor: Blank
  JAX-WS Web Services
  Java Resources
    src
      nhatnghe.controller
        HelloController.java
    Libraries
  JavaScript Resources
  build
  WebContent
    META-INF
    views
      hello.jsp
    WEB-INF
      lib
      spring-config-mvc.xml
      web.xml
```

Controller

View

Thư viện

Cấu hình Spring MVC

Cấu hình web

WEB.xml – Cấu trúc

```xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app ...>
  <display-name>Spring MVC</display-name>

        <welcome-file-list>
            <welcome-file>index.jsp</welcome-file>
        </welcome-file-list>

        Servlet đặt ở đây

        Filter đặt ở đây

</web-app>
```

WEB.XML - <SERVLET>

```xml
<servlet>
        <servlet-name>spring</servlet-name>
        <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
        <init-param>
                <param-name>contextConfigLocation</param-name>
                <param-value>/WEB-INF/spring-config-*.xml</param-value>
        </init-param>
        <load-on-startup>1</load-on-startup>
</servlet>
<servlet-mapping>
        <servlet-name>spring</servlet-name>
        <url-pattern>*.htm</url-pattern>
</servlet-mapping>
```

```xml
<filter>
        <filter-name>utf8</filter-name>
        <filter-class>org.springframework.web.filter.CharacterEncodingFilter</filter-class>
        <init-param>
                <param-name>encoding</param-name>
                <param-value>UTF-8</param-value>
        </init-param>
        <init-param>
                <param-name>forceEncoding</param-name>
                <param-value>true</param-value>
        </init-param>
</filter>
<filter-mapping>
        <filter-name>utf8</filter-name>
        <url-pattern>/*</url-pattern>
</filter-mapping>
```

```java
package nhatnghe.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

@Controller
public class HelloController {
    @RequestMapping(value="/say-hello")
    public String sayHello() {
        return "hello";
    }
}
```

Tên giao dịch

Tên view

```jsp
<%@ page pageEncoding="utf-8"%>
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8">
    <title>Spring MVC - Hello</title>
</head>
<body>
    <h3>SPRING MVC WORLD</h3>
</body>
</html>
```

SPRING-CONFIG-MVC.XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:context="http://www.springframework.org/schema/context"
        xmlns:p="http://www.springframework.org/schema/p"
        xmlns:tx="http://www.springframework.org/schema/tx"
        xmlns:mvc="http://www.springframework.org/schema/mvc"
        xsi:schemaLocation="http://www.springframework.org/schema/beans
                    http://www.springframework.org/schema/beans/spring-beans.xsd
                    http://www.springframework.org/schema/context
                    http://www.springframework.org/schema/context/spring-context.xsd
                    http://www.springframework.org/schema/tx
                    http://www.springframework.org/schema/tx/spring-tx.xsd
                    http://www.springframework.org/schema/mvc
                    http://www.springframework.org/schema/mvc/spring-mvc.xsd">

    <!-- Spring MVC Annotation -->
    <context:annotation-config />
    <mvc:annotation-driven/>

    <!-- cấu hình view -->
    <bean id="viewResolver"
            p:prefix="/views/" p:suffix=".jsp"
            class="org.springframework.web.servlet.view.InternalResourceViewResolver"/>

    <!-- cấu hình controller -->
    <context:component-scan base-package="nhatnghe.controller"/>

</beans>
```
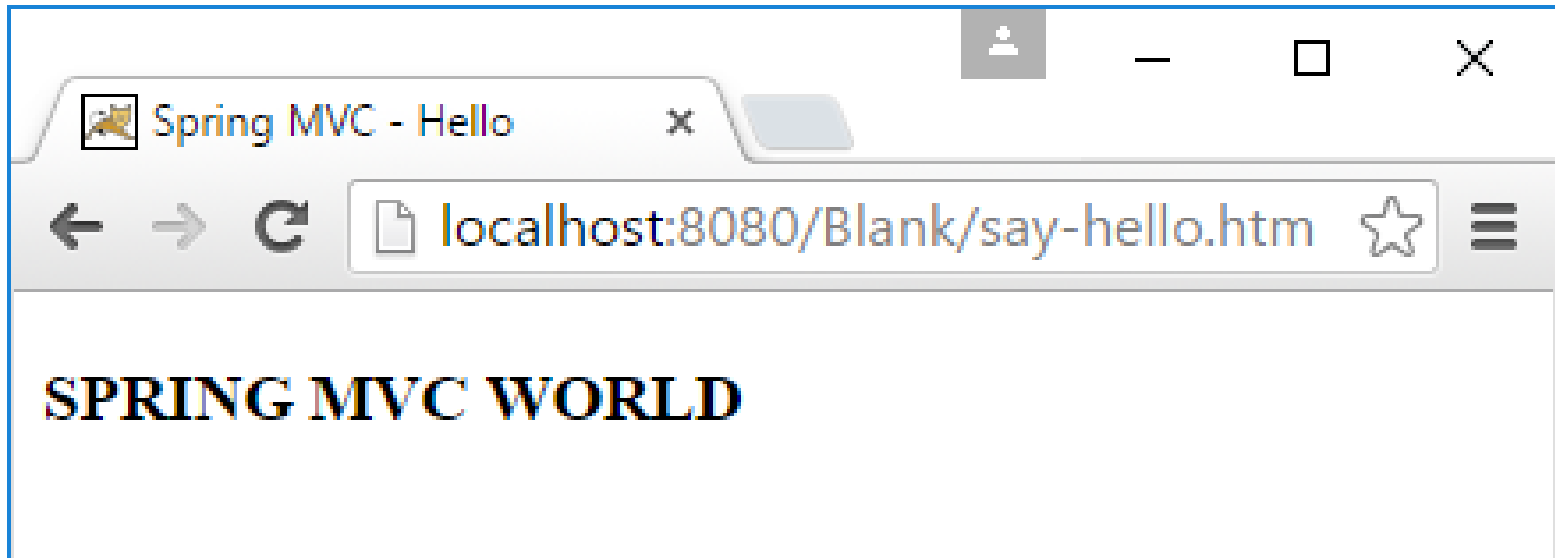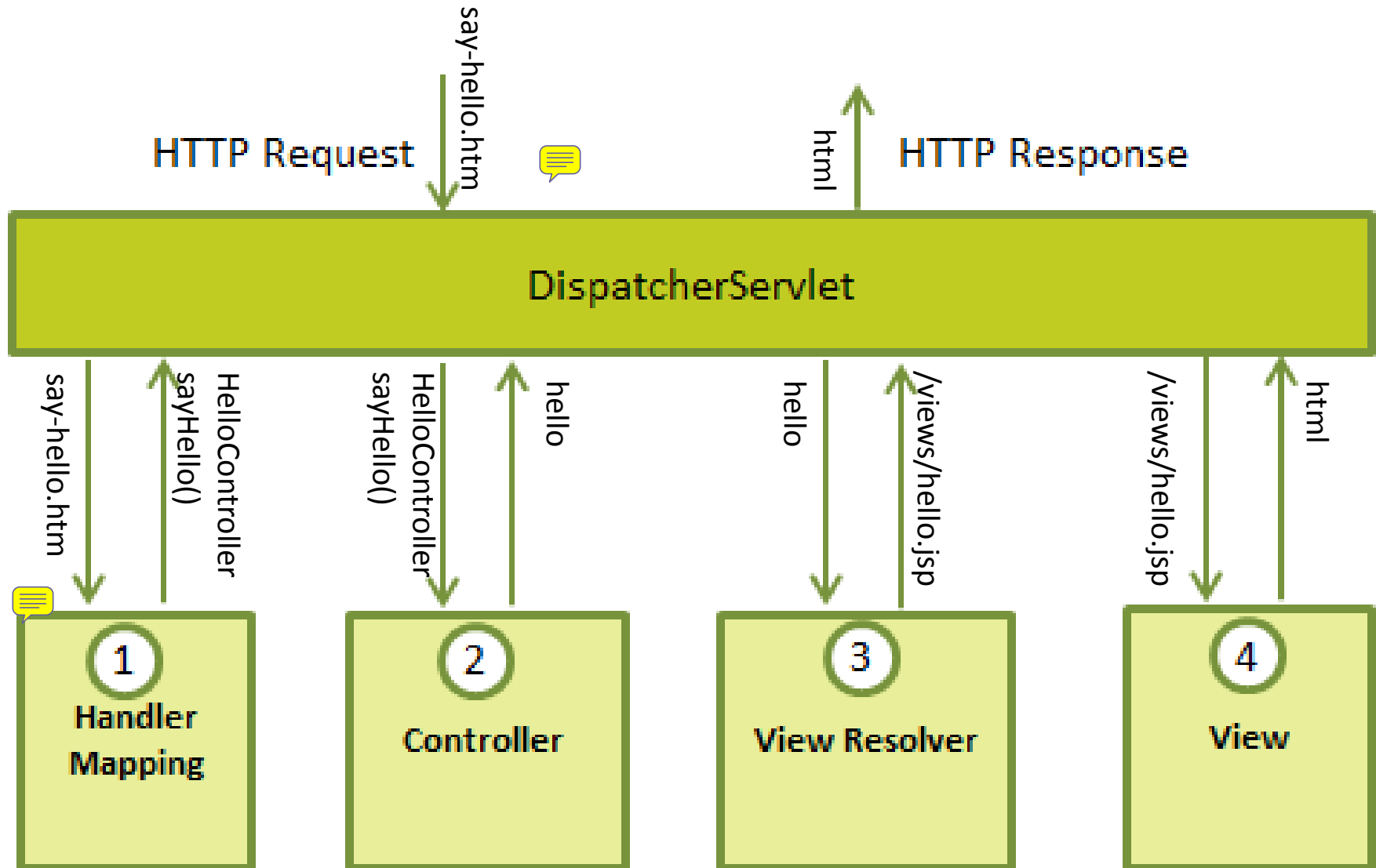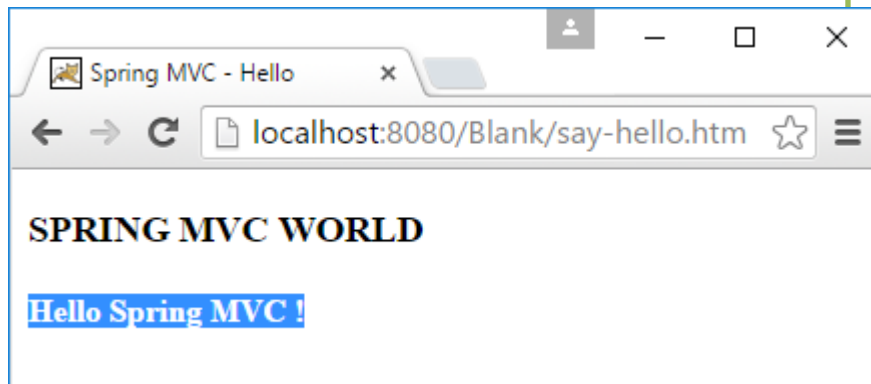
- http://localhost:8080/Blank/say-hello.htm

QUI TRÌNH XỬ LÝ REQUEST

say-hello.htm

HTTP Request

html

HTTP Response

DispatcherServlet

say-hello.htm

sayHello()
HelloController

sayHello()
HelloController

hello

hello

/views/hello.jsp

/views/hello.jsp

html

| ① Handler Mapping | ② Controller | ③ View Resolver | ④ View |

TRUYỀN DỮ LIỆU CHO VIEW

```java
@Controller
public class HelloController {
    @RequestMapping(value="/say-hello")
    public String sayHello(ModelMap model) {
        model.addAttribute("message", "Hello Spring MVC !");
        return "hello";
    }
}
```

```jsp
<%@ page pageEncoding="utf-8"%>
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8">
    <title>Spring MVC - Hello</title>
</head>
<body>
    <h3>SPRING MVC WORLD</h3>
    <h4>${message}</h4>
</body>
</html>
```

Spring MVC - Hello

localhost:8080/Blank/say-hello.htm

SPRING MVC WORLD

Hello Spring MVC !

MULTIPLE REQUEST MAPPING

```java
@Controller
public class AccountController {
    @RequestMapping(value="/account/login")
    public String login() {
        return "login";
    }

    @RequestMapping(value="/account/register")
    public String register() {
        return "register";
    }
}
```

```java
@Controller
@RequestMapping(value="/account")
public class AccountController {
    @RequestMapping(value="login")
    public String login() {
        return "login";
    }

    @RequestMapping(value="register")
    public String register() {
        return "register";
    }
}
```

```java
@Controller
@RequestMapping(value="/account")
public class AccountController {
    @RequestMapping(value="login", method=RequestMethod.GET)
    public String login() {
        return "login";
    }

    @RequestMapping(value="login", method=RequestMethod.POST)
    public String login(@RequestParam("id") String id,
                @RequestParam("password") String password ) {
        return "login";
    }
}
```

```java
@Controller
@RequestMapping(value="/customer")
public class CustomerController {
    @RequestMapping(value="insert", params="btnInsert")
    public String insert() {
        return "customer";
    }

    @RequestMapping(value="edit", params="lnkEdit")
    public String edit(@RequestParam("id") String id) {
        return "customer";
    }
}
```

- Sử dụng HttpServletRequest
- Sử dụng @RequestParam
- Sử dụng JavaBean
- Nhận dữ liệu từ địa chỉ URL

```java
@RequestMapping(value="login", method=RequestMethod.POST)
public String login(HttpServletRequest request) {
    String id = request.getParameter("id");
    String pw = request.getParameter("password");
    // ...
    return "login";
}
```

```java
@RequestMapping(value="login", method=RequestMethod.POST)
public String login(@RequestParam("id") String id,
            @RequestParam("password") String password) {
    // ...
    return "login";
}
```

```
@RequestMapping(value="login", method=RequestMethod.POST)
public String login(User user) {
    // ...
    return "login";
}
```

```
package nhatnghe.model;

public class User {
    private String id;
    private String password;

    public String getId() {return id;}
    public void setId(String id) {this.id = id;}
    public String getPassword() {    return password;}
    public void setPassword(String password) {this.password = password;}
}
```

NHẬN DỮ LIỆU TỪ ĐỊA CHỈ URL

- http://localhost/blank/product/detail/1005

```java
@Controller
@RequestMapping(value="/product")
public class ProductController {

    @RequestMapping(value="detail/{id}")
    public String detail(@PathVariable("id") int id) {
        // ...
        return "detail";
    }
}
```

LÀM VIỆC VỚI WEB OBJECTS

- Các đối tượng web
  - Request (HttpServletRequest)
  - Response (HttpServletResponse)
  - Session (HttpSession)
  - Application (ServletContext)
  - Cookie

LÀM VIỆC VỚI CÁC WEB OBJECTS

```java
@Controller
@RequestMapping(value="/account")
public class AccountController {
    @Autowired
    ServletContext application;

    @RequestMapping(value="login", method=RequestMethod.POST)
    public String login(
            HttpServletRequest request,
            HttpServletResponse response,
            HttpSession session) {
        String id = request.getParameter("id");
        String pw = request.getParameter("password");
        String path = application.getRealPath("/visitors.txt");
        // ...
        return "login";
    }
}
```

```java
@RequestMapping(value="login")
public String login(HttpServletRequest request) {
    Cookie[] cookies = request.getCookies();
    if(cookies != null){
        for(Cookie cookie: cookies){
            String name = cookie.getName();
            if(name.equals("password")){
                String password  = cookie.getValue();
                // xử lý cookie

            }
        }
    }
    return
}
```

```java
@RequestMapping(value="login")
public String login(@CookieValue(value="password",
                        defaultValue="") String password) {
    // xử lý cookie
    return "login";
}
```

- Giới thiệu Spring MVC
- Spring MVC Project
  - Controller
  - View
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  - ModelMap
- Request Mapping
  - Nhiều action
  - Phân biệt POST|GET
  - Phân biệt tham số
- Nhận dữ liệu từ người dùng
- Làm việc với web objects
  - Request, response, session, application, cookie