

# Spring MVC RESTful Services

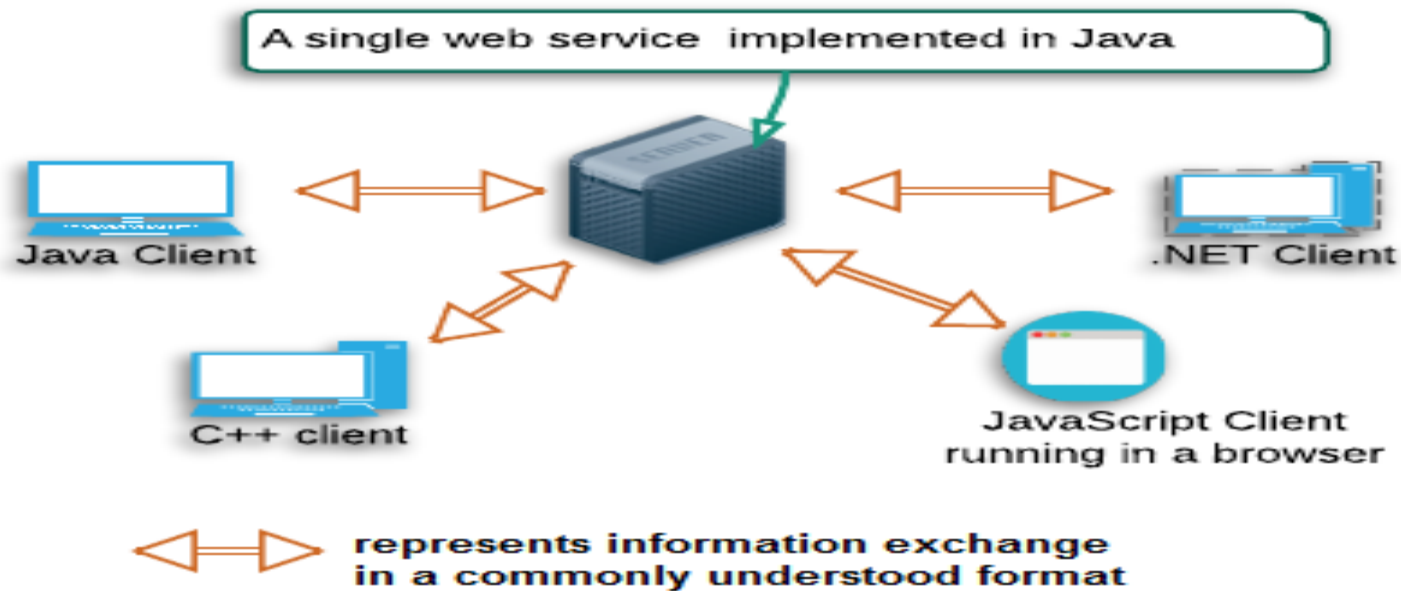
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# Web Service

- A Web service is a client server application or application component for communication.
- Web services provide a standard means of inter-operating between different software applications, running on a variety of platforms and/or frameworks.
- A web service is accessed via internet using HTTPProtocol.
- Web service purpose is to provide some functionality to the other systems or products (web service clients) which are running on different platforms and implemented using different programming languages.

# Web Services - Interoperability



# RESTful services

- For RESTful applications, JSON and XML are the commonly used exchange format
- What is JSON?
  - ✓ JSON stands for JavaScript Object Notation
  - ✓ JSON is a lightweight data-interchange format
- ✓ JSON Example :

```
person = {  
    "name" : "John",  
    "age" : "31",  
    "city" : "New York"  
};
```

# RESTful Services . . .

- In REST based design, resources are being manipulated using a common set of verbs.
- To Create a resource : HTTP POST should be used
- To Retrieve a resource : HTTP GET should be used
- To Update a resource : HTTP PUT should be used
- To Delete a resource : HTTP DELETE should be used
- Spring MVC will detect HTTP headers, to determine how to produce corresponding view result.
- RestController is used for making restful web services with the help of the **@RestController** annotation.

# Spring MVC RESTful @nnotations

## @RequestBody:

@RequestBody is mainly used with CRUD Operations to read the request body.

Ex:

```
@PostMapping("/addStudent")
public void addStudent(@RequestBody Student student) {
    // body
}
```

## @ResponseBody:

@ResponseBody is typically used with GET methods to write the response body content.

Ex: **@GetMapping**("/getStudent")  
**@ResponseBody**  
public Student getStudent() {  
 return student;  
}



# Spring MVC – @PathVariable

**@PathVariable** : Used to extract the value from the URI. Spring MVC allows to use multiple @PathVariable annotations in the same method.

Ex:

```
@RequestMapping(value = "/country/{id}", method = RequestMethod.GET)
```

```
public Country getCountryById(@PathVariable int id) {  
    List<Country> countryList = new ArrayList<Country>();  
    countryList = createCountryList();  
  
    for (Country country : countryList) {  
        if (country.getId() == id)  
            return country;  
    }  
  
    return null;  
}
```

# Spring MVC @RestController

- RestController is used for making restful web services with the help of the **@RestController** annotation.
- @RestController = @Controller + @ResponseBody



