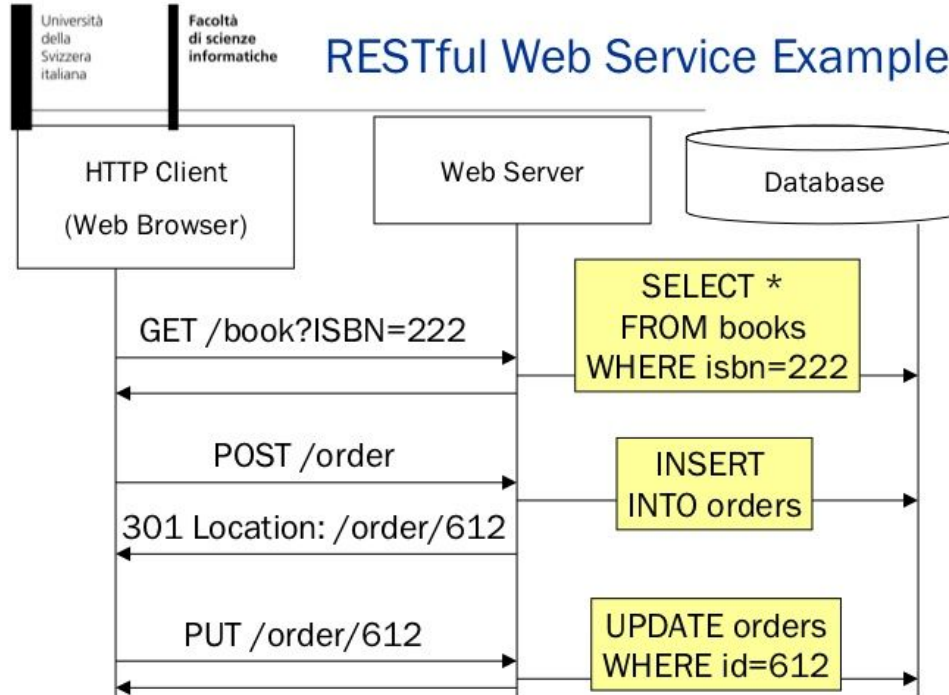# REST

REST

- REST - **RE**presentational **S**tate **T**ransfer. REST services allow access and manipulation of textual representations of web resources using a uniform and predefined set of stateless operations.
- HTTP methods map on REST operations such as GET, POST, PUT, DELETE performed on a resource
- Resource - everything accessible via URI

REST Example

RESTful Web Service Example

HTTP Client (Web Browser) — Web Server — Database

GET /book?ISBN=222 → SELECT * FROM books WHERE isbn=222

POST /order → INSERT INTO orders

301 Location: /order/612

PUT /order/612 → UPDATE orders WHERE id=612

REST Advantages

- REST is simple and is widely supported.
- Resources can be represented in a wide variety of data formats (JSON, XML, etc.).
- You can make good use of HTTP cache and proxy server to help you handle high load and improve performance.
- It reduces client/server coupling.
- Browsers can interpret representations.
- Javascript can use representations.
- A rest service can be consumed by applications written in different languages.
- Using REST does not imply specific libraries at client level in order to communicate with the server. With REST, all that is needed is a network connection.

REST with Spring MVC
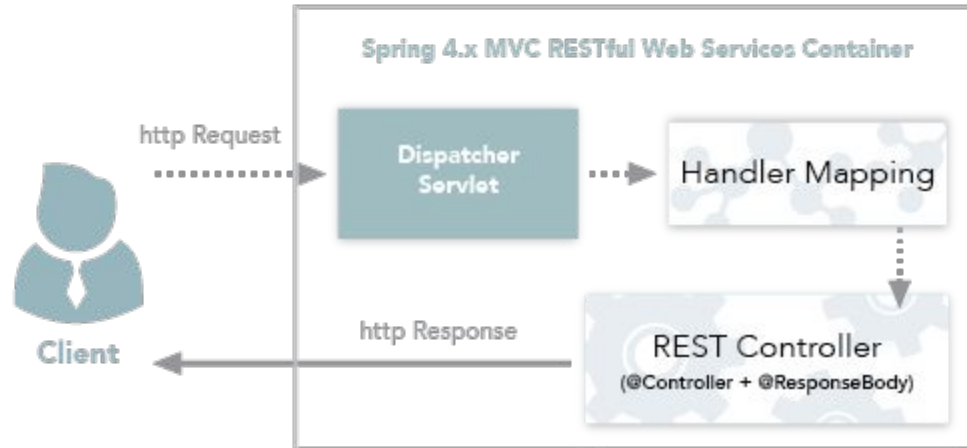
HTTP Methods

HTTP Method	@RequestMapping	Spring 4.3 Annotation
GET	@RequestMapping(method=RequestMethod.DELETE)	@GetMapping
POST	@RequestMapping(method=RequestMethod.POST)	@PostMapping
DELETE	@RequestMapping(method=RequestMethod.DELETE)	@DeleteMapping
PUT	@RequestMapping(method=RequestMethod.PUT)	@PutMapping

HTTP Status

HTTP Status	HttpStatus constant	Observation
200	OK	Successful GET with returned content
201	CREATED	Successful PUT or POST; location header should con-tain URI or new resource.
204	NO_CONTENT	Empty response, after successful PUT or DELETE
404	NOT_FOUND	Resource was not found.
403	FORBIDDEN	Server is refusing to respond to the request, because the response is not authorized.
405	METHOD_NOT_ALLOWED	Http method is not supported for the resource identified by the Request URI.
409	CONFLICT	Problems when making changes, when PUT or POST try to save data that already exists and is marked as unique.
415	UNSUPPORTED_MEDIA_TYPE	The server is refusing to service the request because the entity of the request is in a format not supported by the requested resource for the requested method.