

# Java Microservices MOOC

Lesson 1-3: REST and the Web



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# Representational State Transfer

REST is the architecture that the entire web uses. It is based on the following design principles:

- Client/server interactions: Browser – Web Server
- Uniform interface: HTTP, URL
- Layered System: IP: Proxies, Gateways, and so on
- Cache: Web browser cache, intermediary caches
- Stateless: HTTP request-and-response model
- Code-on-demand: JavaScript code



## REST in Action

To use REST in web applications, you need to address the following:

- The HTTP method that you need
- The resource identified by its URI
- The content for the request and the response
  - The preferred data exchange format is JSON.





# HTTP Methods

## GET

**Get a resource**

Used to get a resource from the server.  
For example, Get user list, or get the details of a user.

## POST

**Add a resource**

Used to create a new resource in the server.  
For example, add a new user.

## PUT

**Update a resource**

Used to update a resource in the server.  
For example, update the user details.

## DELETE

**Delete a resource**

Used to delete a resource in the server.  
For example, delete or disable a user.

# RESTful URI

How are RESTful URIs designed to access resources?

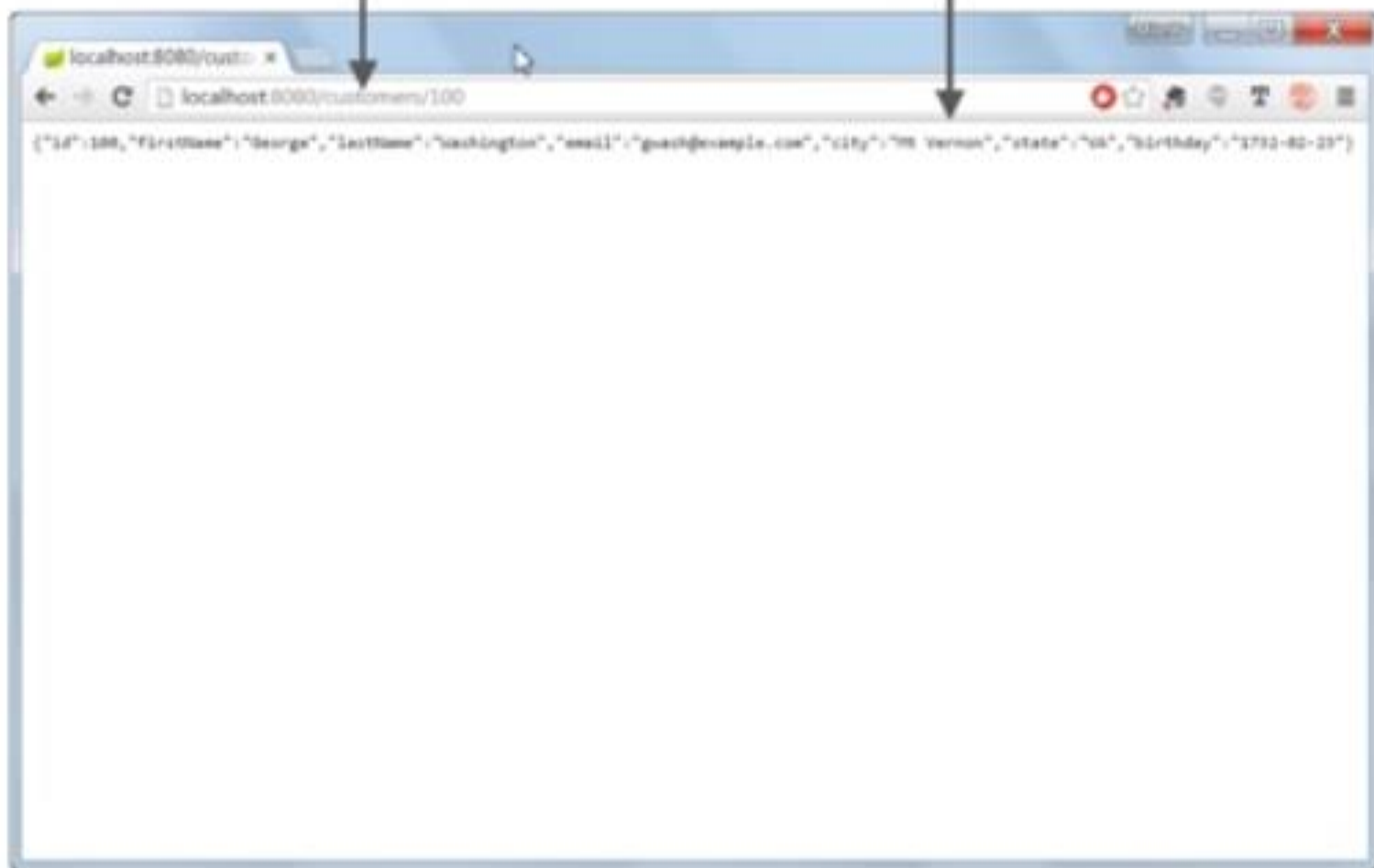
- GET <http://www.example.com/users/>
  - Lists all the users
- GET <http://www.example.com/users/john>
  - Gives the details of a user identified as “john”
- POST <http://www.example.com/users/>
  - Creates a new user
- PUT <http://www.example.com/users/john>
  - Updates the user identified as “john”



# Practical REST Example

Address: Uniform Resource Identifier

Pressing Enter executes a "GET" request on the resource. A JSON response is returned.





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