



CSI3023

Advanced Server-Side Programming

Winter Semester 2023 – '24

Digital Assignment - 2

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1) Discuss about Rest Frameworks and explain various Rest Methods.

Rest Frameworks :-

Representational State Transfer frameworks are tools that facilitate the development of web services following the principles of REST architecture. Rest is an architectural style that relies on stateless communication between clients and servers, using standard HTTP methods. These frameworks provide a set of conventions, guidelines, and tools to streamline the process of building RESTful APIs (Application Programming Interfaces).

Some popular REST frameworks include:

* Django REST Framework (DRF):

- * Built on top of the Django web framework.
- * Offers a powerful and flexible toolkit for building web APIs.
- * Provides serialization, authentication, permission, and view classes for handling HTTP methods.

* Spring Boot:

- * A part of the larger Spring Framework for JAVA applications.
- * Simplifies the development of production-ready applications.
- * Offers annotations and conventions for creating RESTful APIs.

* Express.js:

- * A lightweight Node.js framework.
- * Used for building web applications and APIs.
- * Provides middleware for handling RESTful routes and requests.

REST Methods (HTTP Methods):

RESTful APIs use various HTTP methods to perform different actions on resources. These methods are also known as HTTP verbs and play a crucial role in defining the operations that can be performed on a resource. Here are the primary REST

Methods;

* GET:

- * Used to retrieve information from the server.
- * Should not have any side effects on the server.
- * Eg: 'GET/users' retrieves a list of users.

* POST:

- * Used to submit data to be processed by a specified resource.
- * Often used for creating a new resource.
- * Eg: 'POST/users' creates a new user.

* PUT:

- * Used to update a resource or create a new resource if it does not exist.

* Typically updates the entire resource.

* Eg: 'PUT/users/123' updates the user with ID 123.

* PATCH:

* Similar to PUT but used to update a resource partially.

* Only updates the specified fields.

* Eg: 'PATCH/users/123' updates specific fields of the user with ID 123.

* DELETE:

* Used to request the removal of resource.

* Eg: 'DELETE/users/123' deletes the user with ID 123.

* OPTIONS:

* Used to describe the communication options for the target resource.

* Can be used to check the allowed methods or other information about a resource.

* HEAD:

* Similar to GET but only retrieves the headers of the response, not the actual data.

* Useful for checking resource information without downloading the entire payload.