

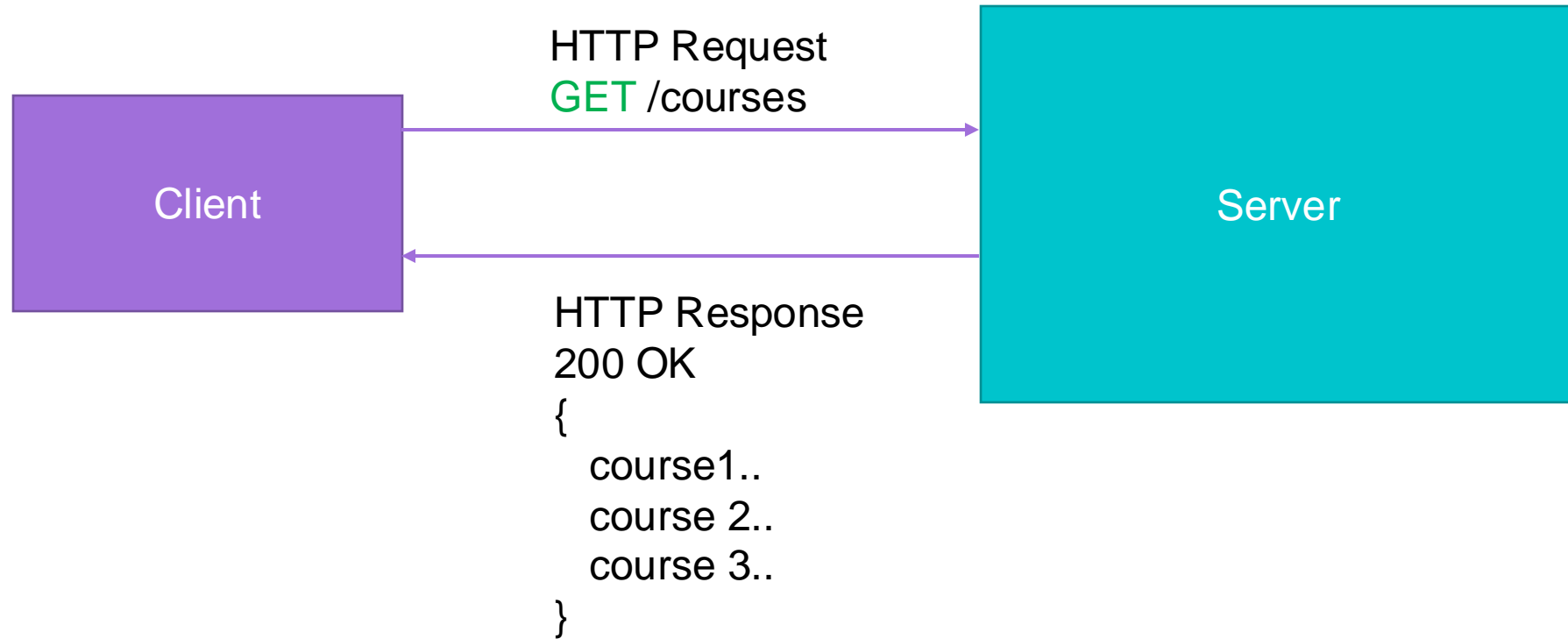
Designing API Operations

Introduction

Overview of HTTP Operations

Operations are **actions** that are taken on the resource.

Example HTTP Request



Operations = Methods = Verbs

Common HTTP Operations

Common HTTP Operations

GET

POST

PUT

DELETE

PATCH

HTTP GET Operation

Retrieves details of a resource

Body of response contains the required details

HTTP POST Operation

Creates a new
resource

Body of request
provides the details

Also used for
operations that don't
create resource

HTTP PUT Operation

Updates an existing
resource

Creates a new
resource

Body of request
provides the details

HTTP DELETE Operation

Removes an existing
resource

Body is blank

HTTP PATCH Operation

Partial update of an
existing resource

Body of request
provides the details

Selecting Operations Based on Individual Item or Collection

Collection and Individual Item

/courses

Course collection

/courses/1

Individual course item whose ID is 1

/courses/1/students

Students of the course whose ID is 10

Common HTTP Operations

GET

POST

PUT

DELETE

PATCH

Selecting Operations for a Resource

| | GET | POST | PUT | DELETE |
|---------------------|--|-----------------------------------|--|----------------------------------|
| /courses | Retrieve all courses | Create a new course | Bulk update of courses | Remove all courses |
| /courses/1 | Retrieve the details for course 1 | NA | Update the details of course 1 if it exists | Remove course 1 |
| /courses/1/students | Retrieve all students for course 1 | Create a new student for course 1 | Bulk update of students for course 1 | Remove all students for course 1 |

Idempotent Methods

Idempotent = Making multiple identical requests has the **same effect** as making a single request

Idempotent HTTP Operations

GET

POST

PUT

DELETE

PATCH

Differences between POST, PUT, and PATCH

Differences between POST, PUT, and PATCH

| | POST | PUT | PATCH |
|--------------|-------------------------------------|--------------------------------------|--|
| Resource URL | Server assigns a new URL | Client mentions the URL | Client mentions the URL |
| Idempotent | NOT guaranteed | Yes | NOT guaranteed |
| Ideal usage | Against collections to add new item | Against a single item to update data | Against a single item to update partial data |

STEP 10: Identify the Operations for Each Resource

Designing API Operations

Summary