# QUERY PARAMETER AND PATH PARAMETER

*Request URI parameters are added to end of URL that refer/point to specific REST API resource.*
*There are two types of parameters: a) Path Parameters b) Query Parameters.*

## PATH PARAMETER

Path Parameters are a part of URI. It takes you to the specific endpoint/resource. They are added to URI after '/' in curly braces {}. Path parameters point to specific REST API resource within a collection.
For example: Student identified by grade:
– GET /students/{grade}

### WHEN TO USE PATH PARAMETER

If there is requirement to retrieve records based on grades, for example you need to fetch details of student whose grade is 'A', then we can use resource with @PathParam.

```
-GET /students/{grade}
```

'{grade}' is path parameter of the endpoint '/students' – it is pointing to specific student's record.

An endpoint can also have multiple path parameters.
For example:

```
-GET /departments/{deptId}/employees/{empId}
```

This endpoint is pointing to specific employee's record within specific department with both '{deptId}' and '{empId}' requiring variables.
Path parameters describe where to look for a resource.

## QUERY PARAMETER

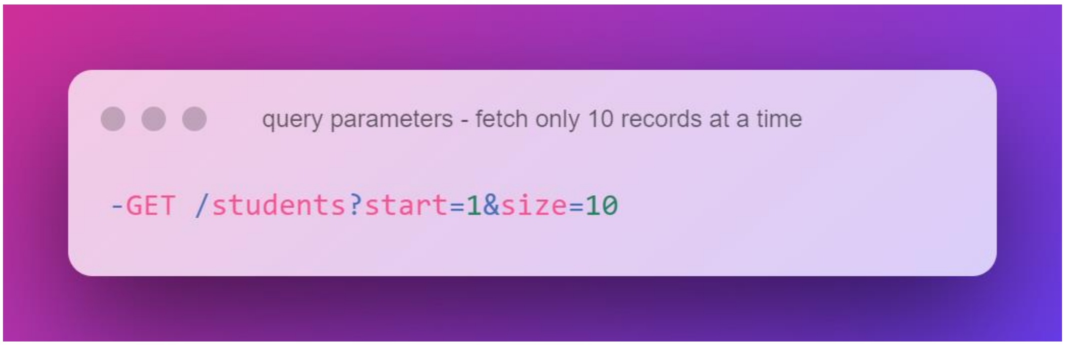
Query Parameter in **NOT** part of URI. They are added to URI after a question mark symbol ('?') with name=value pairs separated by ampersands symbol (&). They define sort, pagination and filter operations.
For example:

GET /students?offset=50&limit=20

### WHEN TO USE QUERY PARAMETER

If there is requirement to retrieve details of all students but only 10 at time, then we can use query param

Ex: Filter operation:



query parameters - fetch only 10 records at a time

```
-GET /students?start=1&size=10
```

It means that starting from student id 1, get 10 records. Similarly we can use query parameter for *pagination* and *sort* operations as well.
Query parameters describe how to look for a resource.

## COMPARISON - PATH PARAMETER AND QUERY PARAMETER

| ***Path Parameter*** | ***Query Parameter*** |
|---|---|
| Part of URI | Not Part of URI |
| Points to specific REST API resource in a collection | Filters, sort, paginates the results in a collection |
| Added after '/' in curly braces ({}) | Added after '?' in key=value format |
| Ex:  /students/{grade} | Ex: /students?offset=50&limit=20 |
| Describe where to look for a resource | Describe how to look for a resource |
| @PathParm annotation reads path parameter | @QureyParam annotation reads query parameter |
| Cannot be null, can throw 404 error | Can be null |