Certainly! Here is an explanation of the key points on REST API concepts and HTTP methods, including endpoint construction, resources, parameters, and headers:

### Endpoints

- \*\*Endpoint\*\*: The address where an API is hosted on the server. It is the URL through which you access an API.

### HTTP Methods

- \*\*GET\*\*:

- Used to retrieve information from the server using a given URI.

- Should only extract data without affecting it.

- No payload/body is required.

- \*\*Input Data\*\*: Sent using query parameters.

- \*\*POST\*\*:

- Used to send data to the server, such as customer information or file uploads.

- Commonly used with HTML forms.

- \*\*Input Data\*\*: Sent using form parameters/body payload.

- \*\*PUT\*\*:

- Replaces all current representations of the target resource with the uploaded content.

- \*\*DELETE\*\*:

- Removes all current representations of the target resource given by a URI.

### Resources

- \*\*Resources\*\*: Represent an API or a collection that can be accessed from the server. Examples include:

- `google.com/maps`

- `google.com/search`

- `google.com/images`

### Path Parameters

- \*\*Path Parameters\*\*: Variable parts of a URL path used to point to a specific resource within a collection. Examples include:

- `https://www.google.com/images/1123343`

- `https://www.google.com/docs/1123343`

- `https://amazon.com/orders/112`

### Query Parameters

- \*\*Query Parameters\*\*: Used to sort or filter resources.

- Identified with a `?`.

- Example: `https://amazon.com/orders?sort\_by=2/20/2020`

### Headers/Cookies

- \*\*Headers\*\*: Represent metadata associated with the API request and response.

- Used to send additional details to the API, such as authorization details.

- \*\*Cookies\*\*: Also used to send additional information with requests, often for maintaining sessions.

### Constructing an Endpoint

The structure of an endpoint request URL is:

1. \*\*Base URL\*\*: The main address of the server where the API is hosted.

2. \*\*Resource\*\*: The specific API or collection you are accessing.

3. \*\*Parameters\*\*: Additional data sent with the request, which can be either path parameters or query parameters.

\*\*Example Construction\*\*:

- For accessing a specific image: `Base URL/resource/path parameter`

- `https://www.google.com/images/1123343`

- For sorting orders: `Base URL/resource?query parameter`

- `https://amazon.com/orders?sort\_by=2/20/2020`

### Summary

- \*\*Endpoints\*\* are the addresses where APIs are hosted.

- \*\*HTTP methods\*\* (GET, POST, PUT, DELETE) define the action to be performed on the resource.

- \*\*Resources\*\* are specific APIs or collections.

- \*\*Path parameters\*\* specify a particular resource within a collection.

- \*\*Query parameters\*\* are used for filtering or sorting the resource.

- \*\*Headers and cookies\*\* provide additional metadata for the request.