Getting Started with REST Testing

* SOAP versus REST has been a debatable topic over the last few years. Due to the simplicity and extensive use of popular web-based technologies such as HTTP, REST has become popular among developers.
* Roy Fielding introduced the term REST". **Representational State Transfer** (**REST**) can be defined as an architectural style for designing software systems.
* REST is not a specification or W3C standard such as SOAP.
* The key principles of REST are as follows:

• Represent everything with a unique ID; a URI

• Make use of standard HTTP methods such as GET, POST, DELETE, and PUT

* In REST, Each resource can distinguishably be identified using a unique ID; a URI. The following represent two distinct resources.
* With this approach, any resource can be identified by its URI.
* REST is built based on the proper use of HTTP methods. As HTTP is the standard and widely adopted transport protocol in web, it can be used to access any resource including HTML pages, images, and videos and also be used to invoke web services resources using REST.
* **GET** Retrieves a resource identified by the URI. Can be compared to READ operation.
* **POST** Creates a new resource. Can be compared to the CREATE operation.
* **PUT** Updates resource with the provided data or creates the resource if it does not exist. Can be compared to the UPDATE operation.
* **DELETE** Deletes the resource identified by the URI. Can be compared to the DELETE operation.

**REST parameters**

Parameters are used to include additional information in a request. There are different types of parameter in REST:

1. **Query parameters :** Query parameters are the most commonly used parameter type in request URLs. A query string is appended to the request URL with a leading "?" followed by name/value pairs.
2. **Template parameters:** Template parameters can be used to parameterize request in the URL paths.

Matrix parameters are another type of request parameter used in a URL. However, this is not widely used today. In a way, matrix parameters closely resemble query parameters. However, the most notable difference is that the matrix parameters can

appear anywhere in the path. It starts with a semicolon ‘;’ and multiple matrix param are separated by semicolon ‘;’.

Example: http://www.xyz.com/abc;name=value;name1=value1

1. **Header parameters:** Header parameters are different from the preceding set of parameters because they are added to the HTTP header of the request instead of the request URL.