

Overview of log() Methods in Rest Assured

In Rest Assured, the log() method is used for logging different parts of the HTTP request or response during API testing. This can be very useful for debugging and understanding what exactly is being sent to and received from the API server. The log() method is part of the ValidatableResponse, RequestSpecification, and ResponseSpecification interfaces in Rest Assured. Below is a list of commonly used log() methods:

1. log().all():

- **Description:** Logs everything (i.e., request/response headers, body, and cookies).
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

2. log().body():

- **Description:** Logs only the body of the request or response.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

3. log().cookies():

- **Description:** Logs only the cookies from the request or response.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

4. log().headers():

- **Description:** Logs only the headers of the request or response.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

5. log().method():

- **Description:** Logs the HTTP method of the request.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

6. log().params():

- **Description:** Logs the parameters passed in the request.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

7. **log().path():**

- **Description:** Logs the path of the request.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

8. **log().status():**

- **Description:** Logs the status line of the response.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

9. **log().ifError():**

- **Description:** Logs the request or response only if the response status code is 4xx or 5xx.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

10. **log().ifValidationFails():**

- **Description:** Logs the request or response only if a validation failure occurs.
- **Return Type:** ValidatableResponseLogSpec or RequestLogSpecification or ResponseLogSpecification.

Example 1: Logging All Request and Response Details

```
given()

    .log().all() // Logs request details

.when()

    .get("https://jsonplaceholder.typicode.com/posts/1")

.then()

    .log().all() // Logs response details

    .statusCode(200);
```

Example 2: Logging Only the Request Body

```
given()

    .log().body() // Logs only the request body
```

```
.body("{\"title\":\"foo\",\"body\":\"bar\",\"userId\":1}")
.when()
.post("https://jsonplaceholder.typicode.com/posts")
.then()
.statusCode(201);
```

Example 3: Logging Response Headers

```
given()
.when()
.get("https://jsonplaceholder.typicode.com/posts/1")
.then()
.log().headers() // Logs only the response headers
.statusCode(200);
```

Example 4: Logging Request Cookies

```
given()
.cookie("sessionId", "abcd1234")
.log().cookies() // Logs the request cookies
.when()
.get("https://jsonplaceholder.typicode.com/posts/1")
.then()
.statusCode(200);
```

Example 5: Logging the Request HTTP Method

```
given()
.log().method() // Logs the HTTP method used in the request
.when()
.get("https://jsonplaceholder.typicode.com/posts/1")
.then()
.statusCode(200);
```

Example 6: Logging Request Parameters

```
given()

    .param("userId", 1)

    .log().params() // Logs the request parameters

.when()

    .get("https://jsonplaceholder.typicode.com/posts")

.then()

    .statusCode(200);
```

Example 7: Logging Path and Method

```
given()

    .log().path() // Logs the request path

    .log().method() // Logs the HTTP method

.when()

    .get("https://jsonplaceholder.typicode.com/posts/1")

.then()

    .statusCode(200);
```

Example 8: Logging Status Line Only

```
given()

.when()

    .get("https://jsonplaceholder.typicode.com/posts/1")

.then()

    .log().status() // Logs the status line of the response

    .statusCode(200);
```

Example 9: Logging If an Error Occurs

```
given()

.when()
```

```
.get("https://jsonplaceholder.typicode.com/posts/invalid-id")
.then()
.log().ifError() // Logs the response only if an error status code (4xx or 5xx) is returned
.statusCode(404);
```

Example 10: Logging the Request and Response for POST Request

```
given()
  .body("{\"title\":\"foo\",\"body\":\"bar\",\"userId\":1}")
  .log().all() // Logs everything for the request
.when()
  .post("https://jsonplaceholder.typicode.com/posts")
.then()
  .log().ifValidationFails() // Logs everything only if the validation fails
  .statusCode(201);
```

Example 11: Conditional Logging Based on Status Code

```
given()
.when()
  .get("https://jsonplaceholder.typicode.com/posts/1")
.then()
  .log().ifError() // Logs only if status code is 4xx or 5xx
  .statusCode(200);
```

Example 12: Logging with Custom Validation Failure Message

```
given()
  .body("{\"title\":\"foo\",\"body\":\"bar\",\"userId\":1}")
  .log().all() // Logs everything in the request
.when()
  .post("https://jsonplaceholder.typicode.com/posts")
```

```
.then()

    .log().ifValidationFails() // Logs everything in the response only if validation fails

    .statusCode(200)

    .assertThat()

    .body("id", notNullValue());
```

Example 13: Logging Only the Body on a Specific Condition

```
given()

    .log().ifError() // Logs only if there's an error

.when()

    .get("https://jsonplaceholder.typicode.com/posts/invalid-id")

.then()

    .log().body() // Logs the body content if there is any response

    .statusCode(404);
```

Example 14: Logging All Details but Ignoring Validation Failures

```
given()

    .log().all() // Logs all request details

.when()

    .get("https://jsonplaceholder.typicode.com/posts/invalid-id")

.then()

    .log().ifValidationFails() // Logs all response details only if validation fails

    .statusCode(404);
```

Example 15: Dynamic Logging Based on the Test Environment

```
String environment = System.getProperty("env");
```

```
given()

    .log().ifValidationFails() // Logs only if validation fails

.when()
```

```
.get(environment.equals("prod")  
    ? "https://prod.api.example.com/posts/1"  
    : "https://staging.api.example.com/posts/1")  
.then()  
    .statusCode(200);
```

These examples cover various scenarios using the `log()` methods in Rest Assured, demonstrating different levels of complexity and use cases in API automation testing.