

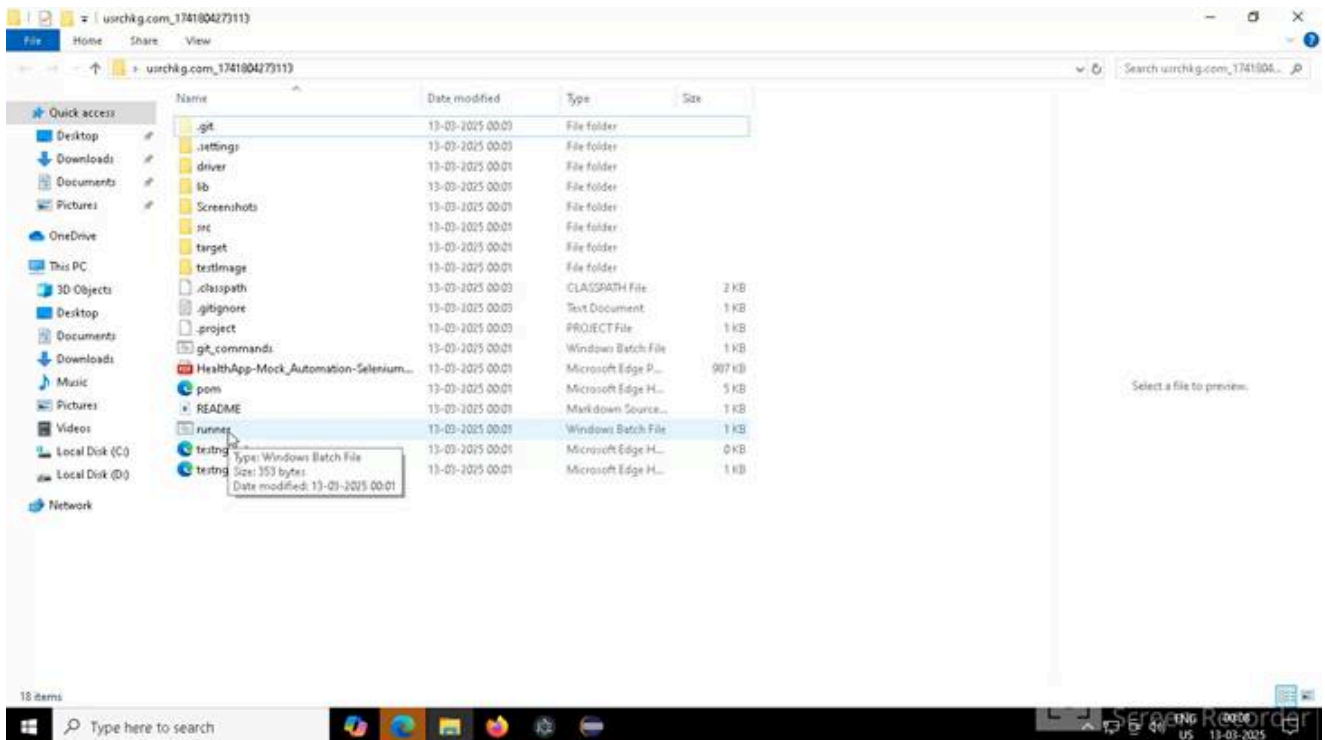
REST-ASSURED
(API - AUTOMATION PROJECT –
PL1-7)

Login A
RestAssured Automation

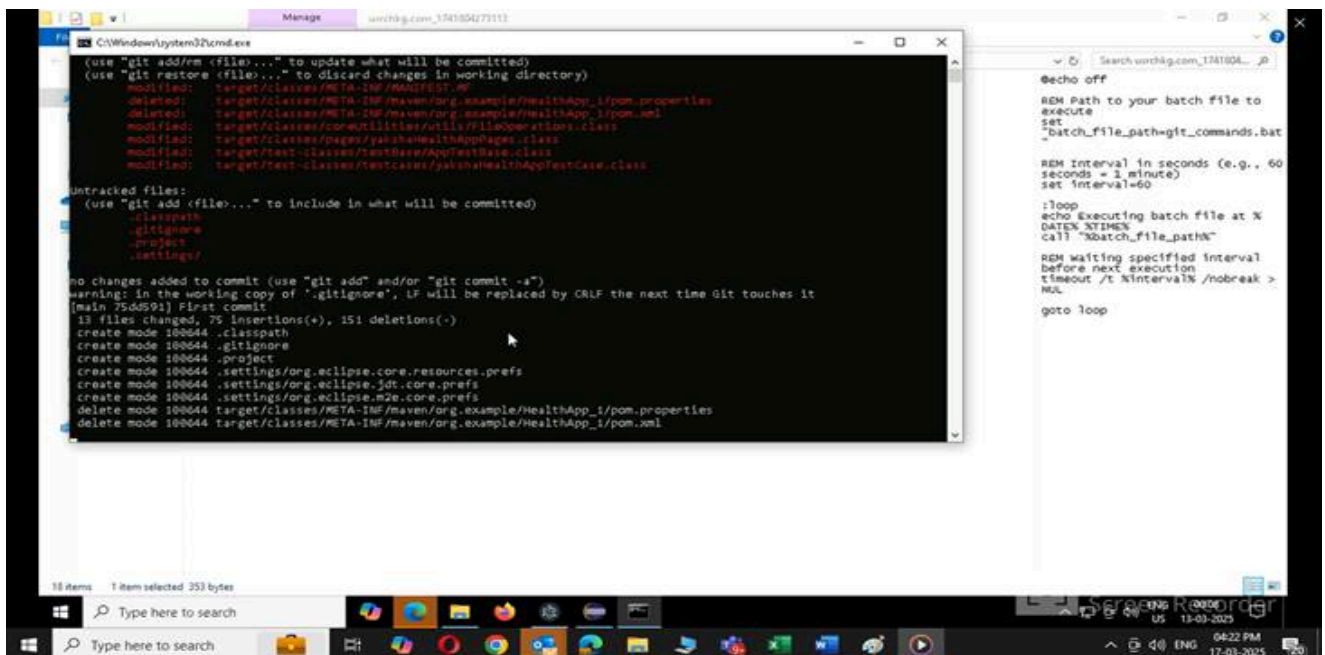
Login A
RestAssured Automation

Pre-requisite:

Before you start working on your project, execute the runner file present in your project folder (Simply by double click). **This is mandatory.**

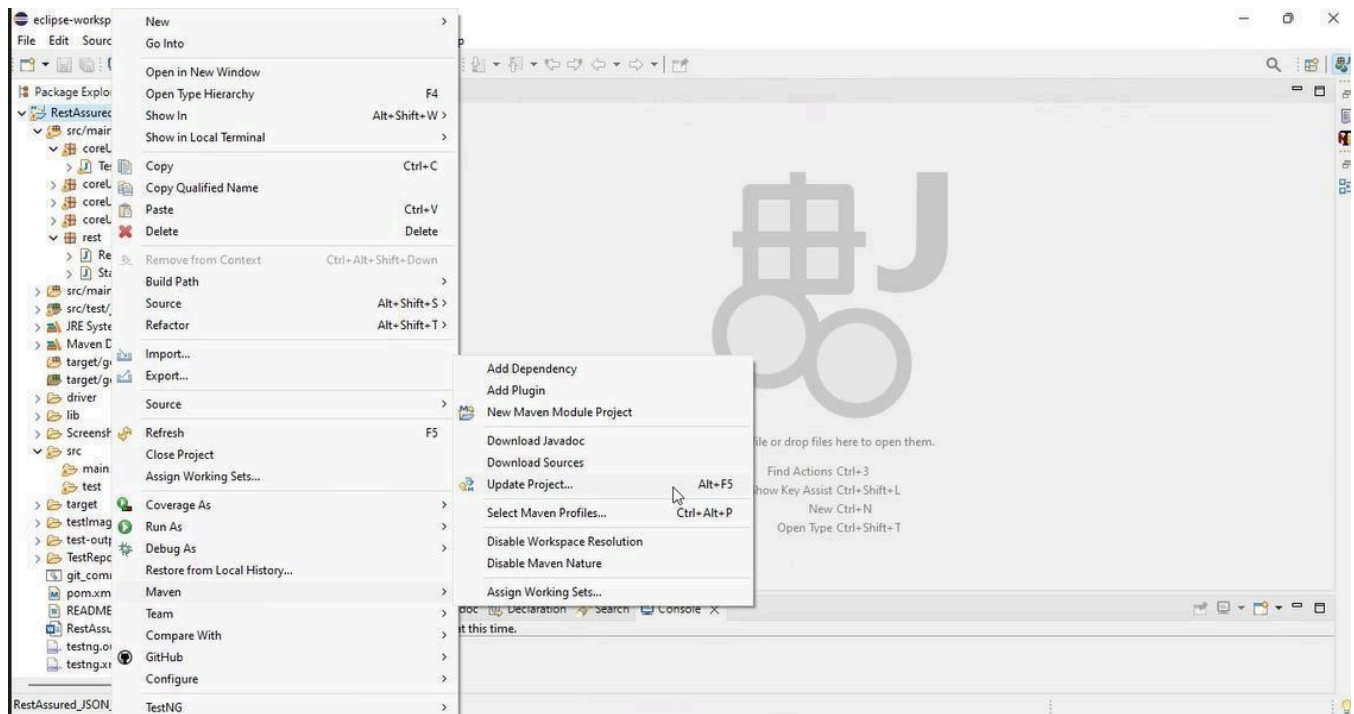


This will launch a command terminal for you where it will keep on pushing your updated code to GIT on regular intervals. Keep that command terminal open at the backend and you can continue working on your project.

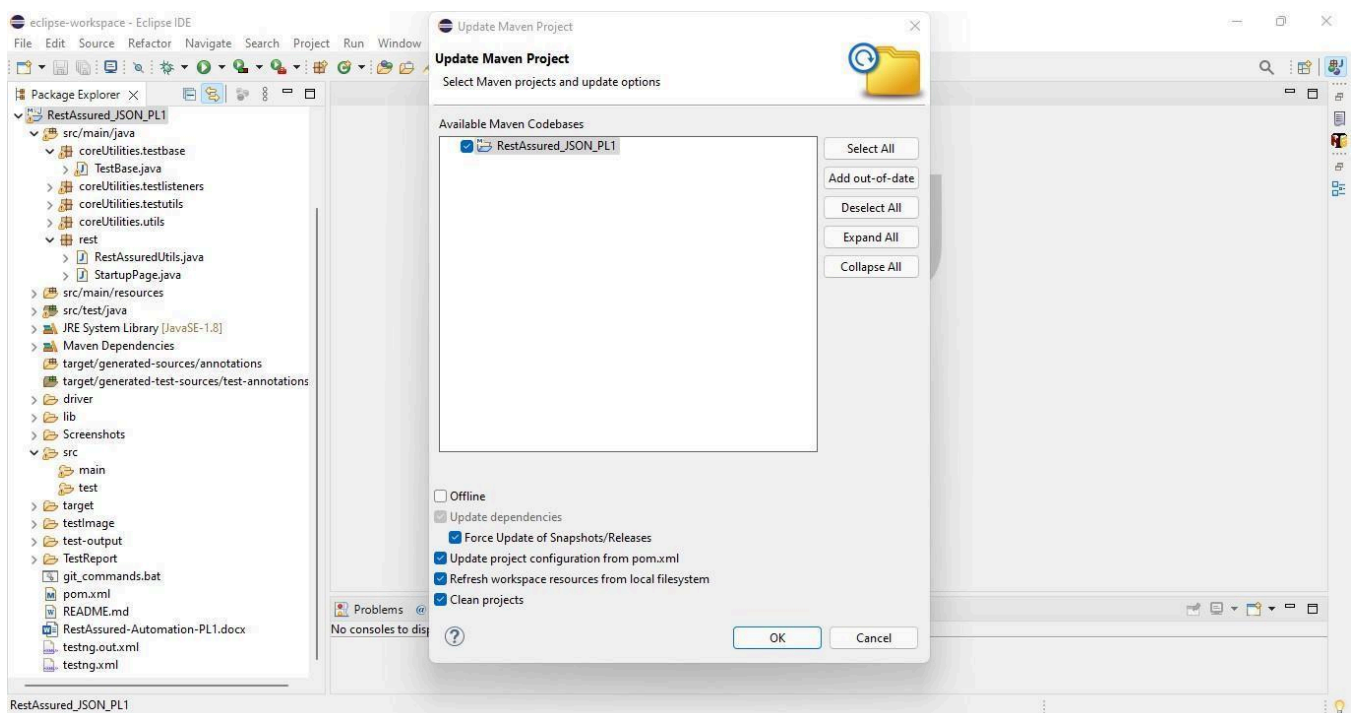


As soon as you import a project in eclipse, update the project using the maven update option as below. This is to resolve issue if any maven dependency not downloaded properly:

1. Right click on project : Go to “Maven” : Select “Update Project”



2. In Update Maven Project Box Select “Force Update of Snapshots/Releases” and click OK



Template Code Structure:

- Below are the packages and files you will be required to work upon.
- Other Files and packages you can ignore.
- In other Files and packages do not do any changes. It would affect your evaluation.
- You are not required to work in the “Test” Folder. Files there are noneditable. Editing those files and trying to save them will throw errors and would affect your evaluation.

| Package | Class/File | Description |
|-----------------------------------|---------------------|---|
| src/main/java/coreUtilities/utis/ | FileOperations.java | <ol style="list-style-type: none">1. It contains methods to read data from Excel files.2. The method is already implemented. |
| /src/main/java/rest | ApiUtil.java | <ol style="list-style-type: none">1. All core activities to be performed here.2. The comments associated with each templated method here describe the expectation.3. Declare any variable/object you need to share data/status between different methods.4. Do not modify the signature of methods declared here. <p>Do not modify the signature of methods declared here. Signature means method name, method return type, number of arguments, any exception thrown (if present, if not then please don't add).</p> <ol style="list-style-type: none">5. You can create additional supportive common methods in CommonEvents class. |
| /src/main/resources/ | TestData.xlsx | Data is present for creating post and put requests |

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| /src/main/java/coreUtilities/utils | CommonEvents.java | <ol style="list-style-type: none"> 1. Contains all common activities. 2. Certain templated common methods declared here. 3. You implement them as per your need. 4. You can add any additional method for common activity here |
| | Testng.xml | Execution needs to kick started from TestNG xml |

PROBLEM STATEMENT

Need to automate the following activities using RestAssured.

Key Activities to implement.

| SI No. | Summary | Action | Expected Result |
|--------|--|--|---|
| 1 | <p>Retrieve the Employee Status:</p> <p>GetEmpStatus(String endpoint, String cookieValue, Map<String, String> body)</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint (" /web/index.php/api/v2/admin/employment-statuses?limit=0 ") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/admin/employment-statuses?limit=0" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. Trigger a GET call to the specified endpoint. 4. Parse the response using JsonPath and retrieve the "data" array as a List<Map<String, Object>>. 5. From each map inside the list, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in ids list • name to be extracted and saved in names list 6. Create an object of type CustomResponse and initialize it with values extracted from the Response object: <ul style="list-style-type: none"> • Response • The extracted statusCode in variable statusCode and statusLine in variable status. • The lists of ids and names 7. Return the CustomResponse object from the method. | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • ids • names. <p>-The complete raw response.</p> |

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| 2 | <p>Retrieve the job-titles Data in the Method:</p> <p>GetJobTitle(String endpoint, String cookieValue, Map<String, String> body).</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint (" /web/index.php/api/v2/admin/job-titles?limit=0") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/admin/job-titles?limit=0" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. Trigger a GET call to the specified endpoint. 4. Parse the response using JsonPath and retrieve the "data" array as a List<Map<String, Object>>. 5. From each map inside the list, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in ids list • title to be extracted and saved in titles list 6. Create an object of type CustomResponse and initialize it with values extracted from the Response object: <ul style="list-style-type: none"> • Response • The extracted statusCode in variable statusCode and statusLine in variable status. • The lists of ids and titles 7. Return the CustomResponse object from the method. | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • ids • titles. <p>-The complete raw response.</p> |
| 3 | <p>Retrieve the Admin subunit in the Method:</p> <p>GetAdminSubunit(String endpoint, String cookieValue, Map<String, String> body)</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint (" /web/index.php/api/v2/admin/subunits") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/admin/subunits" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. Trigger a GET call to the specified endpoint. 4. Parse the response using JsonPath and retrieve the "data" array as a List<Map<String, Object>>. 5. From each map inside the list, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in ids list • title to be extracted and saved in names list • unitId to be extracted and saved in unitIds list • description to be extracted and saved in descriptions list • level to be extracted and saved in level list • left to be extracted and saved in left list • right to be extracted and saved in right list | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • Ids • Names • UnitIds • Descriptions • Level • Left • Right. <p>-The complete raw response.</p> |

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| | | <p>6. Create an object of type CustomResponse and initialize it with values extracted from the Response object:</p> <ul style="list-style-type: none"> • Response • The extracted statusCode in variable statusCode and statusLine in variable status. • All the extracted lists: <ul style="list-style-type: none"> → ids → names → unitIds → descriptions → level → left → right <p>7. Return the CustomResponse object from the method.</p> | |
| 4 | <p>Retrieve PIM Employee Using the Method:</p> <p>GetPimEmp(String endpoint, String cookieValue, Map<String, String> body).</p> | <p>1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/pim/employees") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/pim/employees"</p> <p>2. Initialize a RequestSpecification using RestAssured:</p> <ol style="list-style-type: none"> Add a cookie with name "orangehrm" and the value passed as cookieValue. Set the "Content-Type" header to "application/json". <p>3. Trigger a GET call to the specified endpoint.</p> <p>4. Parse the response using JsonPath and retrieve the "data" array as a List<Map<String, Object>>.</p> <p>5. From each map inside the list, extract and wrap values into lists as follows:</p> <ul style="list-style-type: none"> • empNumber to be extracted and saved in employeeNumbers list • lastName to be extracted and saved in lastNames list • firstName to be extracted and saved in firstNames list • employeeId to be extracted and saved in employeeId list <p>6. Create an object of type CustomResponse and initialize it with values extracted from the Response object:</p> <ul style="list-style-type: none"> • response • The extracted statusCode in variable statusCode and statusLine in variable status. • All the extracted lists: <ul style="list-style-type: none"> → employeeNumbers → lastNames → firstNames → employeeId <p>7. Return the CustomResponse object from the method</p> | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • employeeNumbers • lastNames • firstNames • employeeId <p>-The complete raw response.</p> |

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| 5 | <p>Retrieve the Reports in ascending order:</p> <p>GetReportASC(String endpoint, String cookieValue, Map<String, String> body).</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/pim/reports/defined?limit=50&offset=0&sortField=report.name&sortOrder=ASC") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/pim/reports/defined?limit=50&offset=0&sortField=report.name&sortOrder=ASC" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. Trigger a GET call to the specified endpoint. 4. Parse the response using JsonPath and retrieve the "data" array as a List<Map<String, Object>>. 5. From each map inside the list, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in ids list • name to be extracted and saved in names list 6. Create an object of type CustomResponse and initialize it with values extracted from the Response object: <ul style="list-style-type: none"> • Response, • The extracted statusCode in variable statusCode and statusLine in variable status. • All the extracted lists: <ul style="list-style-type: none"> → ids → names 7. Return the CustomResponse object from the method | <p>- The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • ids • names <p>-The complete raw response.</p> |
| 6 | <p>Retrieve the Leave Eligibility list using the method:</p> <p>GetLeaveEligibility(String endpoint, String cookieValue, Map<String, String> body).</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/leave/leave-types/eligible?includeAllocated=true") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/leave/leave-types/eligible?includeAllocated=true" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". | <p>- The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • Status=OK. <p>-Implementation should be corrects.</p> <p>-Non null and non empty List for:</p> |

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| | | <p>3. Trigger a GET call to the specified endpoint.</p> <p>4. Parse the response using JsonPath and retrieve the "data" array as a <code>List<Map<String, Object>></code>.</p> <p>5. From each map inside the list, extract and wrap values into lists as follows:</p> <ul style="list-style-type: none"> • <code>id</code> to be extracted and saved in ids list • <code>name</code> to be extracted and saved in names list • <code>deleted</code> to be extracted and saved in isDeleted list • <code>situational</code> to be extracted and saved in isSituational list <p>6. Create an object of type <code>CustomResponse</code> and initialize it with values extracted from the <code>Response</code> object:</p> <ul style="list-style-type: none"> • <code>Response</code>, • The extracted <code>statusCode</code> in variable <code>statusCode</code> and <code>statusLine</code> in variable <code>status</code>. • All the extracted lists: <ul style="list-style-type: none"> → ids → names → isDeleted → isSituational <p>7. Return the <code>CustomResponse</code> object from the method</p> | <ul style="list-style-type: none"> • <code>ids</code> • <code>names</code> • <code>isDeleted</code> • <code>isSituational</code> <p>-The complete raw response.</p> |
| 7 | <p>Update the admin ldap config using Method:</p> <p>PutAdminConfig(String endpoint, String cookieValue, String body).</p> | <p>1. Create an URL by combining the <code>BASE_URL</code> (already declared) and endpoint <code>("/web/index.php/api/v2/admin/ldap-config")</code> URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/admin/ldap-config"</p> <p>2. Initialize a <code>RequestSpecification</code> using <code>RestAssured</code>:</p> <ol style="list-style-type: none"> Add a cookie with name "orangehrm" and the value passed as <code>cookieValue</code>. Set the "Content-Type" header to "application/json". <p>3. <code>body</code> must be included in request object using <code>.body()</code>.</p> <p>4. Trigger a PUT call to the specified endpoint.</p> <p>5. Parse the response using JsonPath and retrieve the "data" object as a <code>Map<String, Object></code>.</p> <p>6. From this map, extract and wrap values into lists as follows:</p> <ul style="list-style-type: none"> • <code>enable</code> to be extracted and saved in enable list | <p>- The method should Returns an object of type <code>CustomResponse</code> containing:</p> <ul style="list-style-type: none"> • <code>statusCode=200</code> • <code>Status=HTTP/1.1 200 OK</code>. <p>-Implementation should be corrects.</p> <p>-Non null and non empty List for:</p> <ul style="list-style-type: none"> • <code>enable</code> • <code>hostname</code> • <code>port</code> • <code>encryption</code> • <code>ldapImplementation</code> |

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| | | <ul style="list-style-type: none"> ● hostname to be extracted and saved in hostname list ● port to be extracted and saved in port list ● encryption to be extracted and saved in encryption list ● ldapImplementation to be extracted and saved in ldapImplementation list ● bindAnonymously to be extracted and saved in bindAnonymously list ● bindUserDN to be extracted and saved in bindUserDN list ● hasBindUserPassword to be extracted and saved in hasBindUserPassword list ● userLookupSettings to be extracted and saved in userLookupSettings list ● dataMapping to be extracted and saved in dataMapping list ● mergeLDAPUsersWithExistingSystemUsers to be extracted and saved in mergeLDAPUsersWithExistingSystemUsers list ● syncInterval to be extracted and saved in syncInterval list <p>7. Create an object of type CustomResponse and initialize it with values extracted from the Response object:</p> <ul style="list-style-type: none"> ● response ● The extracted statusCode in variable statusCode and statusLine in variable status. ● All the extracted lists (enable, hostname, port, encryption, ldapImplementation, bindAnonymously, bindUserDN, hasBindUserPassword, userLookupSettings, dataMapping, mergeLDAPUsersWithExistingSystemUsers, syncInterval). <p>8. Return the CustomResponse object from the method.</p> | <ul style="list-style-type: none"> ● bindAnonymously ● bindUserDN ● hasBindUserPassword ● userLookupSettings ● dataMapping ● mergeLDAPUsersWithExistingSystemUsers ● syncInterval. <p>-The complete raw response.</p> |
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| 8 | <p>Update the Optional Fields using Method:</p> <p>PutOptionalField(String endpoint, String cookieValue, Object body)</p> <p>.</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/pim/optional-field") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/pim/optional-field" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. body must be included in request object using <code>.body()</code>. 4. Trigger a PUT call to the specified endpoint. 5. Parse the response using JsonPath and retrieve the "data" object as a <code>Map<String, Object></code>. 6. From this map, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • <code>pimShowDeprecatedFields</code> to be extracted and saved in pimShowDeprecatedFields list • <code>showSIN</code> to be extracted and saved in showSIN list • <code>showSSN</code> to be extracted and saved in showSSN list • <code>showTaxExemptions</code> to be extracted and saved in showTaxExemptions list 6. Create an object of type CustomResponse and initialize it with values extracted from the Response object: <ul style="list-style-type: none"> • Response • The extracted statusCode in variable statusCode and statusLine in variable status. • All the extracted lists: <ul style="list-style-type: none"> → pimShowDeprecatedFields → showSIN → showSSN → showTaxExemptions 7. Return the CustomResponse object from the method. | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Request Body should have:</p> <ul style="list-style-type: none"> • pimShowDeprecatedFields • showSIN • showSSN • showTaxExemptions <p>-The complete raw response.</p> |
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| 9 | <p>Create a custom field using the method:</p> <p>PostCustomField(String endpoint, String cookieValue, String body).</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/pim/custom-fields") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/pim/custom-fields" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. body must be included in request object using <code>.body()</code>. 4. Trigger a POST call to the specified endpoint and also pass the body. 5. Parse the response using JsonPath and retrieve the "data" object as a <code>Map<String, Object></code>. 6. From this map, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in id list • fieldName to be extracted and saved in fieldName list • fieldType to be extracted and saved in fieldType list • extraData to be extracted and saved in extraData list • screen to be extracted and saved in screen list 7. Create an object of type CustomResponse and initialize it with values extracted from the Response object: <ul style="list-style-type: none"> • response, • The extracted statusCode in variable statusCode and statusLine in variable status. • All extracted lists: <ul style="list-style-type: none"> → id → fieldName → fieldType → extraData → screen 8. Return the CustomResponse object from the method. | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Response should have not NULL:</p> <ul style="list-style-type: none"> • id • fieldName • fieldType • extraData • screen. <p>-The complete raw response.</p> |
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| 10 | <p>Update the pim employee custom field using the method:</p> <p>PutCustomField(String endpoint, String cookieValue, String body)</p> <p>.</p> | <ol style="list-style-type: none"> 1. Create an URL by combining the BASE_URL (already declared) and endpoint ("/web/index.php/api/v2/pim/custom-fields/1") URL becomes: "opensource-demo.orangehrmlive.com/web/index.php/api/v2/pim/custom-fields/1" 2. Initialize a RequestSpecification using RestAssured: <ol style="list-style-type: none"> a. Add a cookie with name "orangehrm" and the value passed as cookieValue. b. Set the "Content-Type" header to "application/json". 3. body must be included in request object using <code>.body()</code>. 4. Send a PUT req to the url and also pass the body. 5. Parse the response using JsonPath and retrieve the "data" object as a <code>Map<String, Object></code>. 6. From this map, extract and wrap values into lists as follows: <ul style="list-style-type: none"> • id to be extracted and saved in id list • fieldName to be extracted and saved in fieldName list • fieldType to be extracted and saved in fieldType list • extraData to be extracted and saved in extraData list • screen to be extracted and saved in screen list 7. CustomResponse should contain: <ul style="list-style-type: none"> • response, • The extracted statusCode in variable statusCode and statusLine in variable status • All extracted lists: <ul style="list-style-type: none"> → id → fieldName → fieldType → extraData → screen 8. Return the CustomResponse object from the method. | <p>-The method should Returns an object of type CustomResponse containing:</p> <ul style="list-style-type: none"> • statusCode=200 • status=OK. <p>-Implementation should be corrects.</p> <p>-Response should have not NULL:</p> <ul style="list-style-type: none"> • id • fieldName • fieldType • extraData • screen. <p>-The complete raw response.</p> |
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NOTE: "Please do not delete any file in the src folder. But you are free to add any other file".

Expectations:

- 1) **Learners should write automation scripts using Java and REST Assured to automate the API testing for all the provided methods (e.g., GET, POST, PUT, DELETE).** In other words, the automation script should perform all mentioned API interactions, including validation of responses.
 - 2) **Learners should not use any pre-built libraries or tools to validate API responses (e.g., JSON schema validation tools).** They should manually validate the response content (e.g., status codes, response body, etc.) by writing their own logic for assertion.
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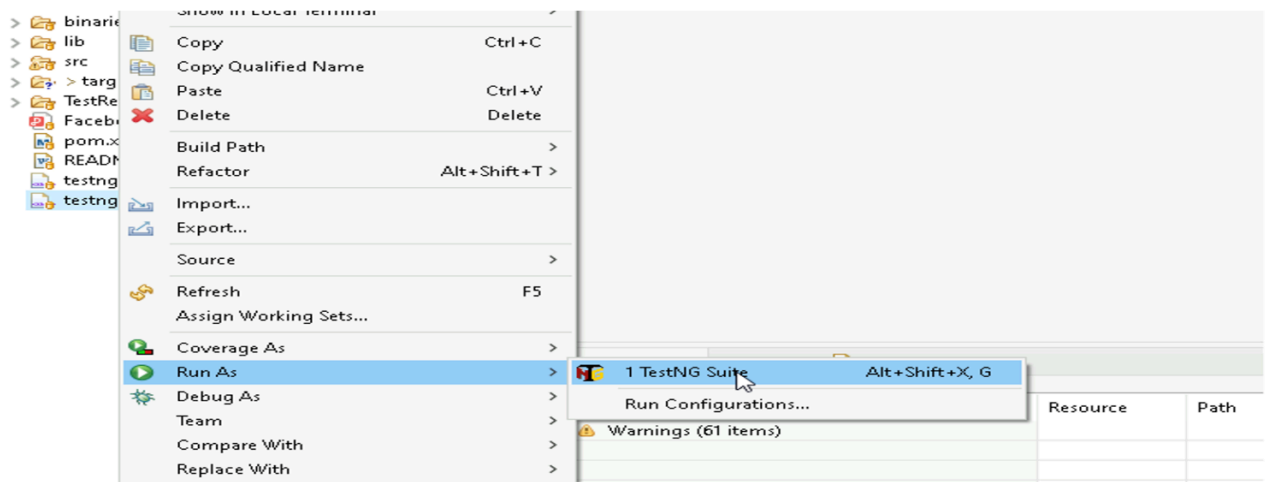
IMPLEMENTATION/FUNCTIONAL REQUIREMENT

1.1 CODE QUALITY/OPTIMIZATIONS

1. Associates should have written clean code that is readable.
2. Associates need to follow SOLID programming principles.

EXECUTION STEPS TO FOLLOW

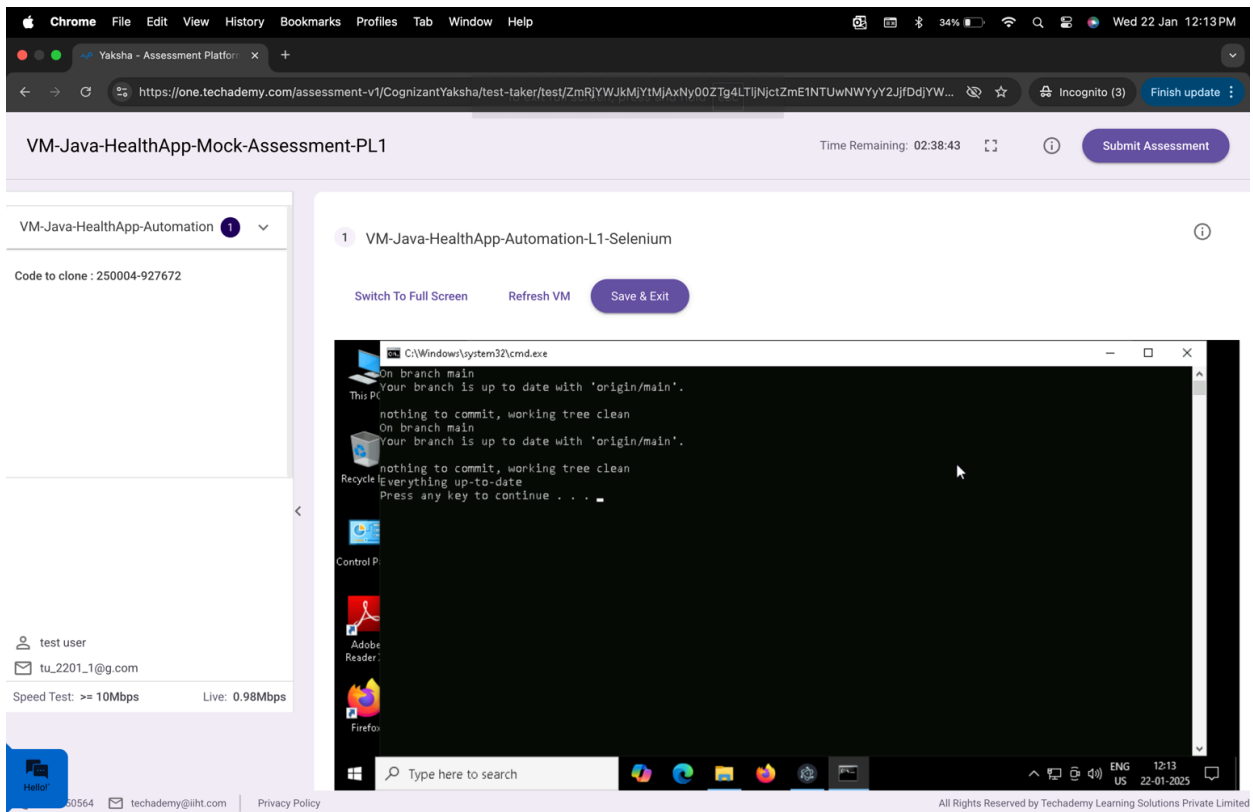
1. **You are mandatory required to run test cases for applications before final submission. Without this project evaluation will not happen.**
2. **You can launch test cases any time as follows: Right-click on testng.xml and run TestNGSuite.**



NOTE:

- When executing test cases via TestNG.xml, it launches the application UI using Selenium WebDriver. This is intentional behavior to facilitate cookie extraction for authentication.

3. To do the final submission of the assessment :
 - a. Press escape to come out of Fullscreen mode.
 - b. Submit the assessment.



After the successful submission of the assessment, you will get a confirmation message displayed on your screen.

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All the Best

Login A
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