

ID	Description	Input	Test Steps	Expected output
TC-1.1	Verify successful GET request to /api-1	GET request to /api-1	Send GET request with JSON headers	HTTP 200 with {"response": "success"}
TC-1.2	Verify POST method is not allowed	POST request to /api-1	Send POST request with JSON headers	HTTP 405 Method Not Allowed
TC-1.3	Verify endpoint works with query parameters	GET request to /api-1 with query params	Send GET request with test=value query parameter	HTTP 200 with {"response": "success"}
TC-2.1	Verify login with lowercase username	{"username": "user", "password": "Password1234"}	Send POST request to /api-2	Success with numeric token
TC-2.2	Verify login with uppercase username	{"username": "USER", "password": "Password0000"}	Send POST request to /api-2	Success with numeric token
TC-2.3	Verify login with mixed case username	{"username": "User", "password": "Password4321"}	Send POST request to /api-2	Success with numeric token
TC-2.4	Verify login fails with wrong password	{"username": "user", "password": "wrongpass"}	Send POST request to /api-2	Unauthorized error
TC-2.5	Verify login fails with missing username	{"password": "Password1234"}	Send POST request to /api-2	Unauthorized error
TC-2.6	Verify login fails with missing password	{"username": "user"}	Send POST request to /api-2	Unauthorized error
TC-2.7	Verify login fails with empty username	{"username": "", "password": "Password1234"}	Send POST request to /api-2	Unauthorized error
TC-2.8	Verify login fails with empty password	{"username": "user", "password": ""}	Send POST request to /api-2	Unauthorized error
TC-2.9	Verify login fails with malformed JSON	Incomplete JSON string	Send malformed JSON to /api-2	HTTP 400 with parsing error
TC-3.1	Verify addition with valid numbers	{"num_a": 1, "num_b": 2} with valid token	Send POST request to /api-3	{"total": 3}
TC-3.2	Verify request fails without token	{"num_a": 1, "num_b": 2} without token	Send POST request to /api-3	HTTP 401 with "Token not valid"
TC-3.3	Verify request fails with invalid token	{"num_a": 1, "num_b": 2} with invalid token	Send POST request to /api-3	HTTP 401 with "Token not valid"
TC-3.4	Verify addition with string numbers	{"num_a": "1", "num_b": 2} with valid token	Send POST request to /api-3	{"total": 3}
TC-3.5	Verify request fails without num_a	{"num_b": 2} with valid token	Send POST request to /api-3	HTTP 404 with "wrong input"

TC-3.6	Verify request fails with null num_a	{"num_a": null, "num_b": 2} with valid token	Send POST request to /api-3	HTTP 501 with type error
TC-3.7	Verify request fails with undefined num_a	{"num_a": undefined, "num_b": 2} with valid token	Send POST request to /api-3	HTTP 404 with "wrong input"
TC-3.8	Verify addition with string number for num_b	{"num_a": 1, "num_b": "2"} with valid token	Send POST request to /api-3	{"total": 3}
TC-3.9	Verify request fails without num_b	{"num_a": 1} with valid token	Send POST request to /api-3	HTTP 404 with "wrong input"
TC-3.10	Verify request fails with null num_b	{"num_a": 1, "num_b": null} with valid token	Send POST request to /api-3	HTTP 501 with type error
TC-3.11	Verify request fails with undefined num_b	{"num_a": 1, "num_b": undefined} with valid token	Send POST request to /api-3	HTTP 404 with "wrong input"
TC-3.12	Verify request fails with empty object	{ } with valid token	Send POST request to /api-3	HTTP 404 with "wrong input"
TC-3.13	Verify request fails with non-numeric values	{"num_a": "abc", "num_b": "def"} with valid token	Send POST request to /api-3	HTTP 501 with parsing error
TC-3.14	Verify request fails with array values	{"num_a": [1], "num_b": [2]} with valid token	Send POST request to /api-3	HTTP 501 with type error
TC-3.15	Verify request fails with object values	{"num_a": {value: 1}, "num_b": {value: 2}} with valid token	Send POST request to /api-3	HTTP 501 with type error
TC-3.16	Verify addition works with extra fields	{"num_a": 1, "num_b": 2, "extra_field": "value"} with valid token	Send POST request to /api-3	{"total": 3}
TC-3.17	Verify request fails with expired token	Token older than 120 sec	Generate token via /api-2 → Wait >120s → Use token on /api-3	HTTP 401 with "Token not valid"
TC-4.0	Verify multiple valid sessions can exist simultaneously	Two login requests followed by arithmetic operations	Get two different tokens, Use both tokens for arithmetic operations	Both operations succeed with correct results
TC-5.0	Verify system handles multiple concurrent login requests	9 concurrent login requests	Send 9 simultaneous login requests	All requests succeed with valid tokens
TC-5.1	Verify system handles concurrent arithmetic operations	10 concurrent arithmetic operations with same token	Send 10 simultaneous arithmetic requests	All operations succeed with correct results

TC-5.2	Verify system handles parallel login and arithmetic operations	5 parallel login and arithmetic operations	Get 5 tokens simultaneously, Use each token for arithmetic operation	All operations succeed with correct results
TC-5.3	Verify system handles concurrent invalid login attempts	10 concurrent invalid login attempts	Send 10 simultaneous invalid login requests	All requests fail with Unauthorized error
TC-5.4	Verify system handles mixed valid and invalid arithmetic requests	5 valid and 5 invalid arithmetic requests	Send 10 mixed arithmetic requests simultaneously	Valid succeed, Invalid fail with proper errors