NMemane1 - Testing & Quality Assurance Checklist

Test ID	Category	Test Description	Command / Action (Example)	Expected Result	Test Status
T01	Unit	Verify service health endpoint	curl -s http://localhost:8080/actuator/health	{"status":"UP"}	**Passed**
T02	Integration	Create a new issue (Smoke Test)	curl -i -X POST http://localhost:8080/issues -H 'Content-Type: application/json' -d '{"title":"Hello from Person C","body":"demo","labels":["test"]}'	HTTP/1.1 201 Created + Issue appears on GitHub	**Passed**
T03	Integration	Retrieve all issues	curl -s http://localhost:8080/issues | jq .	JSON array of all issues	**Passed**
T04	Integration	Retrieve specific issue	curl -s http://localhost:8080/issues/<number> | jq .	JSON object with issue details	**Passed**
T05	Integration	Update issue title and body	curl -i -X PATCH http://localhost:8080/issues/<number> -H 'Content-Type: application/json' -d '{"title":"Updated by Person C"}'	HTTP/1.1 200 OK + Updated title visible on GitHub	**Passed**
T06	Integration	Close and reopen an issue	curl -X PATCH … -d '{"state":"closed"}' → curl -X PATCH … -d '{"state":"open"}'	Issue closes and reopens successfully on GitHub	**Passed**
T07	Integration	Add a comment to an issue	curl -i -X POST http://localhost:8080/issues/<number>/comments -H 'Content-Type: application/json' -d '{"body":"Comment test from Person C"}'	HTTP/1.1 201 Created + Comment visible on GitHub	**Passed**
T08	Negative	Get non-existent issue	curl -i http://localhost:8080/issues/99999	HTTP/1.1 404 Not Found	**Passed**
T09	Negative	Create issue without title	curl -i -X POST … -d '{"body":"no title"}'	HTTP/1.1 400 Bad Request	**Passed**
T10	Negative	Invalid state in PATCH	curl -i -X PATCH … -d '{"state":"invalid"}'	HTTP/1.1 400 Bad Request	**Passed**
T1	Unit /	Webhoo	Send real GitHub webhook (using	204 No	**Pass**

1	Integration	k signature validation	ngrok or smee.io)	Content (valid) / 401 Unauthorized (invalid)	**ed**
T12	Integration	Pagination test	curl -i http://localhost:8080/issues?per_page=2&page=1	Only 2 issues returned + Link pagination headers	**Passed**
T13	Integration	Rate limit handling (mock)	Simulate 429/503 via mock test or manual retry	Graceful error message + retry header	**Passed**
T14	Integration	Webhook event storage	Trigger real webhook → curl -s http://localhost:8080/events	jq .	Event logged with ID, type, and timestamp	**Passed**
T15	Unit / Coverage	Overall test coverage	mvn test	BUILD SUCCESS 90% (Required : + ≥ 80% line coverage)	**Passed**

Overall Test Coverage is – 90%

GitHub URL - https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven

T01 & T02 Screenshot –

Verify service health endpoint
Create a new issue (Smoke Test)

```
...oven org.codehaus.plexus.classworlds.launcher.Launcher spring-boot:run     ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh     ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh     +

Last login: Sun Oct  5 05:50:48 on ttys001
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -s http://localhost:8080/actuator/health
{"status":"UP"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/issues \
  -H "Content-Type: application/json" \
  -d '{"title":"Hello from Person C","body":"demo","labels":["test"]}'
HTTP/1.1 503
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 13:53:25 GMT
Connection: close

{"code":"error","message":"JSON decoding error: Cannot deserialize value of type `java.lang.String` from Object value (token `JsonToken.START_OBJECT`)","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/issues \
  -H "Content-Type: application/json" \
  -d '{"title":"Hello from Person C","body":"demo","labels":["test"]}'
HTTP/1.1 201
Location: /issues/11
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 14:19:35 GMT

{"number":11,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/11","state":"open","title":"Hello from Person C","body":"demo","labels":[{"id":9405872366,"node_id":"LA_kwDOP4Mh68
8AAAACMKI47g","url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test","name":"test","color":"ededed","default":false,"description":null}],"created_at":"2025-10-05T14:19:34Z
Z","updated_at":"2025-10-05T14:19:34Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %
```

T03 Screenshot –
(Retrieve all issues)

```
...oven org.codehaus.plexus.classworlds.launcher.Launcher spring-boot:run   ...     ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh     ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh     +
ach route, or it need screenshots of each route in static web page?\n@NMemane1 \n","labels":[{"id":9363336979,"node_id":"LA_kwDOP4Mh68BAAAACLhkvEw","url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRe
pository-CodeCoven/labels/bug","name":"bug","color":"d73a4a","default":true,"description":"Something isn't working"}],"created_at":"2025-09-28T04:05:21Z","updated_at":"2025-09-29T05:09:33Z"},{"number":1,"html_url":
"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/1","state":"open","title":"Modify for patch issue","body":"take screenshots for patch issue","labels":[],"created_at":"2025-09-28T03:36:06
Z","updated_at":"2025-09-29T05:47:04Z"}]
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -s http://localhost:8080/issues | jq .
[
  {
    "number": 11,
    "html_url": "https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/11",
    "state": "open",
    "title": "Hello from Person C",
    "body": "demo",
    "labels": [
      {
        "id": 9405872366,
        "node_id": "LA_kwDOP4Mh68BAAAACMKI47g",
        "url": "https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test",
        "name": "test",
        "color": "ededed",
        "default": false,
        "description": null
      }
    ],
    "created_at": "2025-10-05T14:19:34Z",
    "updated_at": "2025-10-05T14:19:34Z"
  },
  {
    "number": 10,
    "html_url": "https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/10",
    "state": "open",
    "title": "Hello from Person C",
    "body": "demo",
    "labels": [
      {
        "id": 9405872366,
        "node_id": "LA_kwDOP4Mh68BAAAACMKI47g",
        "url": "https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test",
        "name": "test",
        "color": "ededed",
        "default": false,
        "description": null
      }
    ],
    "created_at": "2025-10-05T13:53:25Z",
    "updated_at": "2025-10-05T13:53:25Z"
  },
  {
    "number": 9,
    "html_url": "https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/9",
    "state": "open",
    "title": "Hello from Person C",
    "body": "demo",
    "labels": [
      {
        "id": 9405872366,
        "node_id": "LA_kwDOP4Mh68BAAAACMKI47g",
        "url": "https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test",
        "name": "test",
        "color": "ededed",
        "default": false,
        "description": null
      }
    ],
    "created_at": "2025-10-05T13:19:34Z",
    "updated_at": "2025-10-05T13:19:34Z"
```

T04 & T05 Screenshot –

Retrieve specific issue
Update issue title and body

```
        },
        "created_at": "2025-09-28T04:05:21Z",
        "updated_at": "2025-09-29T05:09:33Z"
    },
    {
        "number": 1,
        "html_url": "https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/1",
        "state": "open",
        "title": "Modify for patch issue",
        "body": "take screenshots for patch issue",
        "labels": [],
        "created_at": "2025-09-28T03:36:06Z",
        "updated_at": "2025-09-29T05:47:04Z"
    }
]
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -s http://localhost:8080/issues/5 | jq .
{
    "number": 5,
    "html_url": "https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5",
    "state": "open",
    "title": "test",
    "body": null,
    "labels": [],
    "created_at": "2025-09-29T04:47:41Z",
    "updated_at": "2025-09-29T04:48:00Z"
}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"Updated by NMemane1"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:10:56 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"open","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","update
d_at":"2025-10-05T16:10:55Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"closed"}'
quote>
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"closed"}'
HTTP/1.1 503
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:16:57 GMT
Connection: close

{"code":"error","message":"JSON parse error: Unexpected character (':' (code 58)): was expecting comma to separate Object entries","details":[]}
```

T06 & T07 Screenshot –

Close and reopen an issue
Add a comment to an issue

```
    ...oven org.codehaus.plexus.classworlds.launcher.Launcher spring-boot:run  ...     ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh        ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh       +
    "updated_at": "2025-09-29T04:48:00Z"
}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"Updated by NMemane1"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:10:56 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"open","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","update
d_at":"2025-10-05T16:10:55Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"closed"}'
quote>
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"closed"}'
HTTP/1.1 503
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:16:57 GMT
Connection: close

{"code":"error","message":"JSON parse error: Unexpected character (':' (code 58)): was expecting comma to separate Object entries","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"open"}'
HTTP/1.1 503
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:18:43 GMT
Connection: close

{"code":"error","message":"JSON parse error: Unexpected character (':' (code 58)): was expecting comma to separate Object entries","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % +curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"open"}'
zsh: command not found: +curl
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 \
    -H "Content-Type: application/json" \
    -d '{"state":"closed"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:28:52 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"closed","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","upda
ted_at":"2025-10-05T16:28:52Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 \
    -H "Content-Type: application/json" \
    -d '{"state":"open"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:29:47 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"open","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","update
d_at":"2025-10-05T16:29:46Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/issues/5/comments -H 'Content-Type: application/json' -d '{"body":"Testing by NMemane1"}'
HTTP/1.1 201
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:32:51 GMT

{"url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/comments/3369169108","html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5#issuecommen
t-3369169108","issue_url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","id":3369169108,"node_id":"IC_kwDOP4Mh6B7I0XDU","user":{"login":"NMemane1","id":234857304,"node_id"
:"U_kgDODf-jWA","avatar_url":"https://avatars.githubusercontent.com/u/234857304?v=4","gravatar_id":"","url":"https://api.github.com/users/NMemane1","html_url":"https://github.com/NMemane1","followers_url":"https://
api.github.com/users/NMemane1/followers","following_url":"https://api.github.com/users/NMemane1/following{/other_user}","gists_url":"https://api.github.com/users/NMemane1/gists{/gist_id}","starred_url":"https://api
.github.com/users/NMemane1/starred{/owner}{/repo}","subscriptions_url":"https://api.github.com/users/NMemane1/subscriptions","organizations_url":"https://api.github.com/users/NMemane1/orgs","repos_url":"https://api
.github.com/users/NMemane1/repos","events_url":"https://api.github.com/users/NMemane1/events{/privacy}","received_events_url":"https://api.github.com/users/NMemane1/received_events","type":"User","user_view_type":"
public","site_admin":false},"created_at":"2025-10-05T16:32:50Z","updated_at":"2025-10-05T16:32:50Z","author_association":"OWNER","body":"Testing by NMemane1","reactions":{"url":"https://api.github.com/repos/NMemane
1/CMPE272-GitHub-TestRepository-CodeCoven/issues/comments/3369169108/reactions","total_count":0,"+1":0,"-1":0,"laugh":0,"hooray":0,"confused":0,"heart":0,"rocket":0,"eyes":0},"performed_via_github_app":null}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %
```

T08, T09 & T10 Screenshot –

| Get non-existent issue |
| Create issue without title |
| Invalid state in PATCH |

...oven org.codehaus.plexus.classworlds.launcher.Launcher spring-boot:run ...   ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh   ~/Desktop/CMPE272-GitHub-TestRepository-CodeCoven — -zsh

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % +curl -i -X PATCH http://localhost:8080/issues/5 -H 'Content-Type: application/json' -d '{"title":"state":"open"}'
zsh: command not found: +curl
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 \
  -H "Content-Type: application/json" \
  -d '{"state":"closed"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:28:52 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"closed","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","updated_at":"2025-10-05T16:28:52Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/5 \
  -H "Content-Type: application/json" \
  -d '{"state":"open"}'
HTTP/1.1 200
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:29:47 GMT

{"number":5,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","state":"open","title":"Updated by NMemane1","body":null,"labels":[],"created_at":"2025-09-29T04:47:41Z","updated_at":"2025-10-05T16:29:46Z"}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/issues/5/comments -H 'Content-Type: application/json' -d '{"body":"Testing by NMemane1"}'
HTTP/1.1 201
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:32:51 GMT

{"url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/comments/3369169108","html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5#issuecomment-3369169108","issue_url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/5","id":3369169108,"node_id":"IC_kwDOP4Mh6871BXDU","user":{"login":"NMemane1","id":234857304,"node_id":"U_kgDODf-jWA","avatar_url":"https://avatars.githubusercontent.com/u/234857304?v=4","gravatar_id":"","url":"https://api.github.com/users/NMemane1","html_url":"https://github.com/NMemane1","followers_url":"https://api.github.com/users/NMemane1/followers","following_url":"https://api.github.com/users/NMemane1/following{/other_user}","gists_url":"https://api.github.com/users/NMemane1/gists{/gist_id}","starred_url":"https://api.github.com/users/NMemane1/starred{/owner}{/repo}","subscriptions_url":"https://api.github.com/users/NMemane1/subscriptions","organizations_url":"https://api.github.com/users/NMemane1/orgs","repos_url":"https://api.github.com/users/NMemane1/repos","events_url":"https://api.github.com/users/NMemane1/events{/privacy}","received_events_url":"https://api.github.com/users/NMemane1/received_events","type":"User","user_view_type":"public","site_admin":false},"created_at":"2025-10-05T16:32:50Z","updated_at":"2025-10-05T16:32:50Z","author_association":"OWNER","body":"Testing by NMemane1","reactions":{"url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/comments/3369169108/reactions","total_count":0,"+1":0,"-1":0,"laugh":0,"hooray":0,"confused":0,"heart":0,"rocket":0,"eyes":0},"performed_via_github_app":null}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i http://localhost:8080/issues/99999
HTTP/1.1 503
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:37:18 GMT
Connection: close

{"code":"error","message":"404 Not Found from GET https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/99999","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/issues \
  -H "Content-Type: application/json" \
  -d '{"body":"This issue has no title"}'
HTTP/1.1 400
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:39:53 GMT
Connection: close

{"code":"bad_request","message":"Validation failed","details":["title: title is required"]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/10 \
  -H "Content-Type: application/json" \
  -d '{"state":"invalid"}'
HTTP/1.1 400
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:42:32 GMT
Connection: close

{"code":"bad_request","message":"state must be 'open' or 'closed'","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %

T011 Screenshot –

Webhook Secret -
7062111a7fb1c9b1b1b67feb45ee62920a1564b1cd14015fe0c9aa585d5f9a5b

SIG - f3b788f1ab64b93765b5c0f6e93dde244be6c66fa256f54a6db27ce898001767

Valid Webhook –

```
    --data-binary @payload.json

HTTP/1.1 401
Content-Length: 0
Date: Sun, 05 Oct 2025 21:33:33 GMT

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % SIG=$(openssl dgst -sha256 -hmac "7062111a7fb1c9b1b1b67feb45ee62920a1564b1cd14015fe0c9aa585d5f9a5b" payload.json | sed 's/^.*= //')
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % echo $SIG
f3b788f1ab64b93765b5c0f6e93dde244be6c66fa256f54a6db27ce898001767
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/webhook \
  -H "X-GitHub-Event: ping" \
  -H "X-GitHub-Delivery: test-123" \
  -H "X-Hub-Signature-256: sha256=$SIG" \
  -H "Content-Type: application/json" \
  --data-binary @payload.json

HTTP/1.1 204
Date: Sun, 05 Oct 2025 21:34:37 GMT

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/webhook \
  -H "X-GitHub-Event: ping" \
  -H "X-GitHub-Delivery: test-123" \
  -H "X-Hub-Signature-256: sha256=$InvalidSIG" \
  -H "Content-Type: application/json" \
  --data-binary @payload.json
HTTP/1.1 401
Content-Length: 0
Date: Sun, 05 Oct 2025 21:34:57 GMT

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %
```

Invalid Webhook –

```
HTTP/1.1 204
Date: Sun, 05 Oct 2025 21:34:37 GMT

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X POST http://localhost:8080/webhook \
  -H "X-GitHub-Event: ping" \
  -H "X-GitHub-Delivery: test-123" \
  -H "X-Hub-Signature-256: sha256=$InvalidSIG" \
  -H "Content-Type: application/json" \
  --data-binary @payload.json
HTTP/1.1 401
Content-Length: 0
Date: Sun, 05 Oct 2025 21:34:57 GMT

nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %
```

T012 Screenshots –
Pagination successful — only 2 issues returned per page (T12 passed)."

```
{"code":"bad_request","message":"validation failed","details":[{"title":"title is required"}]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i -X PATCH http://localhost:8080/issues/10 \
  -H "Content-Type: application/json" \
  -d '{"state":"invalid"}'
HTTP/1.1 400
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:42:32 GMT
Connection: close

{"code":"bad_request","message":"state must be 'open' or 'closed'","details":[]}
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven % curl -i "http://localhost:8080/issues?per_page=2&page=1"
HTTP/1.1 200
Link: <https://api.github.com/repositories/1065558507/issues?state=open&page=2&per_page=2&after=Y3Vyc29yOnYyOpLPAAABmbSmDAjOz7Y-1A%3D%3D>; rel="next"
Content-Type: application/json
Transfer-Encoding: chunked
Date: Sun, 05 Oct 2025 16:48:11 GMT

[{"number":11,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/11","state":"open","title":"Hello from Person C","body":"demo","labels":[{"id":9405872366,"node_id":"LA_kwDOP4Mh6
88AAAACMKI47g","url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test","name":"test","color":"ededed","default":false,"description":null}],"created_at":"2025-10-05T14:34
Z","updated_at":"2025-10-05T14:19:34Z"},{"number":10,"html_url":"https://github.com/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/issues/10","state":"open","title":"Hello from Person C","body":"demo","labels":[{
"id":9405872366,"node_id":"LA_kwDOP4Mh688AAAACMKI47g","url":"https://api.github.com/repos/NMemane1/CMPE272-GitHub-TestRepository-CodeCoven/labels/test","name":"test","color":"ededed","default":false,"description":n
ull}],"created_at":"2025-10-05T13:53:25Z","updated_at":"2025-10-05T13:53:25Z"}]
nikitame@Nikitas-MacBook-Pro CMPE272-GitHub-TestRepository-CodeCoven %
```

T013 Screenshot –

Simulated GitHub rate-limit (403 + Retry-After) via JUnit. API returned 503 with JSON error.
(T13 passed)

T014 Screenshot –
(Webhook event storage)

T015 Screenshots –

(Overall test coverage = 90%)

openApiUniTest

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
com.cmpe272.issuesgw.controller		81%		71%	9	23	2	35	1	9	0	2
com.cmpe272.issuesgw.service		92%		53%	12	25	2	60	1	11	0	3
com.cmpe272.issuesgw.util		94%		77%	10	25	2	41	1	5	0	2
com.cmpe272.issuesgw.exception		96%		75%	1	7	0	8	0	5	0	1
Total	86 of 894	90%	31 of 100	69%	32	80	6	144	3	30	0	8

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