

Testing Document Evotekaro

Types of testing used:

Data Flow testing

Black box testing:

API Testing

Methods used to streamline number of test cases:

Boundary condition testing

Software used:

FastAPI documentation (Swagger UI)

API access for type of user:

Normal Users

Able to access:

- Home/ get/
- Authentication/login
- Election/election (all)
- Election/election (id) (view)
- Vote/ votes (create)
- Vote/ votes {id} (result)
- Candidates/ candidates (show candidates)
- Candidates/ candidates (id) (get candidates)

Are not able to access:

- Users/user(show user)
- Users/user(create user)
- Users/user{id} (get user)
- Users/user{id} (update)
- User/user{id} (Destroy)
- Election/election (create)
- Election/election {id} (update)
- Election/election {id} (destroy)
- Candidates/ candidates (create candidates)
- Candidates/ candidates {id} (update)

• Candidates/ candidates (id) (destroy)

Admin Users

Able to access:

- Home/ get/
- Authentication/login
- Users/user(show user)
- Users/user(create user)
- Users/user{id} (get user)
- Users/user{id} (update)
- User/user{id} (Destroy)
- Election/election (all)
- Election/election (create)
- Election/election (id) (view)
- Election/election (id) (update)
- Election/election {id} (destroy)
- Vote/ votes (create)
- Vote/ votes {id} (result)
- Candidates/ candidates (show candidates)
- Candidates/ candidates (create candidates)
- Candidates/ candidates (id) (get candidates)
- Candidates/ candidates {id} (update)
- Candidates/ candidates {id} (destroy)

API Responses:

APIs which does not accept any parameters:

- Home/ get/
- Users/user(show user)
- Election/election (all)
- Candidates/ candidates (show candidates)

APIs which accepts specific parameters:

- Authentication/login
- Users/user(create user)
- Users/user{id} (get user)
- Users/user{id} (update)
- User/user{id} (Destroy)
- Election/election (create)
- Election/election (id) (view)
- Election/election {id} (update)

- Election/election (id) (destroy)
- Vote/ votes (create)
- Vote/ votes {id} (result)
- Candidates/ candidates (create candidates)
- Candidates/ candidates (id) (get candidates)
- Candidates/ candidates {id} (update)
- Candidates/ candidates {id} (destroy)

Various response codes:

(200, 201, 202) Successful Response

(400)Error: Bad Request (403)Error: Forbidden

(404)Error: Not Found

(406)Error: Not Acceptable

(422) Unprocessable Entity - This only happens when the request body is not in the correct format.

Testing Results:

Authentication

Authentication/login:- (404) Error: Not Found {Invalid Credentials, Incorrect password}

Users

Users/user (create user):- (422) Unprocessable Entity

Users/user{id} (get user):- (404) Error: Not found{User with id not found}

User/user{id} (Destroy):- (406) Not Acceptable{**Keep the admin user in your app**}; (404) Error Not Found {**User with id not found**}

Election

Election/election {id} (view):- (404)Error: Not Found{Election with the id is not available}

Election/election {id} (Destroy):- (200)Successful Response{**Deleted**}; (404) Error Not Found {**Election** with id not found}

Votes

Vote/ votes (create):- (404)Error: Not Found {Candidate not found, User not found}; (400) Error: Bad Request {User has already voted for this election}

Vote/ votes {id} (result):- (404) Error Not Found {**Election with id not found**}; (403) Error: Forbidden (**Election results are not available yet**}

Candidates

Candidates/ candidates {id} (get candidates):- (404)Error: Not Found{Candidate with the id is not available}

Candidates/ candidates {id} (destroy):- (404) Error Not Found {Candidate with id not found}

APIs which are being patched:

Users/user{id} (update) [(202) Successful Response]

Election/election (create) [(201)Successful Response;(422) Unprocessable Entity;]

Election/election {id} (update) [(202)Successful Response {Updated}; (422) Unprocessable Entity]

Candidates/ candidates (create candidates) [(200)Successful Response; (422) Unprocessable Entity]



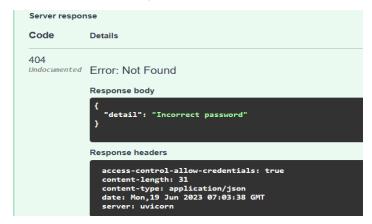
This is an example of a successful response given by the parameter-less API, Home/get/



Trying to access APIs without logging in.



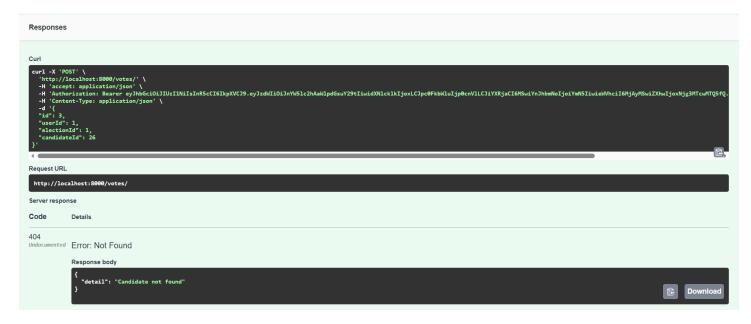
This is the response given by the API, Authentication/login when invalid username is given.



Same API, but different response for an incorrect password.

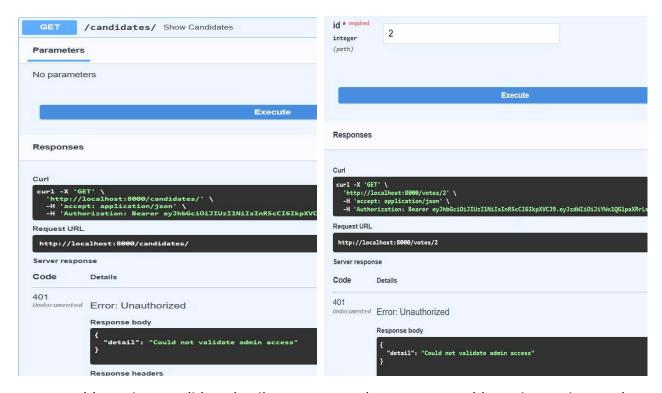


Successfully getting the candidate details from Candidates/ candidates (id) Get Candidates API.



Trying to vote for a candidate who isn't present.

Findings which have been patched:



The user was unable to view candidate details.

The user was unable to view voting results.