

Install soapUI from <https://www.soapui.org/downloads/soapui/>

Install python dependencies

```
`pip install -r requirements.txt`
```

Run the flask server

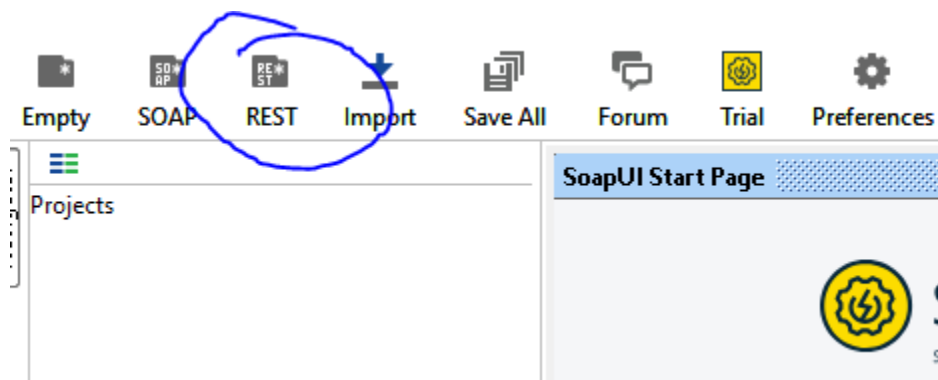
```
`python3 api_service/app.py`
```

Generate jwt's using the pyJWT library

```
`python jwt_generator/jwt_utils.py`
```

These tokens will be written a text file called 'jwt\_tokens.txt' and be valid for an hour

When you open soapUI click rest



Then go ahead and enter our protected endpoint being served by our local app server.

 New REST Project ✕

### New REST Project

Creates a new REST Project in this workspace



URI:

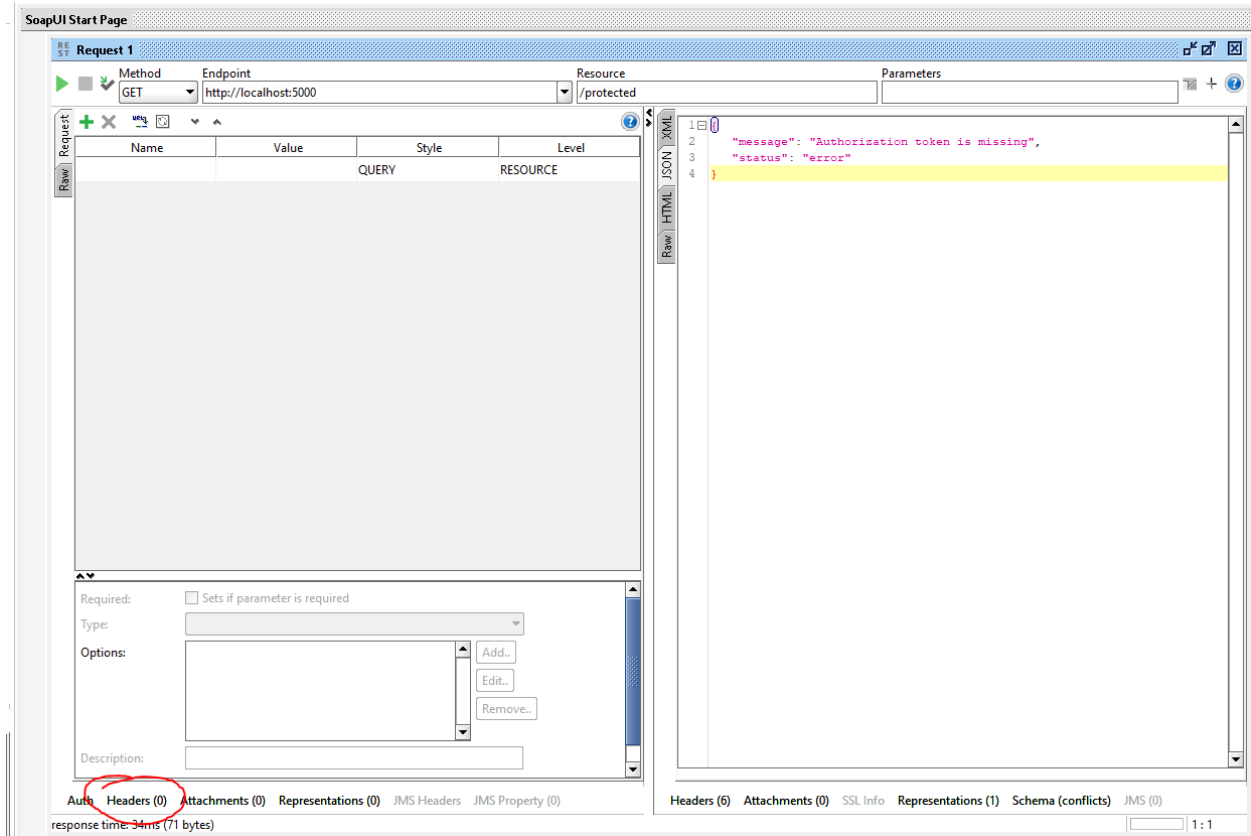


OK

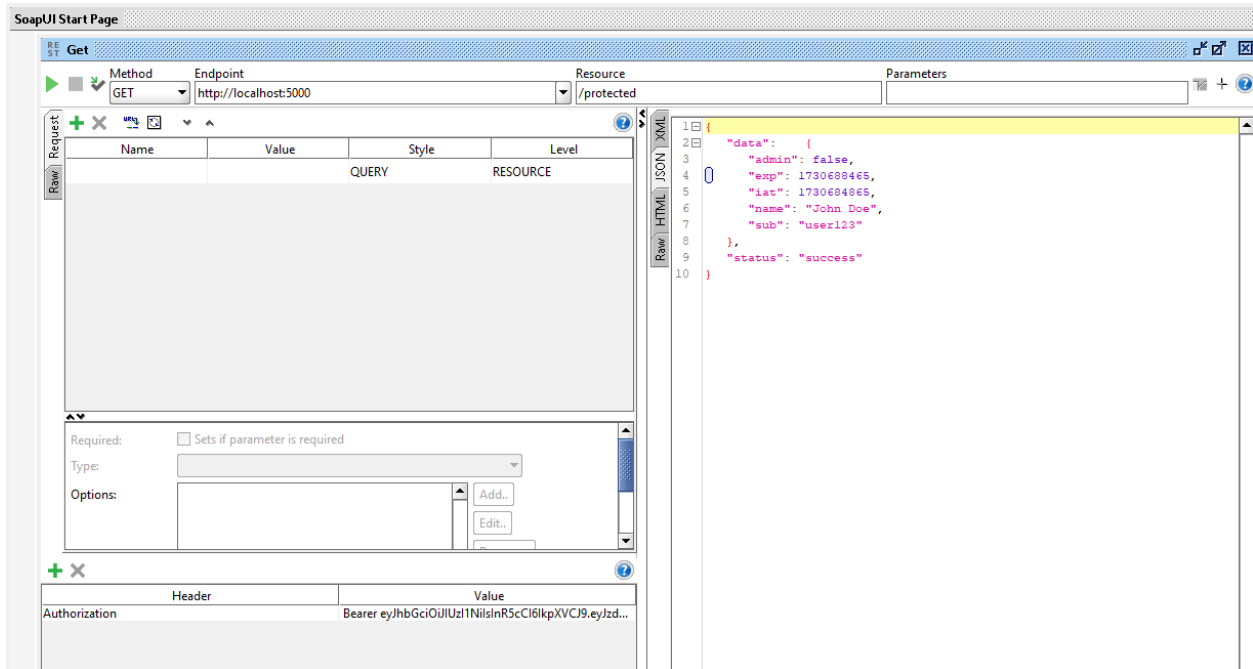
Cancel

Import WADL...

For testing's sake, if you try to run a get request on this endpoint without adding a header you will get an “authorization token missing error.”



If you add the authorization token, and send another get request we can see that pyJWTs created token was successfully authorized.



Steps: Ensure that no whitespace is in the header or values or you will get an incorrect token value.

If you are having trouble with this, take a look at this curl request

```
curl -H "Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiJ1c2VyMTIzIiwibmFtZSI6IkpvaG4gRG9lIiwiaWF0Ij0iOmZhbHNILCJpYXQiOiE3MzAzODQ4NjUsImV4cCI6MTczMDY4ODQ2NX0.nBXE6Wyzn-NXUmHaYZaLajEtfLA1IG5tdpPrPWVnPGE" http://127.0.0.1:5000/protected
```

Everything highlighted in green is what is set in our value parameter, including all white space.

Next steps:

- Security Testing: Leverage SoapUI to conduct thorough security assessments, including testing for common vulnerabilities outlined by the OWASP Top 10, such as SQL injection, XSS, and improper authentication handling.
- Functional Testing: Validate that all API endpoints perform expected functions under various conditions and handle errors gracefully.
- Load and Performance Testing: Analyze how the application performs under stress, using an attempt to check if SoapUI can simulate high traffic and data load for a local server

- Mocking and Service Virtualization: Implement mocks for external services to test the API in isolation, ensuring functionality is preserved even when external dependencies are not available.