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Politechnika Wrocławska

Wydział elektroniki

Kierunek: Cyberbezpieczeństwo

Ochrona Centrów Danych

Raport 2

Aneta Prządka 227164

Wykonano następujące punkty:

- Stworzono testowy program w języku c++ wywołujący Hello World.

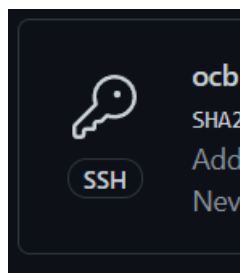


Rysunek 1. Hello World.

```
#include <stdio.h>

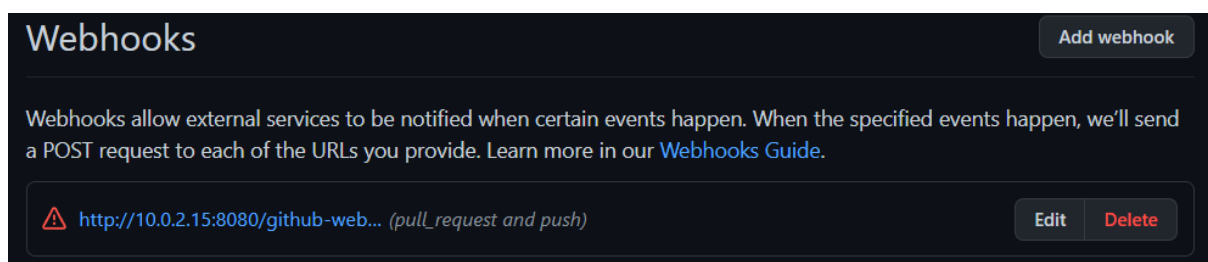
int main()
{
    printf("hello world");
    return 0;
}
```

- Dodano klucz prywatny do githuba:



Rysunek 2. Klucz na githubie.

- Skonfigurowano githuba pod Jenkinsa:



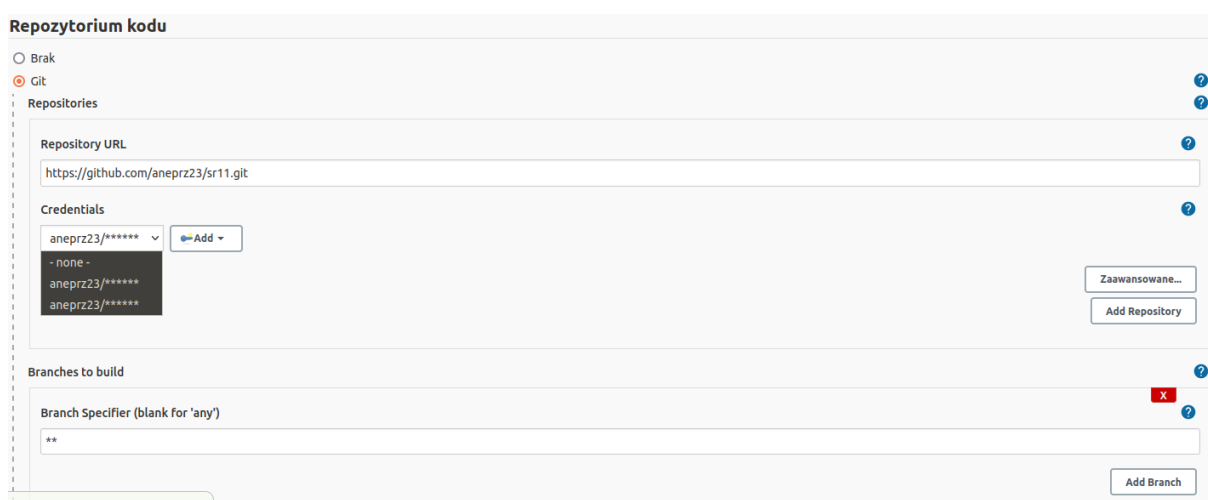
Rysunek 3. Dokumentacja części Webhooks na githubie.

- Skonfigurowano Jenkinsa:

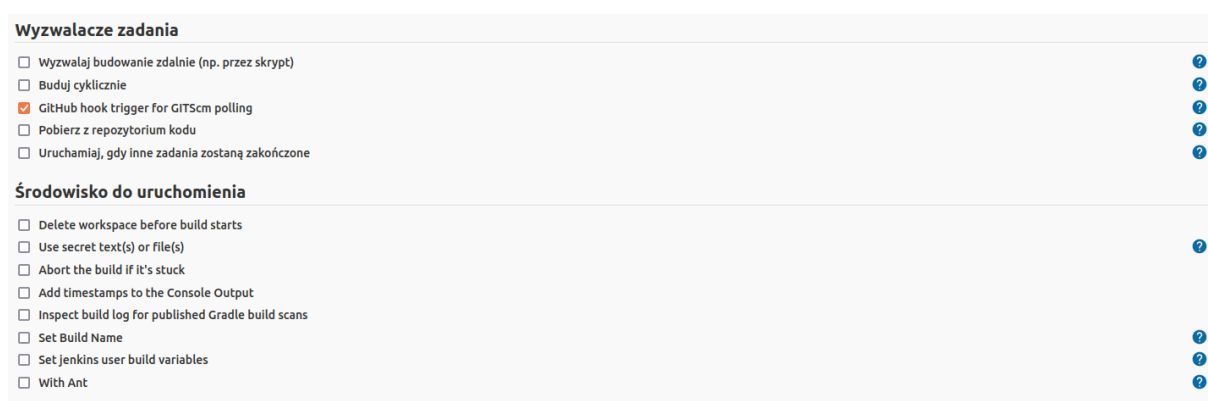


Rysunek 4. Konfiguracja Jenkinsa.

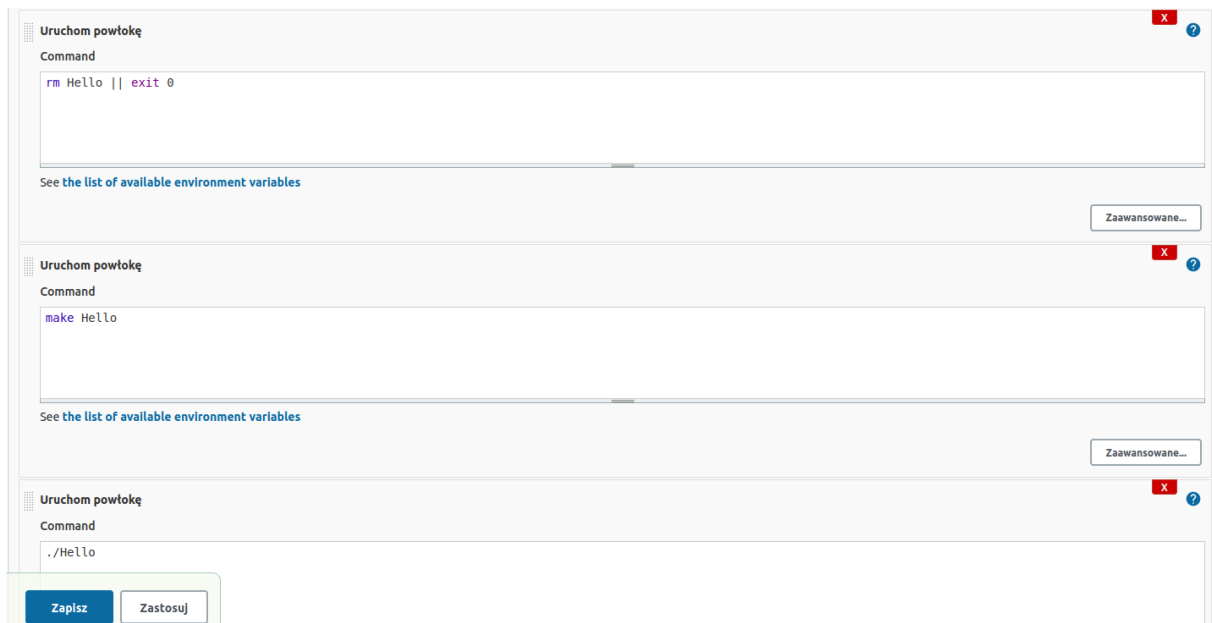
- Skonfigurowano projekt w Jenkinsie:



Rysunek 5. Konfiguracja projektu w Jenkinsie.



Rysunek 6. Dalsza konfiguracja.



Rysunek 7. Część "budowania" projektu.

- Dodanie credential'i do projektu, zarówno tokena, jak i hasła do githuba

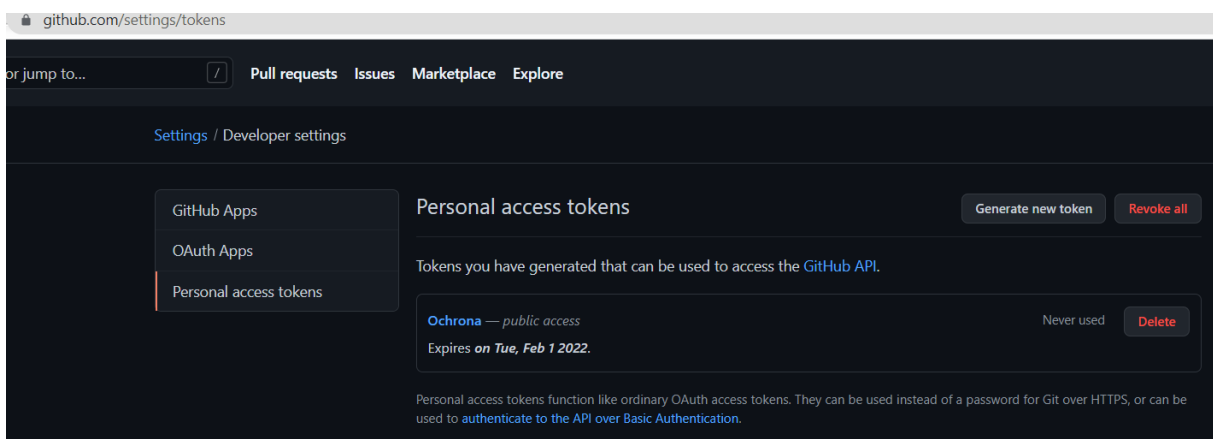
Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

	ID	Name	Kind	Description	
	2	anepr23/*****	Username with password		
	GITTOKEN	GITTOKEN	Secret text		
	USERTOKEN	anepr23/*****	Username with password		

Rysunek 8. Poświadczenia w projekcie.

- Stworzenie tokenu w githubie oraz edycja jego specyfikacji w Jenkinsie:



Rysunek 9. Tworzenie tokenu w githubie.

Edit personal access token

If you've lost or forgotten this token, you can regenerate it, but be aware that any scripts or applications using this token will need to be updated.

Regenerate token

Note

ochrona

What's this token for?

Expiration

This token expires on *Tue, Feb 1 2022*. To set a new expiration date, you must [regenerate the token](#).

Select scopes

Scopes define the access for personal tokens. [Read more about OAuth scopes](#).

<input checked="" type="checkbox"/> repo	Full control of private repositories
<input checked="" type="checkbox"/> repo:status	Access commit status
<input checked="" type="checkbox"/> repo_deployment	Access deployment status
<input checked="" type="checkbox"/> public_repo	Access public repositories
<input checked="" type="checkbox"/> repo:invite	Access repository invitations
<input checked="" type="checkbox"/> security_events	Read and write security events

Rysunek 10. Specyfikacja tokenu w Jenkinsie.

Należy pamiętać tworząc Token, aby zapisać sobie go od razu w notatniku, ponieważ jest on pokazywany tylko raz.

- Aby token odpowiednio działał należy skonfigurować testowy plik Releases w projekcie githuba <https://github.com/aneprz23/sr11/releases/new>

This is a draft and won't be seen by the public unless it's published. Discard draft

Choose a tag Target: main

Choose an existing tag, or create a new tag on publish

Test

Write Preview

H B I ≡ <> 🔗 ☰ ☷ ☑ @ 🔗 ↶ + Auto-generate release notes

test

Attach files by dragging & dropping, selecting or pasting them. 📎

examples.desktop (8.77 KB) ×

↓ Attach binaries by dropping them here or selecting them.

☐ **This is a pre-release**
We'll point out that this release is identified as non-production ready.

Publish release Save draft

Rysunek 11. Konfiguracja pliku release w githubie.

- „Instalacja” Tokena w systemie Ubuntu:

```
aneta@aneta-VirtualBox:/home$ sudo systemctl restart jenkins
[sudo] hasło użytkownika aneta:
aneta@aneta-VirtualBox:/home$ mkdir token
mkdir: nie można utworzyć katalogu „token”: Brak dostępu
aneta@aneta-VirtualBox:/home$ sudo mkdir token
[sudo] hasło użytkownika aneta:
aneta@aneta-VirtualBox:/home$ cd ..
aneta@aneta-VirtualBox:/$ cd ~
aneta@aneta-VirtualBox:~$ pwd
/home/aneta
aneta@aneta-VirtualBox:~$ mkdir token
aneta@aneta-VirtualBox:~$ cd token
```

Rysunek 12. Zapisanie tokena w Jenkinsie wykonane poprzez terminal Ubuntu.

```
aneta@aneta-VirtualBox:~/token$ rm -rf sr11/
aneta@aneta-VirtualBox:~/token$ ls
```

Rysunek 13. Kolejne komendy. Usunięcie pliku w katalogu + brak pytań, czy na pewno kasować.

```

aneta@aneta-VirtualBox:~/token$ git clone https://github.com/aneprz23/sr11
Cloning into 'sr11'...
Username for 'https://github.com': aneprz23
Password for 'https://aneprz23@github.com':
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (15/15), done.
remote: Total 19 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (19/19), done.
aneta@aneta-VirtualBox:~/token$ pwd
/home/aneta/token
aneta@aneta-VirtualBox:~/token$ export GT=ghp_yZRipIhAygZPE2K0wFWK44ZsuPRmvS1LkxBc

```

Rysunek 14. „Sklonowanie” tokena do repozytorium.

```

aneta@aneta-VirtualBox:~/token$ curl -v -H "Authorization: token $GT" https://api.github.com/repos/aneprz23/sr11/releases
* Trying 140.82.121.6...
* TCP_NODELAY set
* Connected to api.github.com (140.82.121.6) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
*   CAfile: /etc/ssl/certs/ca-certificates.crt
*   CAPath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS Unknown, Certificate Status (22):
* TLSv1.3 (IN), TLS handshake, Unknown (8):
* TLSv1.3 (IN), TLS Unknown, Certificate Status (22):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS Unknown, Certificate Status (22):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS Unknown, Certificate Status (22):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Client hello (1):
* TLSv1.3 (OUT), TLS Unknown, Certificate Status (22):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_128_GCM_SHA256
* ALPN, server accepted to use h2
* Server certificate:
*   subject: C=US; ST=California; L=San Francisco; O=GitHub, Inc.; CN=*.github.com
*   start date: Mar 25 00:00:00 2021 GMT
*   expire date: Mar 30 23:59:59 2022 GMT
*   subjectAltName: host "api.github.com" matched cert's "*.github.com"
*   issuer: C=US; O=DigiCert, Inc.; CN=DigiCert High Assurance TLS Hybrid ECC SHA256 2020 CA1
*   SSL certificate verify ok.
* Using HTTP2, server supports multi-use
* Connection state changed (HTTP/2 confirmed)
* Copying HTTP/2 data in stream buffer to connection buffer after upgrade: len=0
* TLSv1.3 (OUT), TLS Unknown, Unknown (23):
* TLSv1.3 (OUT), TLS Unknown, Unknown (23):
* TLSv1.3 (OUT), TLS Unknown, Unknown (23):
* Using Stream ID: 1 (easy handle 0x5621bfb90600)
* TLSv1.3 (OUT), TLS Unknown, Unknown (23):
> GET /repos/aneprz23/sr11/releases HTTP/2
> Host: api.github.com
> User-Agent: curl/7.58.0
> Accept: */*
> Authorization: token ghp_yZRipIhAygZPE2K0wFWK44ZsuPRmvS1LkxBc
>

```

Rysunek 15. Użycie komendy curl pozwala przenieść dane.

-v pomaga dostrzec problemy w poprawności działania, zwraca oczekiwany nagłówek żądania i odpowiedzi

-H to opcja wiersza poleceń curl, która pobiera pojedynczy parametr z dodatkowego nagłówka do uwzględnienia w żądaniu

```

aneta@aneta-VirtualBox:~/token$ curl -H "Authorization: token $GT" https://api.github.com/repos/aneprz23/sr11/releases
[
{
  "url": "https://api.github.com/repos/aneprz23/sr11/releases/52575916",
  "assets_url": "https://api.github.com/repos/aneprz23/sr11/releases/52575916/assets",
  "upload_url": "https://uploads.github.com/repos/aneprz23/sr11/releases/52575916/assets{?name,label}",
  "html_url": "https://github.com/aneprz23/sr11/releases/tag/Test",
  "id": 52575916,
  "author": {
    "login": "aneprz23",
    "id": 93077887,
    "node_id": "U_kgD0BYxBfw",
    "avatar_url": "https://avatars.githubusercontent.com/u/93077887?v=4",
    "gravatar_id": "",
    "url": "https://api.github.com/users/aneprz23",
    "html_url": "https://github.com/aneprz23",
    "followers_url": "https://api.github.com/users/aneprz23/followers",
    "following_url": "https://api.github.com/users/aneprz23/following{/other_user}",
    "gists_url": "https://api.github.com/users/aneprz23/gists{/gist_id}",
    "starred_url": "https://api.github.com/users/aneprz23/starred{/owner}{/repo}",
    "subscriptions_url": "https://api.github.com/users/aneprz23/subscriptions",
    "organizations_url": "https://api.github.com/users/aneprz23/orgs",
    "repos_url": "https://api.github.com/users/aneprz23/repos",
    "events_url": "https://api.github.com/users/aneprz23/events{/privacy}",
    "received_events_url": "https://api.github.com/users/aneprz23/received_events",
    "type": "User",
    "site_admin": false
  },
  "node_id": "RE_kwDOGSKS_M4DIj6s",
  "tag_name": "Test",
  "target_commitish": "main",
  "name": "Test",
  "draft": false,
  "prerelease": false,
  "created_at": "2021-11-02T17:22:16Z",
  "published_at": "2021-11-03T08:36:08Z",
  "assets": [
    {
      "url": "https://api.github.com/repos/aneprz23/sr11/releases/assets/48508038",
      "id": 48508038,
      "node_id": "RA_kwDOGSKS_M4C5CyG",
      "name": "examples.desktop",
      "label": null,
      "uploader": {
        "login": "aneprz23",
        "id": 93077887,

```

Rysunek 16. Dalsza część efektu powyższego polecenia w curl.

```

aneta@aneta-VirtualBox:~/token$ curl -H "Authorization: token $GT" https://api.github.com/repos/aneprz23/sr11/releases/assets/48508038
{
  "url": "https://api.github.com/repos/aneprz23/sr11/releases/assets/48508038",
  "id": 48508038,
  "node_id": "RA_kwDOGSKS_M4C5CyG",
  "name": "examples.desktop",
  "label": null,
  "uploader": {
    "login": "aneprz23",
    "id": 93077887,
    "node_id": "U_kgD0BYxBfw",
    "avatar_url": "https://avatars.githubusercontent.com/u/93077887?v=4",
    "gravatar_id": "",
    "url": "https://api.github.com/users/aneprz23",
    "html_url": "https://github.com/aneprz23",
    "followers_url": "https://api.github.com/users/aneprz23/followers",
    "following_url": "https://api.github.com/users/aneprz23/following{/other_user}",
    "gists_url": "https://api.github.com/users/aneprz23/gists{/gist_id}",
    "starred_url": "https://api.github.com/users/aneprz23/starred{/owner}{/repo}",
    "subscriptions_url": "https://api.github.com/users/aneprz23/subscriptions",
    "organizations_url": "https://api.github.com/users/aneprz23/orgs",
    "repos_url": "https://api.github.com/users/aneprz23/repos",
    "events_url": "https://api.github.com/users/aneprz23/events{/privacy}",
    "received_events_url": "https://api.github.com/users/aneprz23/received_events",
    "type": "User",
    "site_admin": false
  },
  "content_type": "application/x-desktop",
  "state": "uploaded",
  "size": 8980,
  "download_count": 0,
  "created_at": "2021-11-03T08:35:41Z",
  "updated_at": "2021-11-03T08:35:43Z",
  "browser_download_url": "https://github.com/aneprz23/sr11/releases/download/Test/examples.desktop"
}

```

Rysunek 17.


```
aneta@aneta-VirtualBox:~/token$ curl -H "Authorization: token $GT" https://api.github.com/repos/aneprz23/sr11/releases
[
  {
    "url": "https://api.github.com/repos/aneprz23/sr11/releases/52575916",
    "assets_url": "https://api.github.com/repos/aneprz23/sr11/releases/52575916/assets",
    "upload_url": "https://uploads.github.com/repos/aneprz23/sr11/releases/52575916/assets{?name,label}",
    "html_url": "https://github.com/aneprz23/sr11/releases/tag/Test",
    "id": 52575916,
    "author": {
      "login": "aneprz23",
      "id": 93077887,
      "node_id": "U_kgDOBxYxBfw",
      "avatar_url": "https://avatars.githubusercontent.com/u/93077887?v=4",
      "gravatar_id": "",
      "url": "https://api.github.com/users/aneprz23",
      "html_url": "https://github.com/aneprz23",
      "followers_url": "https://api.github.com/users/aneprz23/followers",
      "following_url": "https://api.github.com/users/aneprz23/following{/other_user}",
      "gists_url": "https://api.github.com/users/aneprz23/gists{/gist_id}",
      "starred_url": "https://api.github.com/users/aneprz23/starred{/owner}/{/repo}",
      "subscriptions_url": "https://api.github.com/users/aneprz23/subscriptions",
      "organizations_url": "https://api.github.com/users/aneprz23/orgs",
      "repos_url": "https://api.github.com/users/aneprz23/repos",
      "events_url": "https://api.github.com/users/aneprz23/events{/privacy}",
      "received_events_url": "https://api.github.com/users/aneprz23/received_events",
      "type": "User",
      "site_admin": false
    },
    "node_id": "RE_kwDOGSKS_M4DIj6s",
    "tag_name": "Test",
    "target_commitish": "main",
    "name": "Test",
    "draft": false,
    "prerelease": false,
    "created_at": "2021-11-02T17:22:16Z",
    "published_at": "2021-11-03T08:36:08Z",
    "assets": [
      {
        "url": "https://api.github.com/repos/aneprz23/sr11/releases/assets/48508038",
        "id": 48508038,
        "node_id": "RA_kwDOGSKS_M4C5CyG",
        "name": "examples.desktop",
        "label": null,
        "uploader": {
          "login": "aneprz23",
          "id": 93077887,
```