GitHub Recon

— and what you can achieve with it!

Who am I?

- Undergraduate **Computer Engineering** Student
- Full-stack Web Developer (**LAMP/LEMP/JAM**)
- **Web/Network** Penetration Tester
- HIGHLY Passionate **CTF Player**
- **Community Administrator** at **Ask Buddie**
- **Advocate** at **Hacking is NOT a Crime**

Recon Highlights:

- Implementing **Active** and **Passive Reconnaissance** in **Penetration Testing** and **Bug Hunting**,
- Familiarity and enthusiasm towards **Intelligence Gathering** disciplines like **OSINT** and **GEOINT**!

Not specifically focused into Information Security!

RECONNAISSANCE

All about inspecting or exploring about the target!

RECON in Information Security

- Exploring about the target to gather confidential information,
- Endless treasure of information that can lead to successful attacks,
- Figuring out the internal workflow of the target without actually being associated with the target,
- Finding out the information required to get unauthorized access to certain asset of the target,
- Carrying out attacks in a stealthy and precise manner!

What can you achieve?

- Subdomains
- Virtual Hosts
- SSH credentials
- Database details
- Source codes
- Open ports and services
- Hidden endpoints
- WHOIS, IP and DNS Info
- User account details
- Third-party associations

What is GitHub Recon?

- Doing RECON with the help of GitHub,
- Finding out essential information using several features offered within GitHub

GitHub for Reconnaissance

- Finding out sensitive information disclosures from a target repository,
- Using specialized keywords to gather information associated with the target,
- Iterating through the commit history in the target's repositories to figure out any way to obtain unintended information or access to certain asset!

Sensitive Information Disclosures

on GitHub

Search or jump to... / Pull requests Issues Marketplace Explore

HighlySecureOrganization / SuperSecureWebApp

Unwatch 1 Star 1 Fork 0

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

main SuperSecureWebApp / connect.php / Jump to Go to file

TheBinitGhimire Nice! Latest commit 016a45a on Oct 19, 2020 History

1 contributor

13 lines (10 sloc) 280 Bytes Raw Blame

```php
<?php
$servername = "db.0daygod.xyz";
$username = "webappuser";
$password = "w3b4ppus3r_p4$$w0rd";

$conn = new mysqli($servername, $username, $password);

if ($conn->connect_error) {
  die("DB Connection Failed: " . $conn->connect_error);
}

echo "DB Connection Successful!";
?>
```

GitHub Dorks for Recon

- org:<*organization*>
- language:<*language*>
- user:<*username*>
- filename:<*file-name*>
- extension:<*extension*>
- <*specific-keyword*>
- "<*multiple-words*>"
- path:<*file-path*>
- <*dork*>:"<*multiple-words*>"
- <*dork*> <*keyword*>

Sample Keywords to search for

- password
- API_KEY
- APP_ID
- AUTH_TOKEN
- AUTH_KEY
- AWS_SECRET
- AWS_SECRET_KEY
- AWS_ACCESS_KEY
- AUTH
- AUTH0_CLIENT_ID
- AUTH0_CLIENT_SECRET
- CARGO_TOKEN
- CF_PASSWORD
- CI_USER_TOKEN
- DATABASE_PASSWORD
- DOCKER_HUB_PASSWORD
- ELASTICSEARCH_PASSWORD
- email
- EXP_PASSWORD
- FIREBASE_API_TOKEN
- FTP_LOGIN
- FTP_PASSWORD
- GH_AUTH_TOKEN
- id_rsa.pub
- JWT_SECRET
- jdbc_user
- mailchimp_api_key
- MANIFEST_APP_TOKEN
- MYSQL_PASSWORD
- NETLIFY_API_KEY
- NPM_API_TOKEN
- OSSRH_JIRA_PASSWORD
- passwordTravis
- s3_access_key
- SENDGRID_KEY
- SSMTP_CONFIG
- TRAVIS_SECURE_ENV_VARS
- TWILIO_TOKEN
- URBAN_MASTER_SECRET
- VIP_GITHUB_DEPLOY_KEY
- WORDPRESS_DB_PASSWORD
- YT_CLIENT_SECRET

DEMONSTRATION

Using **GitHub Dorks** for Recon!

Automated GitHub Recon

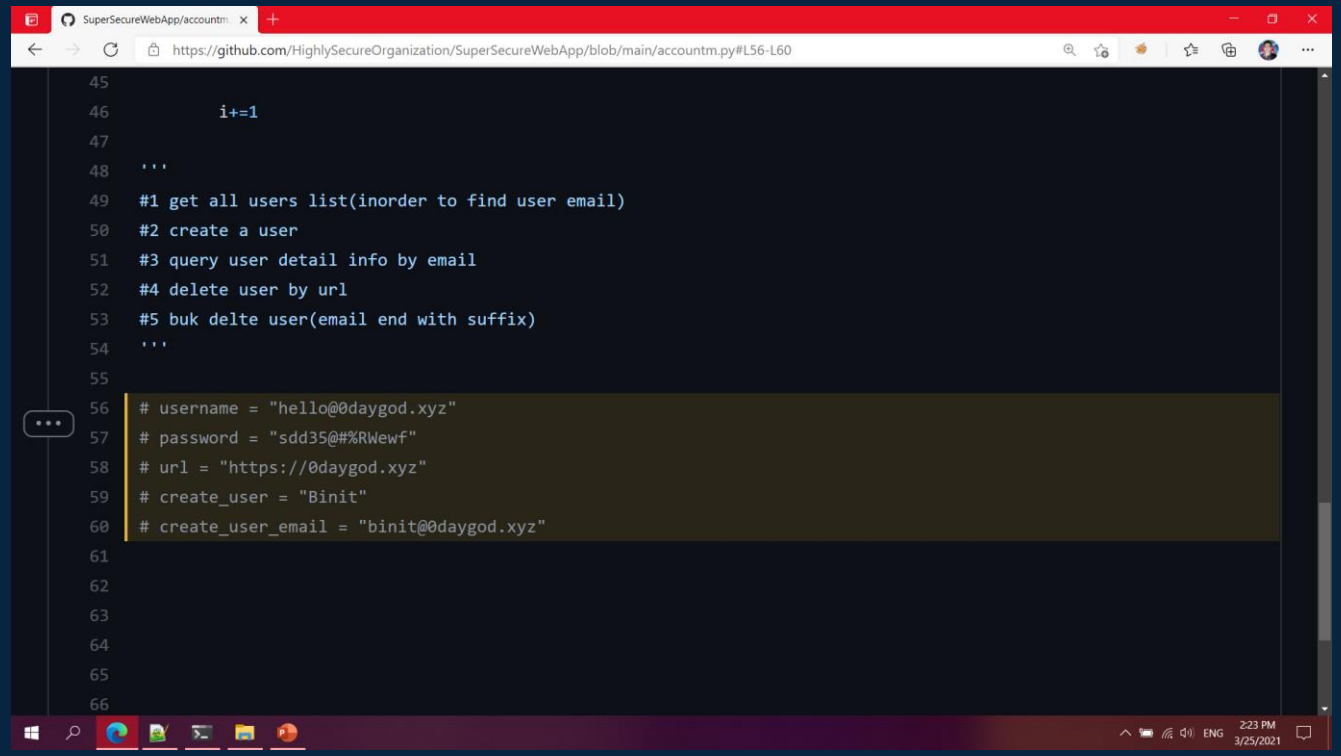
- ~~GitRob~~ (wraith)
- truffleHog
- git-secrets

DEMONSTRATION

truffleHog and **git-secrets**!

Preventing GitHub Leaks

- ❑ Using .gitignore
- ❑ GitHub Secrets



Using .gitignore

root@localhost: ~/git/SuperSec | Windows PowerShell

```
PS F:\git\HighlySecureOrganization\SuperSecureWebApp> cat .\helloworld.php
<?php

$username = "hello";
$password = "world";

?>
PS F:\git\HighlySecureOrganization\SuperSecureWebApp> cat .\.gitignore
helloworld.php
PS F:\git\HighlySecureOrganization\SuperSecureWebApp> git add .\helloworld.php
The following paths are ignored by one of your .gitignore files:
helloworld.php
Use -f if you really want to add them.
PS F:\git\HighlySecureOrganization\SuperSecureWebApp>
```

GitHub Secrets

SEC_RITY

Are you storing your secret keys, passwords and other sensitive information in your codes? What if you want to push your codes to GitHub? Would you be exposing them to the public? Majority of the open-source data leaks happen as a result of sensitive information disclosure on platforms like GitHub, GitLab, BitBucket, etc.

So, if you are interested in preventing such data leaks and exposures while pushing your codes to GitHub, start making use of **GitHub Secrets** right now! You can easily find the option to store such information using **GitHub Secrets** from your repository settings, and secrets are just encrypted environment variables which are only made available to specific actions.

Are **U** secure?

ask BUDDIE

GitHub Secrets

Secrets

New secret

Secrets are environment variables that are **encrypted** and only exposed to selected actions. Anyone with **collaborator** access to this repository can use these secrets in a workflow.

Secrets are not passed to workflows that are triggered by a pull request from a fork. Learn more.

Repository secrets

DBHOST	Updated 13 hours ago	Update	Remove
DBPASSWORD	Updated 13 hours ago	Update	Remove
DBUSER	Updated 13 hours ago	Update	Remove

https://github.com/HighlySecureOrganization/SuperSecureWebApp/blob/main/includes/conn.php

13 lines (10 sloc) | 303 Bytes

```php
<?php
$servername = "${{ secrets.DBhost }}";
$username = "{{ secrets.DBuser }}";
$password = "${{ secrets.DBpassword }}";

$conn = new mysqli($servername, $username, $password);

if ($conn->connect_error) {
  die("DB Connection Failed: " . $conn->connect_error);
}
```

Removing Leaks

https://docs.github.com/en/free-pro-team@latest/github/authenticating-to-github/removing-sensitive-data-from-a-repository

GitHub Docs

Removing sensitive data from a repository

If you commit sensitive data, such as a password or SSH key into a Git repository, you can remove it from the history. To entirely remove unwanted files from a repository's history you can use either the `git filter-branch` command or the BFG Repo-Cleaner open source tool.

In this article

https://WHOISbinit.me/

Do you have any queries?

THANK YOU!

Let me know if you need the slides or resources!

InternetHeroBINIT thebinitghimire WHOISbinit thebinitghimire