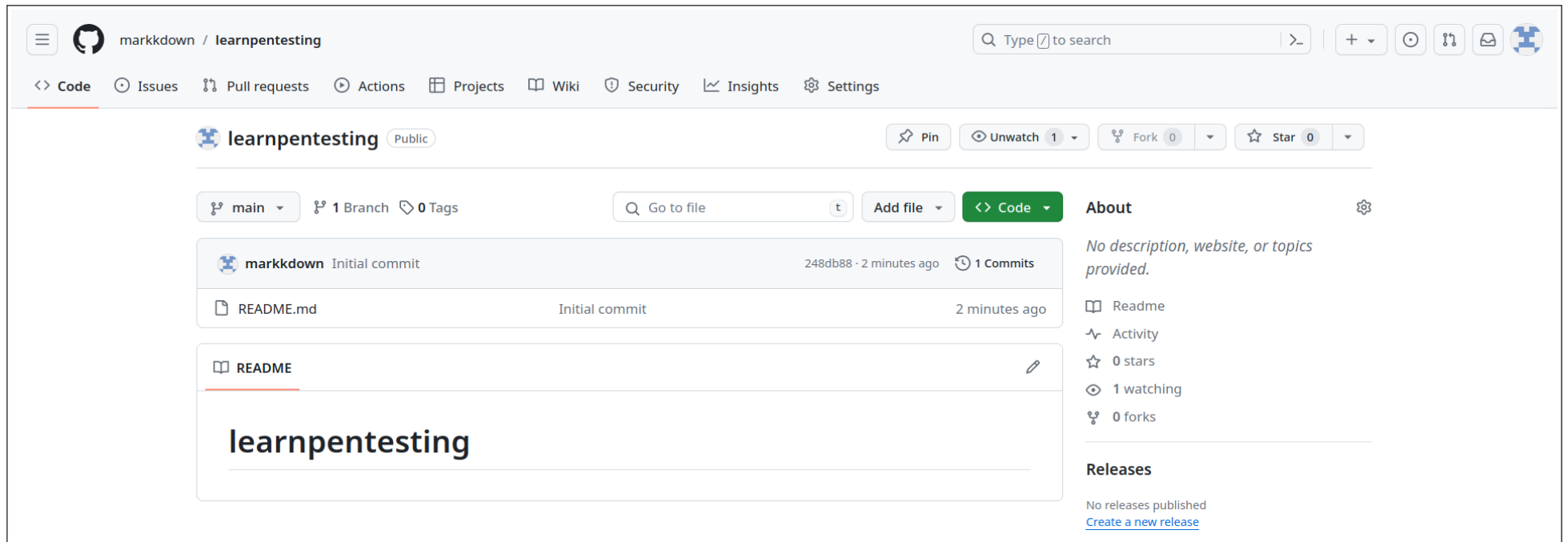


## Softwaretechnik Einsendeaufgabe – Versionskontrolle

In einem ersten Schritt erstellen wir ein öffentliches Repository für unser Projekt.



Für den lokalen Zugriff auf das Repository geben wir den Repo Link an den 'git clone' Befehl.

```
markkdown@MSI >git clone https://github.com/markkdown/learnpentesting.git
Cloning into 'learnpentesting'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
markkdown@MSI >
```

Als nächstes prüfen wir, ob Änderungen vorgenommen wurden (was hier noch nicht der Fall ist, da das Repo erst erstellt wurde), indem wir die lokale Kopie mit dem Repo per 'git pull' Befehl abgleichen.

```
markkdown@MSI >ls
learnpentesting
markkdown@MSI >cd learnpentesting/
markkdown@MSI >ls
README.md
markkdown@MSI >cd ..
markkdown@MSI >git pull
fatal: not a git repository (or any of the parent directories): .git
markkdown@MSI >cd learnpentesting/
markkdown@MSI >git pull
Already up to date.
markkdown@MSI >
```

Wir erstellen nun eine Ergänzung für unser Repo in Form einer Textdatei, die erste interessante Links zu Webseiten enthält. Diese speichern und legen wir im selben Ordner ab.

```
1 Websites / Ressources
2 **[Web Security Academy](https://portswigger.net/web-security)**<br>
3 **[OWASP Juice Shop](https://github.com/juice-shop/juice-shop-ctf)**<br>
4 **[Damn Vulnerable Web Application (DVWA)](https://github.com/digininja/DVWA)**<br>
5 **[AWSGoat: Damn Vulnerable AWS](https://github.com/ine-labs/AWSGoat)**<br>
6 **[AzureGoat: Damn Vulnerable Azure](https://github.com/ine-labs/AzureGoat)**<br>
7 **[Damn Vulnerable DeFi](https://www.damnulnerabledefi.xyz)**<br>
8 **[Ethernaut: Web3/Solidity Hacking](https://ethernaut.openzeppelin.com)**<br>
9 **[Hacker 101](https://ctf.hacker101.com)**<br>
10 **[PentesterLab](https://pentesterlab.com)**<br>
```

NORMAL sources.md | + unix | utf-8 | markdown 10% 1:1

Der 'git status' Befehl zeigt uns an, dass eine Veränderung vorgenommen wurde, die aber noch lokal vorliegt.

```
markkdown@MSI >git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    sources.md

nothing added to commit but untracked files present (use "git add" to track)
markkdown@MSI >
```

Erst durch 'git add' und einen commit, den wir mit einem erklärenden Kommentar ergänzen, wird unsere vorgenommene Änderung in das Repository übernommen. Hier bekommen wir bereits eine erste Fehlermeldung, da wir uns vorher nicht ausreichend in der Shell authentifiziert haben.

```
markkdown@MSI >git add sources.md
markkdown@MSI >git commit sources.md -m "some interesting sources to start with"
Author identity unknown

*** Please tell me who you are.

Run

  git config --global user.email "you@example.com"
  git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.
```

Wir stellen die geforderten Informationen bereit und versuchen es erneut.

```
markkdown@MSI >git config --global user.email "7jsl38mg@duck.com"
markkdown@MSI >git config --global user.name "markkdown"
markkdown@MSI >git commit sources.md -m "some interesting sources to start with"
[main 19813fb] some interesting sources to start with
 1 file changed, 10 insertions(+)
 create mode 100644 sources.md
markkdown@MSI >
```

Der Commit wird erfolgreich angenommen. Daraufhin können wir die Änderung pushen. Leider nimmt Git diese nicht an, da es scheinbar immer noch Problem mit der Authentifizierung gibt.

```
markkdown@MSI >git push
git: 'credential-manager-core' is not a git command. See 'git --help'.
Username for 'https://github.com': markkdown
Password for 'https://markkdown@github.com':
git: 'credential-manager-core' is not a git command. See 'git --help'.
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.
```

Nach einigem Recherchieren bietet sich die Lösung in Form der Personal Access Token an, mit denen man sich für remote Verbindungen authentifizieren kann. Wir lass uns ein solches Token generieren und nutzen dieses anstelle eines Passwortes zur Authentifizierung in der Shell.

## New fine-grained personal access token Beta

Create a fine-grained, repository-scoped token suitable for personal API use and for using Git over HTTPS.

**Token name \***

A unique name for this token. May be visible to resource owners or users with possession of the token.


**Expiration \***

30 days ▾ The token will expire on Wed, Jan 24 2024

**Description**

What is this token for?

**Resource owner**

 markdown ▾

### Repository access

☒ **Public Repositories (read-only)**

☐ **All repositories**  
This applies to all current *and* future repositories owned by the resource owner.  
Also includes public repositories (read-only).

☐ **Only select repositories**  
Select at least one repository. Max 50 repositories.  
Also includes public repositories (read-only).

### Permissions

Der 'git push' Befehl wird jetzt endlich angenommen.

```
markkdown@MSI >git push
Username for 'https://github.com': markkdown
Password for 'https://markkdown@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 596 bytes | 596.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/markkdown/learnpentesting.git
 248db88..fba599d  main -> main
markkdown@MSI >
```

Die Änderungen sind auch online in GitHub sichtbar.

The screenshot shows the GitHub web interface for the repository 'markkdown / learnpentesting'. The top navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The left sidebar shows the file structure with 'main' selected and a search bar. The main content area displays the 'sources.md' file, which contains a list of links under the heading 'Websites / Ressources'. The file is committed by 'markkdown' 8 minutes ago. The commit message is 'some interesting sources to start with'. The file content is as follows:

```
🔗 Websites / Ressources

Web Security Academy
OWASP Juice Shop
Damn Vulnerable Web Application \(DVWA\)
AWSGoat: Damn Vulnerable AWS
AzureGoat: Damn Vulnerable Azure
Damn Vulnerable DeFi
Ethernaut: Web3/Solidity Hacking
Hacker 101
PentesterLab
```

```
markkdown@MSI >git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

Weiterhin möchten wir einige Bilder im Zusammenhang mit Cybersecurity einbinden. Wir folgen derselben Prozedur wie mit der Textdatei.

```
markkdown@MSI >git add th-
th-3890340450.jpeg th-443076400.jpeg
markkdown@MSI >git add th-*
markkdown@MSI >git commit th-* -m "some images for immersion"
[main ed8bfa2] some images for immersion
 2 files changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 th-3890340450.jpeg
 create mode 100644 th-443076400.jpeg
markkdown@MSI >git pu
pull push
markkdown@MSI >git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 34.85 KiB | 6.97 MiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/markkdown/learnpentesting.git
 fba599d..ed8bfa2 main -> main
```



Das eine Bild passt allerdings nicht ganz in das Projekt, deshalb entfernen wir es vorsichtshalber mit 'git rm', um keine Konflikte auszulösen.

```
markkdown@MSI >git rm th-443076400.jpeg
rm 'th-443076400.jpeg'
markkdown@MSI >git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        deleted:    th-443076400.jpeg
```

```
markkdown@MSI >git commit th-443076400.jpeg -m "removed unfitting images"
[main 5a9729d] removed unfitting images
 1 file changed, 0 insertions(+), 0 deletions(-)
 delete mode 100644 th-443076400.jpeg
markkdown@MSI >git pu
pull    push
markkdown@MSI >git push
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 225 bytes | 225.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/markkdown/learnpentesting.git
   ed8bfa2..5a9729d  main -> main
```

Ein 'git log' zeigt uns an, welche Änderungen wir bereits durchgeführt haben.

```
markkdown@MSI >git log
commit 5a9729d77efdc802806b44b466a143ec1d97bad (HEAD -> main, origin/main, origin/HEAD)
Author: markkdown <markkdown@github.com>
Date:   Mon Dec 25 17:55:53 2023 +0100

    removed unfitting images

commit ed8bfa2a10e636c83301c3e5384b7c171961ed6f
Author: markkdown <markkdown@github.com>
Date:   Mon Dec 25 17:53:12 2023 +0100

    some images for immersion

commit fba599de67cf4256cce54257a504fb98b14e3769
Author: markkdown <markkdown@github.com>
Date:   Mon Dec 25 17:39:46 2023 +0100

    some interesting sources to start with

commit 248db882354f43e5e8f031c32295e33a95a33112
Author: markkdown <154820942+markkdown@users.noreply.github.com>
Date:   Mon Dec 25 16:17:38 2023 +0100

    Initial commit
```

Schließlich wollen wir die sources.md um weitere Ressourcen erweitern. Nachdem die Einträge in der Textdatei erfolgt sind, pushen wir diese auf den Hauptbranch. Ebenso fügen wir eine kurze Beschreibung der README.md hinzu. Beide Anpassungen können wir uns per 'git diff' ausgeben lassen.

```
markkdown@MSI >git diff README.md
diff --git a/README.md b/README.md
index 697d559..62a4aee 100644
--- a/README.md
+++ b/README.md
@@ -1,3 @@
-# learnpentesting
\ No newline at end of file
+# learnpentesting
+
+a repo to collect great reSSources / websites on cybersecurity fundamentals, specifically penetration testing.
markkdown@MSI >git diff sources.md
diff --git a/sources.md b/sources.md
index 7af6d9b..6c6c721 100644
--- a/sources.md
+++ b/sources.md
@@ -9,3 +9,13 @@
**[Ethernaut: Web3/Solidity Hacking](https://ethernaut.openzeppelin.com)**<br>
**[Hacker 101](https://ctf.hacker101.com)**<br>
**[PentesterLab](https://pentesterlab.com)**<br>
+**[HackTheBox](https://affiliate.hackthebox.com/cryptocat-htb)**<br>
+**[TryHackMe](https://tryhackme.com)**<br>
+**[OffSec Proving Grounds](https://www.offensive-security.com/labs)**<br>
+**[VulnHub](https://www.vulnhub.com)**<br>
+**[VulnMachines](https://www.vulnmachines.com)**<br>
+**[HackingLab](https://www.hacking-lab.com/index.html)**<br>
+**[CyberSecLabs](https://www.cyberseclabs.co.uk)**<br>
+**[UnderTheWire](https://underthewire.tech/wargames)**<br>
+**[HackXOR](https://hackxor.net)**<br>
+**[Hacktoria](https://hacktoria.com)**
```

Nun erstellen wir einen neuen Branch, der zusätzlich zu Pentesting Ressourcen auch Webseiten für Reverse Engineering aggregiert. Das source.md ergänzen wir dann um die erweiterten Ressourcenangaben.

```
markkdown@MSI >git branch reverse-engineering
markkdown@MSI >git che
checkout      cherry      cherry-pick
markkdown@MSI >git checkout
FETCH_HEAD    main      origin/HEAD      reverse-engineering
HEAD          ORIG_HEAD origin/main
markkdown@MSI >git checkout reverse-engineering
Switched to branch 'reverse-engineering'
markkdown@MSI >nvim sources.md
```

```
1 Websites / Ressources
2
3 **[Web Security Academy](https://portswigger.net/web-security)**<br>
4 **[OWASP Juice Shop](https://github.com/juice-shop/juice-shop-ctf)**<br>
5 **[Damn Vulnerable Web Application (DVWA)](https://github.com/digininja/DVWA)**<br>
6 **[AWSGoat: Damn Vulnerable AWS](https://github.com/ine-labs/AWSGoat)**<br>
7 **[AzureGoat: Damn Vulnerable Azure](https://github.com/ine-labs/AzureGoat)**<br>
8 **[Damn Vulnerable DeFi](https://www.damnulnerabledefi.xyz)**<br>
9 **[Ethernaut: Web3/Solidity Hacking](https://ethernaut.openzeppelin.com)**<br>
10 **[Hacker 101](https://ctf.hacker101.com)**<br>
11 **[PentesterLab](https://pentesterlab.com)**<br>
12 **[HackTheBox](https://affiliate.hackthebox.com/cryptocat-htb)**<br>
13 **[TryHackMe](https://tryhackme.com)**<br>
14 **[OffSec Proving Grounds](https://www.offensive-security.com/labs)**<br>
15 **[VulnHub](https://www.vulnhub.com)**<br>
16 **[VulnMachines](https://www.vulnmachines.com)**<br>
17 **[HackingLab](https://www.hacking-lab.com/index.html)**<br>
18 **[CyberSecLabs](https://www.cybersec labs.co.uk)**<br>
19 **[UnderTheWire](https://underthewire.tech/wargames)**<br>
20 **[HackXOR](https://hackxor.net)**<br>
21 **[Hacktoria](https://hacktoria.com)**
22
23 # Reverse Engineering
24
25 **[Pwn.College](https://pwn.college)**<br>
26 **[ROP Emporium](https://ropemporium.com)**<br>
27 **[Exploit Education](https://exploit.education)**<br>
28 **[How2Heap](https://github.com/shellphish/how2heap)**<br>
29 **[GuidedHacking](https://guidedhacking.com)**<br>
30 **[Pwnables](https://pwnable.tw/challenge)**<br>
31 **[Deusx64](https://deusx64.ai)**<br>
32 **[Roppers Academy](https://roppers.org/collections)**<br>
33 **[Azeria Labs](https://azeria-labs.com/writing-arm-assembly-part-1)**<br>
34 **[Reversing Challenges](https://challenges.re)**<br>
35 **[Begin RE](https://www.begin.re)**<br>
36 **[CrackMes](https://crackmes.one)**
```

NORMAL sources.md

unix | utf-8 | markdown 2% 1:1


Beim pushen weist uns Git daraufhin, dass wir den aktuellen Branch als upstream designieren sollen, bevor wir pushen können.




```
markkdown@MSI >git commit -m "added reverse engineering reSSources"
[reverse-engineering aa51747] added reverse engineering reSSources
 1 file changed, 15 insertions(+)
markkdown@MSI >git push
fatal: The current branch reverse-engineering has no upstream branch.
To push the current branch and set the remote as upstream, use



    git push --set-upstream origin reverse-engineering




markkdown@MSI >git push --set-upstream origin reverse-engineering
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 680 bytes | 680.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'reverse-engineering' on GitHub by visiting:
remote:   https://github.com/markkdown/learnpentesting/pull/new/reverse-engineering
remote:
To https://github.com/markkdown/learnpentesting.git
 * [new branch]      reverse-engineering -> reverse-engineering
Branch 'reverse-engineering' set up to track remote branch 'reverse-engineering' from 'origin'.
markkdown@MSI >git push
Everything up-to-date
```

Online sehen wir die neuen Änderungen abseits vom main Branch.

 **reverse-engineering** had recent pushes 1 minute ago [Compare & pull request](#)

 **main**  **2 Branches**  **0 Tags**  [Add file](#) [Code](#)

 **markkdown** added more interesting sources ad9a834 · 12 minutes ago  **6 Commits**

 README.md	added short description	12 minutes ago
 sources.md	added more interesting sources	12 minutes ago
 th-3890340450.jpeg	some images for immersion	21 minutes ago

Abschließend vereinigen wir mit 'git merge' den Branch wieder mit dem main Branch.

```
markkdown@MSI >git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
markkdown@MSI >git merge
merge      mergetool
markkdown@MSI >git merge reverse-engineering
Updating ad9a834..aa51747
Fast-forward
 sources.md | 15 ++++++++
 1 file changed, 15 insertions(+)
```