

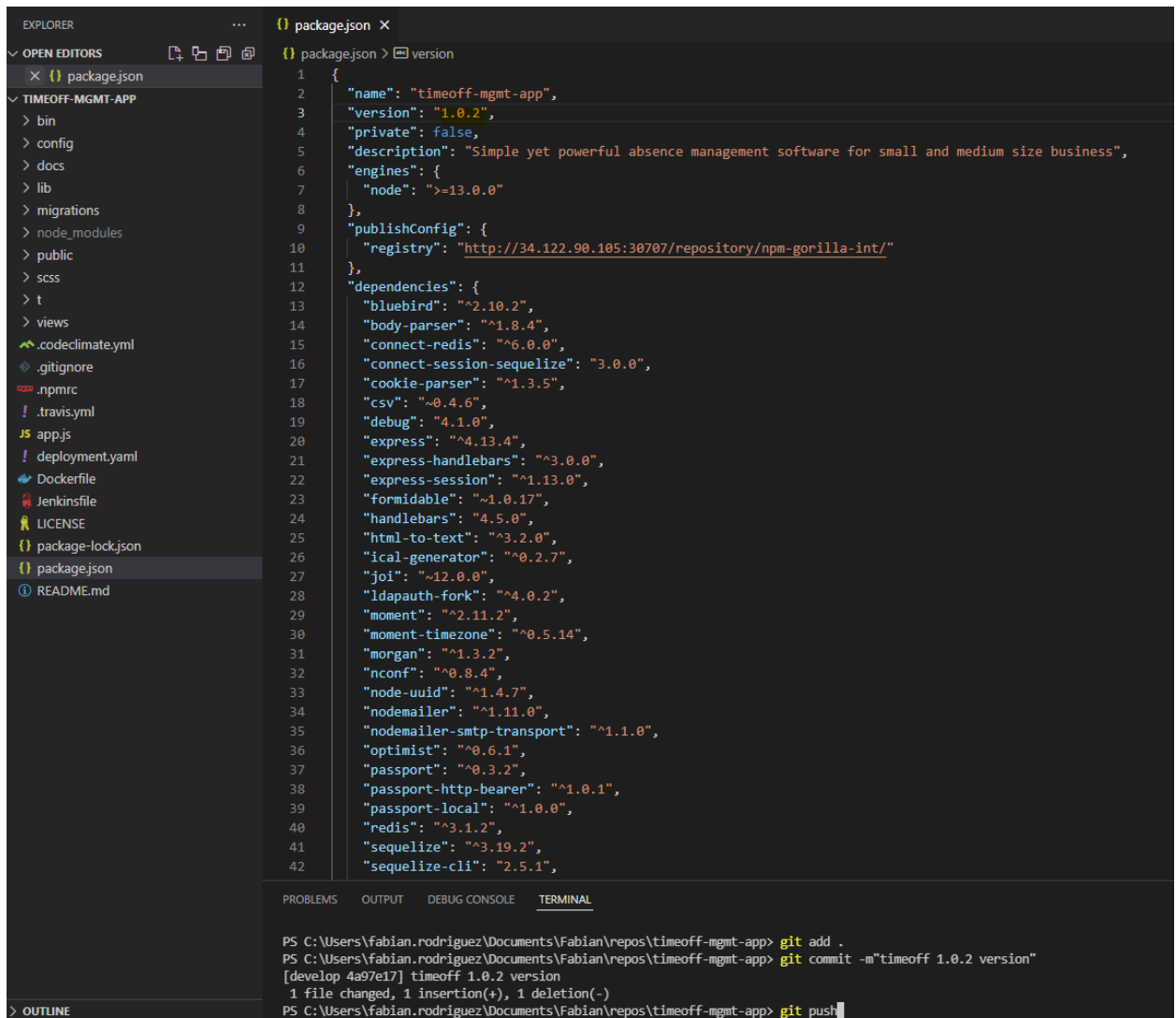
Hacker Rank - Proactive DevOps Engineer - Fabian Alejandro Rodriguez Peñuela

1. Applications / Repositories

- Jenkins <http://34.122.90.105:30700/>
- Nexus <http://34.122.90.105:30707/>
- Time off management <http://34.122.90.105:30701/login/>
- TimeOff.Management <https://github.com/fabianrp7/timeoff-mgmt-app>
- Jenkins-shared-lib <https://github.com/fabianrp7/jenkins-shared-lib>
- Gorilla logic proactive <https://github.com/fabianrp7/gorilla-logic-proactive-devops>

2. Demo

- Push to repository (develop branch)



The screenshot shows a VS Code editor with the following components:

- EXPLORER:** A file explorer on the left showing the project structure. The file `package.json` is selected.
- package.json:** A JSON file defining the project metadata and dependencies. The content is as follows:

```
{
  "name": "timeoff-mgmt-app",
  "version": "1.0.2",
  "private": false,
  "description": "Simple yet powerful absence management software for small and medium size business",
  "engines": {
    "node": ">=13.0.0"
  },
  "publishConfig": {
    "registry": "http://34.122.90.105:30707/repository/npm-gorilla-int/"
  },
  "dependencies": {
    "bluebird": "^2.10.2",
    "body-parser": "^1.8.4",
    "connect-redis": "^6.0.0",
    "connect-session-sequelize": "3.0.0",
    "cookie-parser": "^1.3.5",
    "csv": "~0.4.6",
    "debug": "4.1.0",
    "express": "^4.13.4",
    "express-handlebars": "^3.0.0",
    "express-session": "^1.13.0",
    "formidable": "~1.0.17",
    "handlebars": "4.5.0",
    "html-to-text": "^3.2.0",
    "ical-generator": "^0.2.7",
    "joi": "~12.0.0",
    "ldapauth-fork": "^4.0.2",
    "moment": "^2.11.2",
    "moment-timezone": "^0.5.14",
    "morgan": "^1.3.2",
    "nconf": "^0.8.4",
    "node-uuid": "^1.4.7",
    "nodemailer": "^1.11.0",
    "nodemailer-smtp-transport": "^1.1.0",
    "optimist": "^0.6.1",
    "passport": "^0.3.2",
    "passport-http-bearer": "^1.0.1",
    "passport-local": "^1.0.0",
    "redis": "^3.1.2",
    "sequelize": "^3.19.2",
    "sequelize-cli": "2.5.1",
```
- TERMINAL:** A terminal window at the bottom showing the execution of git commands:

```
PS C:\Users\Fabian.Rodriguez\Documents\Fabian\repos\timeoff-mgmt-app> git add .
PS C:\Users\Fabian.Rodriguez\Documents\Fabian\repos\timeoff-mgmt-app> git commit -m"timeoff 1.0.2 version"
[develop 4a97e17] timeoff 1.0.2 version
1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\Fabian.Rodriguez\Documents\Fabian\repos\timeoff-mgmt-app> git push
```

b. The configured webhook runs Jenkins pipeline

The screenshot shows the Jenkins configuration page for a pipeline named 'time-off-deploy'. The left sidebar contains a list of actions: Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Open Blue Ocean, Rename, and Pipeline Syntax. The main area displays the 'Build History' section with a search bar and a list of builds. The current build is #20, which is in a 'pending' state with a message: '(pending—In the quiet period. Expires in 4.2 sec)'.

c. The phases finished successfully

The screenshot shows the Jenkins pipeline execution page for 'time-off-deploy'. The left sidebar contains a list of actions: Back to Dashboard, Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Open Blue Ocean, Rename, and Pipeline Syntax. The main area displays the 'Stage View' section with a table showing the execution of stages for three builds (#20, #19, and #18). The table includes columns for Checkout, Build, Publish, Docker build & push image, and Kubernetes Deploy. The average stage times are: Checkout (1s), Build (26s), Publish (1s), Docker build & push image (1min 44s), and Kubernetes Deploy (1s). The average full run time is ~2min 25s.

	Checkout	Build	Publish	Docker build & push image	Kubernetes Deploy
Average stage times: (Average full run time: ~2min 25s)	1s	26s	1s	1min 44s	1s
#20 Feb 20 12:43 1 commit	1s	26s	1s	2min 2s	1s
#19 Feb 20 10:51 1 commit	2s	24s	1s	1min 44s	1s
#18 Feb 20 1 commit	1s	25s	1s	2min 2s	2s

i. Checkout

```
Stage Logs (Checkout)

Delete workspace when build is done (self time 61ms)

Check out from version control (self time 1s)

Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
using credential github-login
Cloning the remote Git repository
Cloning repository https://github.com/fabianrp7/timeoff-mgmt-app.git
> git init /var/jenkins_home/workspace/time-off-deploy # timeout=10
Fetching upstream changes from https://github.com/fabianrp7/timeoff-mgmt-app.git
> git --version # timeout=10
> git --version # 'git version 2.30.2'
using GIT_ASKPASS to set credentials
> git fetch --tags --force --progress -- https://github.com/fabianrp7/timeoff-mgmt-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url https://github.com/fabianrp7/timeoff-mgmt-app.git # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> git rev-parse origin/develop^{commit} # timeout=10
Checking out Revision 4a97e173767c61269379921b7baf50949ee8c29a (origin/develop)
> git config core.sparsecheckout # timeout=10
> git checkout -f 4a97e173767c61269379921b7baf50949ee8c29a # timeout=10
Commit message: "timeoff 1.0.2 version"
```

ii. Build

```
Stage Logs (Build)

Shell Script -- npm install (self time 26s)

> core-js@3.8.3 postinstall /var/jenkins_home/workspace/time-off-deploy/node_modules/core-js
> node -e "try{require('./postinstall')}catch(e){}"

> node-sass@4.14.1 postinstall /var/jenkins_home/workspace/time-off-deploy/node_modules/node-sass
> node scripts/build.js

Binary found at /var/jenkins_home/workspace/time-off-deploy/node_modules/node-sass/vendor/linux-x64-83/binding.node
Testing binary
Binary is fine
npm WARN timeoff-mgmt-app@1.0.2 No repository field.
npm WARN timeoff-mgmt-app@1.0.2 No license field.

added 857 packages from 1139 contributors in 24.237s

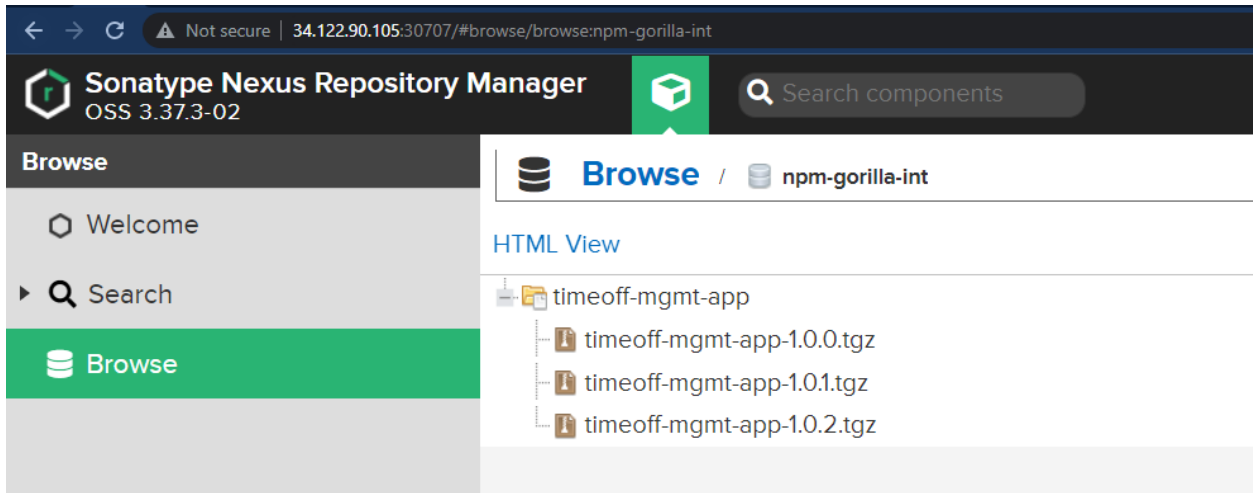
28 packages are looking for funding
  run `npm fund` for details
```

iii. Publish


Stage Logs (Publish)



Shell Script -- npm publish (self time 1s)

```
npm notice 356.0kB public/fonts/fontawesome-webfont.svg
npm notice 138.2kB public/fonts/fontawesome-webfont.ttf
npm notice 7.6kB docs/db_design.txt
npm notice 498B docs/migrations.txt
npm notice 81.3kB public/fonts/fontawesome-webfont.woff
npm notice 64.5kB public/fonts/fontawesome-webfont.woff2
npm notice 552B deployment.yaml
npm notice 83B .codeclimate.yml
npm notice 389B .travis.yml
npm notice === Tarball Details ===
npm notice name: timeoff-mgmt-app
npm notice version: 1.0.2
npm notice package size: 940.8 kB
npm notice unpacked size: 2.9 MB
npm notice shasum: 47904657e84f781b7bb4c850cd14fb7c1ecc54bf
npm notice integrity: sha512-hU20Xs4C54nuw[...]moXBd5rhHkIDg==
npm notice total files: 266
npm notice
+ timeoff-mgmt-app@1.0.2
```






← → ↻ Not secure | 34.122.90.105:30707/#browse/browse:npm-gorilla-int





 **Sonatype Nexus Repository Manager**
OSS 3.37.3-02

 **Browse** /  npm-gorilla-int

Browse

-  Welcome
-  Search
-  **Browse**

[HTML View](#)

-  timeoff-mgmt-app
 -  timeoff-mgmt-app-1.0.0.tgz
 -  timeoff-mgmt-app-1.0.1.tgz
 -  timeoff-mgmt-app-1.0.2.tgz

iv. Docker build & push image

Stage Logs (Docker build & push image)
Read JSON from files in the workspace. -- package.json (self time 35ms)
Shell Script -- mv Dockerfile Dockerfile-1.0.2 (self time 285ms)
+ mv Dockerfile Dockerfile-1.0.2
Shell Script -- kubectl cp Dockerfile-1.0.2 dood:/home -n gorilla-logic (self time 12s)
Shell Script -- kubectl exec dood -- docker image build -f /home/Dockerfile-1.0.2 /home/ --tag fabianrp7/timeoff:1.0.2 (self time 1min 25s)
Shell Script -- kubectl exec dood -- docker login --username=fabianrp7 --password=fabrodpe2077* (self time 832ms)
Shell Script -- kubectl exec dood -- docker push fabianrp7/timeoff:1.0.2 (self time 21s)
Shell Script -- kubectl exec dood -- docker rmi fabianrp7/timeoff:1.0.2 (self time 2s)
Shell Script -- kubectl exec dood -- rm /home/Dockerfile-1.0.2 (self time 296ms)

Stage Logs (Docker build & push image)
Read JSON from files in the workspace. -- package.json (self time 35ms)
Shell Script -- mv Dockerfile Dockerfile-1.0.2 (self time 285ms)
Shell Script -- kubectl cp Dockerfile-1.0.2 dood:/home -n gorilla-logic (self time 12s)
+ kubectl cp Dockerfile-1.0.2 dood:/home -n gorilla-logic
Shell Script -- kubectl exec dood -- docker image build -f /home/Dockerfile-1.0.2 /home/ --tag fabianrp7/timeoff:1.0.2 (self time 1min 25s)
Shell Script -- kubectl exec dood -- docker login --username=fabianrp7 --password=fabrodpe2077* (self time 832ms)
Shell Script -- kubectl exec dood -- docker push fabianrp7/timeoff:1.0.2 (self time 21s)
Shell Script -- kubectl exec dood -- docker rmi fabianrp7/timeoff:1.0.2 (self time 2s)
Shell Script -- kubectl exec dood -- rm /home/Dockerfile-1.0.2 (self time 296ms)

Shell Script -- kubectl exec dood -- docker image build -f /home/Dockerfile-1.0.2 /home/ --tag fabianrp7/timeoff:1.0.2 (self time 1min 25s)

```
> node-sass@4.14.1 postinstall /app/timeoff-mgmt-app/node_modules/node-sass
> node scripts/build.js

Binary found at /app/timeoff-mgmt-app/node_modules/node-sass/vendor/linux_musl-x64-57/binding.node
Testing binary
Binary is fine
[91mnp[0m[91mWARN timeoff-mgmt-app@1.0.2 No repository field.
[0m[91mnp WARN[0m[91m timeoff-mgmt-app@1.0.2 No license field.
[0m[91m
[0madded 856 packages from 1139 contributors in 51.346s
Removing intermediate container 0a954cacd8db
--> 5c90f1cc317c
Step 10/10 : CMD npm start
--> Running in 2d18d5be784d
Removing intermediate container 2d18d5be784d
--> 17d8ac21ec45
Successfully built 17d8ac21ec45
Successfully tagged fabianrp7/timeoff:1.0.2
```

Shell Script -- kubectl exec dood -- docker login --username=fabianrp7 --password=fabrodpe2077*

```
+ kubectl exec dood -- docker login --username=fabianrp7 --password=fabrodpe2077*
WARNING! Using --password via the CLI is insecure. Use --password-stdin.
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
```

Login Succeeded

Shell Script -- kubectl exec dood -- docker push fabianrp7/timeoff:1.0.2 (self time 21s)

```
+ kubectl exec dood -- docker push fabianrp7/timeoff:1.0.2
The push refers to repository [docker.io/fabianrp7/timeoff]
87ebc18a55a9: Preparing
4dbf36b7eb95: Preparing
756bcaedcc87: Preparing
8cfbc5b5b3cd: Preparing
7444ea29e45e: Preparing
7444ea29e45e: Layer already exists
756bcaedcc87: Pushed
4dbf36b7eb95: Pushed
8cfbc5b5b3cd: Pushed
87ebc18a55a9: Pushed
1.0.2: digest: sha256:cdd0cd9f98d30ed2d6052107b69ddcd8c8d072da7d358e7cdac19f44b5439411 size: 1371
```

Shell Script -- kubectl exec dood -- docker rmi fabianrp7/timeoff:1.0.2 (self time 2s)

```
+ kubectl exec dood -- docker rmi fabianrp7/timeoff:1.0.2
Untagged: fabianrp7/timeoff:1.0.2
Untagged: fabianrp7/timeoff@sha256:cdd0cd9f98d30ed2d6052107b69ddcd8c8d072da7d358e7cdac19f44b5439411
Deleted: sha256:17d8ac21ec45c8bcb413b0ee0cdf2a9bff66f59b3b2f3fb1b3ec189af83bbe9
Deleted: sha256:5c90f1cc317c50fe78c5d24c6b383ad6abd579bfd71d9b9517dd30f23cafb245
Deleted: sha256:78551a9a56f8627538122a3c560d4416db29f77e2c19d18f1f14a2635a9e7800
Deleted: sha256:5c21e0b9959b17b2a65be6cc0ea48cd7edc29d5f4e1bd980af7155eae1fde00
Deleted: sha256:35d9647bea53ed8f68ff1f398c021f7cd64c3d9e5db5e13fdc59c7745f6c03f9
Deleted: sha256:62438f3b06b2de14d194f4996a200ee50d80339a7dc1c1545f5172b3423e9493
Deleted: sha256:4b1344b1c0cebbde2c037b62f6e8d5bc583e0ce34b014d1e1134d432c148d646
Deleted: sha256:b25ec20d5e032a90f4349ba76e85030099cf3366bdecffcbacfe76b53bae900d
Deleted: sha256:9d094dcad2e4f7d4ab4c38ffc996656d824d2b36d7faebc19cfa34b0391163fe
Deleted: sha256:0bacabb7bbf7d3ce8cda57faa689f27c906ab87c63972c1eadf3bd35aa53351
Deleted: sha256:451ebe23d705efe01db947b2b0420114d638c14be5834dd67b7aecdeceecd77d
Deleted: sha256:483997c37d580a62f54f7ce2d17e98d125b8e5138c22a1411678ad4ed681787a
Deleted: sha256:386eeb33c48b577ebaf189f213f9bd424ad3da921c6e618fc55246a0feb6f7ea
```

```
Shell Script -- kubectl exec dood -- rm /home/Dockerfile-1.0.2 (self time 296ms)
```

```
+ kubectl exec dood -- rm /home/Dockerfile-1.0.2
```

v. Kubernetes deploy

Stage Logs (Kubernetes Deploy)

```
Shell Script -- sed -i 's/timeoff.tag/timeoff:1.0.2/g' deployment.yaml (self time 279ms)
```

```
+ sed -i s/timeoff:tag/timeoff:1.0.2/g deployment.yaml
```

```
Shell Script -- kubectl apply -f deployment.yaml -n gorilla-logic (self time 1s)
```

```
Shell Script -- kubectl apply -f deployment.yaml -n gorilla-logic (self time 1s)
```

```
+ kubectl apply -f deployment.yaml -n gorilla-logic
deployment.apps/timeoff configured
service/timeoff unchanged
```

```
PS C:\Users\fabian.rodriquez\Documents\Fabian\repos> kubectl get all -o wide -n gorilla-logic
```

NAME	READY	STATUS	RESTARTS	AGE	IP	NODE	NOMINATED NODE	READINESS GATES
pod/dood	1/1	Running	0	2d2h	10.8.1.10	gke-cluster-gorilla-logi-default-pool-bbc01338-lzcl	<none>	<none>
pod/jenkins-7b5db5cccb-f7sp4	0/1	ContainerCreating	0	12h	<none>	gke-cluster-gorilla-logi-default-pool-bbc01338-dih3	<none>	<none>
pod/jenkins-86657f8c9f-jcxfj	1/1	Running	0	12h	10.8.1.107	gke-cluster-gorilla-logi-default-pool-bbc01338-lzcl	<none>	<none>
pod/nexus-757b976dcd-5v555	1/1	Running	0	13h	10.8.2.3	gke-cluster-gorilla-logi-default-pool-bbc01338-dih3	<none>	<none>
pod/timeoff-86cc5bcb9b-rft7n	1/1	Running	0	7m22s	10.8.1.114	gke-cluster-gorilla-logi-default-pool-bbc01338-lzcl	<none>	<none>

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE	SELECTOR
service/jenkins	NodePort	10.12.15.120	<none>	8080:30700/TCP	4d1h	app=jenkins
service/jenkins-jnlp	ClusterIP	10.12.1.44	<none>	50000/TCP	3d20h	app=jenkins
service/nexus	NodePort	10.12.7.170	<none>	8081:30707/TCP	4d1h	app=nexus
service/timeoff	NodePort	10.12.10.165	<none>	3000:30701/TCP	128m	app=timeoff

NAME	READY	UP-TO-DATE	AVAILABLE	AGE	CONTAINERS	IMAGES	SELECTOR
deployment.apps/jenkins	1/1	1	1	4d1h	jenkins	fabianrp7/jenkins-master-custom:latest	app=jenkins
deployment.apps/nexus	1/1	1	1	13h	nexus	sonatype/nexus3:latest	app=nexus
deployment.apps/timeoff	1/1	1	1	128m	timeoff	fabianrp7/timeoff:1.0.2	app=timeoff

NAME	DESIRED	CURRENT	READY	AGE	CONTAINERS	IMAGES	SELECTOR
replicaset.apps/jenkins-675cd49dc5	0	0	0	4d1h	jenkins	fabianrp7/jenkins-master-node:latest	app=jenkins,pod-template-hash=675cd49dc5
replicaset.apps/jenkins-6c94c8b7f5	0	0	0	31h	jenkins	fabianrp7/jenkins-master-node:latest	app=jenkins,pod-template-hash=6c94c8b7f5
replicaset.apps/jenkins-7b5db5cccb	1	1	0	12h	jenkins	fabianrp7/jenkins-master-custom:latest	app=jenkins,pod-template-hash=7b5db5cccb
replicaset.apps/jenkins-86657f8c9f	1	1	1	4d1h	jenkins	fabianrp7/jenkins-master-node:latest	app=jenkins,pod-template-hash=86657f8c9f
replicaset.apps/nexus-5dcfc6b786	0	0	0	13h	nexus	sonatype/nexus3:latest	app=nexus,pod-template-hash=5dcfc6b786
replicaset.apps/nexus-757b976dcd	1	1	1	13h	nexus	sonatype/nexus3:latest	app=nexus,pod-template-hash=757b976dcd
replicaset.apps/timeoff-67b7b84489	0	0	0	120m	timeoff	fabianrp7/timeoff:1.0.1	app=timeoff,pod-template-hash=67b7b84489
replicaset.apps/timeoff-789957bf4	0	0	0	128m	timeoff	fabianrp7/timeoff:1.0.0	app=timeoff,pod-template-hash=789957bf4
replicaset.apps/timeoff-86cc5bcb9b	1	1	1	7m33s	timeoff	fabianrp7/timeoff:1.0.2	app=timeoff,pod-template-hash=86cc5bcb9b


```
PS C:\Users\fabian.rodriquez\Documents\Fabian\repos>
```


```


PS C:\Users\fabian.rodriquez\Documents\Fabian\repos> kubectl describe pod timeoff -n gorilla-logic
Name:          timeoff-86cc5bcb9b-rft7n
Namespace:     gorilla-logic
Priority:       0
Node:          gke-cluster-gorilla-logi-default-pool-bbc01338-lzc1/10.128.0.11
Start Time:    Sun, 20 Feb 2022 12:46:27 -0500
Labels:        app=timeoff
               pod-template-hash=86cc5bcb9b
Annotations:   <none>
Status:        Running
IP:            10.8.1.114
IPs:
  IP:          10.8.1.114
Controlled By: ReplicaSet/timeoff-86cc5bcb9b
Containers:
  timeoff:
    Container ID:  containerd://f0ad4340683df99d25b42495aa07f61755b1e7a1af82250d480e578716e89162
    Image:         fabianrp7/timeoff:1.0.2
    Image ID:      docker.io/fabianrp7/timeoff@sha256:cdd0cd9f98d30ed2d6052107b69ddcd8c8d072da7d358e7cdac19f44b5439411
    Port:          3000/TCP
    Host Port:     0/TCP
    State:         Running
      Started:     Sun, 20 Feb 2022 12:46:44 -0500
    Ready:         True
    Restart Count: 0
    Environment:   <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-vxcrr (ro)
Conditions:

```


[←](#)
[→](#)
[↻](#)
[hub.docker.com/repository/docker/fabianrp7/timeoff](#)


fabianrp7 / timeoff







This repository does not have a description



 Last pushed: 12 minutes ago

Tags and Scans


 VULNERABILITY SCANNING - DISABLED
[Enable](#)

This repository contains 3 tag(s).

TAG	OS	PULLED	PUSHED
 1.0.0		2 hours ago	2 hours ago
 1.0.1		2 hours ago	2 hours ago
 1.0.2		12 minutes ago	12 minutes ago

[See all](#)

TimeOff.Management

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Password

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Thank you, have a nice day.