Install Taiga in Production

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1. Docker

This is the easiest and **recommended** way to run Taiga in production. This document explains how to deploy a full Taiga service for a production environment with docker.

1.1. Requirements and caveats

Prior to start the installation, ensure you have installed:

- docker
- docker-compose

Additionally, it's necessary to have familiarity with Docker, docker-compose and Docker repositories.

1.2. Get repository

Clone this repository.

```
$ cd taiga-docker/
$ git checkout stable
```

1.3. Configuration

There are two options to configure taiga-docker, a simple and a complex configuration:

1.3.1. Simple configuration:

This configuration is likely to suit what you need. Edit environment variables in docker-compose.yml and docker-compose-inits.yml. Have in mind that some of the variables are in both files, and you need to edit both.

taiga-db

This service is for configuring the database.

POSTGRES DB, POSTGRES USER, POSTGRES PASSWORD vars will be used to create the database for Taiga.

WARNING

These vars should have the same values as taiga-back vars.

taiga-back and taiga-async

These services are for the REST API endpoints and the async tasks respectively.

Database settings:

POSTGRES_DB, POSTGRES_USER, POSTGRES_PASSWORD will be used to connect to the Taiga database.

WARNING

These vars should have the same values as taiga-db service vars.

POSTGRES_HOST is where the database is set. By default, it's meant to be in the same host as the database service so it uses internal docker names.

Taiga settings:

TAIGA_SECRET_KEY is the secret key of Taiga. Should be the same as this var in taiga-events and taiga-async. Besides, this should have the same value of SECRET_KEY in taiga-protected.

TAIGA_SITES_SCHEME, TAIGA_SITES_DOMAIN should have the url where this is served: https[://]taiga.mycompany.com

Session Settings:

You can add SESSION_COOKIE_SECURE and CSRF_COOKIE_SECURE to x-environment and change its value. By default is "True", so some browsers only accept https connections. More info about this

environment variables here.

Registration Settings:

PUBLIC_REGISTER_ENABLED to allow a public register when you configure this variable to "True". By default is "False". Should be the same as this var in taiga-front.

Telemetry Settings:

Telemetry anonymous data is collected in order to learn about the use of Taiga and improve the platform based on real scenarios. ENABLE_TELEMETRY could be opt out by setting this variable to "False". By default is "True".

Email Settings:

By default, email is configured with the **console** backend, which means that the emails will be shown in the stdout. If you have an smtp service, uncomment the "Email settings" section in docker-compose.yml and configure those environment variables:

DEFAULT_FROM_EMAIL, EMAIL_HOST, EMAIL_PORT, EMAIL_HOST_USER, EMAIL_HOST_PASSWORD, EMAIL_USE_TLS, EMAIL_USE_SSL. Uncomment EMAIL_BACKEND variable, but do not modify unless you know what you're doing.

Rabbit settings:

RABBITMQ_USER, RABBITMQ_PASS are used to leave messages in the rabbitmq services. Those variables should be the same as in taiga-async-rabbitmq and taiga-events-rabbitmq.

Github settings:

GITHUB_API_CLIENT_ID, GITHUB_API_CLIENT_SECRET used for login with Github. Get these in your profile https://github.com/settings/apps or in your organization profile https://github.com/organizations/{ORGANIZATION-SLUG}/settings/applications

Gitlab settings:

GITLAB_API_CLIENT_ID, GITLAB_API_CLIENT_SECRET, GITLAB_URL used for login with GitLab. Get these in your profile https://{YOUR-GITLAB}/profile/applications or in your organization profile https://{YOUR-GITLAB}/admin/applications

Importers:

It's possible to configure different platforms to import projects from them. Make sure that ENABLE_XXXX_IMPORTER envvar is configured in both taiga-back (x-environment) and taiga-front. In taiga-back environment variables, it's also necessary to configure different settings depending on the importer.

taiga-async-rabbitmq

Configure this service to generate messages from rabbitmq for taiga-async.

RABBITMQ_ERLANG_COOKIE is the secret erlang cookie.

RABBITMQ_DEFAULT_USER, RABBITMQ_DEFAULT_PASS, RABBITMQ_DEFAULT_VHOST will be used to connect to rabbitmq.

taiga-front

This service is for configuring the frontend application.

Taiga settings:

TAIGA_URL is where this Taiga instance should be served. It should be the same as TAIGA_SITES_SCHEME://TAIGA_SITES_DOMAIN.

TAIGA_WEBSOCKETS_URL to connect to the events. This should have the same value as TAIGA_SITES_DOMAIN, ie: ws://taiga.mycompany.com

Registration Settings:

PUBLIC_REGISTER_ENABLED to allow a public register, configure this variable to "true". By default is "false". Should be the same as this var in taiga-back.

Github settings:

GITHUB_CLIENT_ID used for login with Github. Get these in your profile https://github.com/settings/apps or in your organization profile https://github.com/organizations/{ORGANIZATION-SLUG}/settings/applications

Gitlab settings:

GITLAB_CLIENT_ID, GITLAB_URL used for login with GitLab. Get these in your profile https://{YOUR-GITLAB}/profile/applications or in your organization profile https://{YOUR-GITLAB}/admin/applications

Importers:

It's possible to configure different platforms to import projects from them. Make sure that ENABLE_XXXX_IMPORTER envvar is configured in both taiga-back (x-environment) and taiga-front.

taiga-protected

Configure this service and protects the attachments from external downloads.

SECRET KEY should be the same as this var in taiga-back.

MAX_AGE variable does that the attachments will be accessible with a token during a maximum (in seconds). After that, the token will expire.

taiga-events

Configure this service for Taiga websocket server which allows taiga-front to show realtime changes in the backlog, taskboard, kanban and issues listing.

RABBITMQ_USER, RABBITMQ_PASS are used to read messages from rabbitmq.

TAIGA_SECRET_KEY should be the same as this var in taiga-back.

taiga-events-rabbitmq

Configure this service to generate messages from rabbitmq for taiga-events.

RABBITMQ_ERLANG_COOKIE is the secret erlang cookie.

RABBITMQ_DEFAULT_USER, RABBITMQ_DEFAULT_PASS, RABBITMQ_DEFAULT_VHOST vars will be used to connect to rabbitmq.

1.3.2. Complex configuration:

In a complex configuration you ignore the environment variables in docker-compose.yml or docker-compose-inits.yml.

Map a config.py file

From taiga-back download the file settings/config.py.prod.example and rename it:

mv settings/config.py.prod.example settings/config.py

Edit it with your own configuration:

- connection to PostgreSQL
- connection to RabbitMQ for taiga-events and taiga-async
- · credentials for email
- Enable/disable anonymous telemetry
- Enable/disable public registration

Check as well the rest of the configuration if you need to enable some advanced features.

Map the file into /taiga-back/settings/config.py. Have in mind that you have to map it both in docker-compose.yml and docker-compose-inits.yml. You can check the x-volumes section in docker-compose.yml with an example.

Map a conf. json file

From taiga-front download the file dist/config.example.json and rename it:

```
mv dist/config.example.json dist/config.json
```

Edit it with your own configuration and map the file into /taiga-front/dist/config.py.

1.4. Configure an admin user

```
$ docker-compose up -d
$ docker-compose -f docker-compose.yml -f docker-compose-inits.yml run --rm taiga-
manage createsuperuser
```

1.5. Up and running

Once everything has been installed, launch all the services and check the result:

```
$ docker-compose up -d
```

Go to http://localhost:9000 and check your Taiga Platform is available.

1.6. Configure the proxy

Your host configuration needs to make a proxy to http://localhost:9000. Example:

```
server {
 server_name taiga.mycompany.com;
 location / {
    proxy_set_header Host $http_host;
   proxy_set_header X-Real-IP $remote_addr;
    proxy set header X-Scheme $scheme;
    proxy_set_header X-Forwarded-Proto $scheme;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_redirect off;
   proxy_pass http://localhost:9000/;
 }
 # Events
 location /events {
      proxy_pass http://localhost:9000/events;
      proxy_http_version 1.1;
      proxy_set_header Upgrade $http_upgrade;
      proxy_set_header Connection "upgrade";
      proxy_connect_timeout 7d;
      proxy_send_timeout 7d;
      proxy_read_timeout 7d;
 }
}
```

2. From source code

2.1. Introduction

This document explains how to deploy a full Taiga service for a production environment. A Taiga service consists of multiple Taiga modules which altogether make the Taiga platform.

The standard Taiga platform consists of several modules, and each one has its own dependencies both at compile time and runtime:

- taiga-back (API)
- taiga-async-tasks (async tasks, like bulk email or exports generation)
- taiga-front-dist (frontend)
- taiga-events (websockets gateway)
- taiga-protected (protected attachments)

Each module can be run on a unique machine or all of them can be installed to a different machine as well. In this tutorial we will setup everything on a single machine. This type of setup should suffice for small/medium production environments with low traffic.

2.2. Pre-requisites

- · A clean, recently updated Ubuntu 20.04 image
- At least 1GB RAM
- · At least 20GB of free storage
- TLS certificate to serve Taiga with HTTPS

Taiga installation must be done with a "regular" user, never with root!

During the tutorial, the following conditions are assumed:

- IP: 80.88.23.45
- **Hostname:** example.com (which points to 80.88.23.45)
- Username: taiga
- Working directory: /home/taiga/ (default for user taiga)

2.3. Dependencies

The typical Taiga setup described in this documentation depends on the following standalone major software installed separately from Taiga:

- Python 3 taiga-back, taiga-async and taiga-protected (Python >= 3.6)
- Node.js taiga-events

- NGINX web server and reverse proxy
- PostgreSQL database (PostgreSQL >= 9.4)
- RabbitMQ message broker, for taiga-async and taiga-events

2.4. Install System Dependencies

Install the following dependencies:

```
sudo apt-get update
sudo apt-get install -y build-essential binutils-doc autoconf flex bison libjpeg-dev
sudo apt-get install -y libfreetype6-dev zlib1g-dev libzmq3-dev libgdbm-dev
libncurses5-dev
sudo apt-get install -y automake libtool curl git tmux gettext
sudo apt-get install -y nginx
sudo apt-get install -y rabbitmq-server
```

Install PostgreSQL and remember to start the database server:

```
sudo apt-get install -y postgresql-12 postgresql-contrib-12 postgresql-doc-12 postgresql-server-dev-12 sudo pg_ctlcluster 12 main start
```

Python 3 must be installed along with a few third-party libraries:

```
sudo apt-get install -y python3 python3-pip python3-dev python3-venv sudo apt-get install -y libxml2-dev libxslt-dev sudo apt-get install -y libssl-dev libffi-dev
```

Install Node.js

```
curl -sL https://deb.nodesource.com/setup_12.x | sudo -E bash -
sudo apt-get install -y nodejs
```

2.5. Create a user taiga

Create a user with root privileges named taiga:

```
sudo adduser taiga
sudo adduser taiga sudo
sudo su taiga
cd ~
```

NOTE

Do **not** change to the root user (uid=0) at this point. Taiga deployment must be finished with the taiga user!

2.6. Configuring PostgreSQL and RabbitMQ

Configure PostgreSQL with the initial user and database:

```
sudo -u postgres createuser taiga --interactive --pwprompt sudo -u postgres createdb taiga -0 taiga --encoding='utf-8' --locale=en_US.utf8 --template=template0
```

Create a user named taiga, and a virtualhost for RabbitMQ (taiga-events and async tasks)

```
sudo rabbitmqctl add_user taiga PASSWORD_FOR_EVENTS
sudo rabbitmqctl add_vhost taiga
sudo rabbitmqctl set_permissions -p taiga taiga ".*" ".*" ".*"
```

NOTE

As the password will be used inside the Postgresql URL later, use only web safe characters: a-z, A-Z, 0-9, and - . $_\,^\sim$

2.7. Backend Setup

This section describes the installation and configuration of the **taiga-back** and **taiga-async** modules which serves the REST API endpoints and the async tasks respectively.

Get the code:

```
cd ~
git clone https://github.com/taigaio/taiga-back.git taiga-back
cd taiga-back
git checkout stable
```

Create a virtualenv:

```
python3 -m venv .venv --prompt taiga-back
source .venv/bin/activate
(taiga-back) pip install --upgrade pip wheel
```

Install all Python dependencies:

```
(taiga-back) pip install -r requirements.txt
```

Install taiga-contrib-protected:

```
(taiga-back) pip install git+https://github.com/taigaio/taiga-contrib-
protected.git@master#egg=taiga-contrib-protected
```

Settings file:

Create a settings/config.py file based on the example provided:

```
cp settings/config.py.prod.example settings/config.py
```

Edit the file and configure:

- connection to PostgreSQL
- connection to RabbitMQ for taiga-events and taiga-async
- · credentials for email
- Enable/disable anonymous telemetry
- Enable/disable public registration

Check as well the rest of the configuration if you need to enable some adavanced features.

Execute all migrations to populate the database with basic necessary initial data:

```
source .venv/bin/activate
(taiga-back) DJANGO_SETTINGS_MODULE=settings.config python manage.py migrate --noinput
# create an administrator with strong password
(taiga-back) CELERY_ENABLED=False DJANGO_SETTINGS_MODULE=settings.config python
manage.py createsuperuser
(taiga-back) DJANGO_SETTINGS_MODULE=settings.config python manage.py loaddata
initial_project_templates
(taiga-back) DJANGO_SETTINGS_MODULE=settings.config python manage.py compilemessages
(taiga-back) DJANGO_SETTINGS_MODULE=settings.config python manage.py collectstatic
--noinput
```

OPTIONAL: If you would like to have some example data loaded into Taiga, execute the following command to populate the database with sample projects and random data (useful for demos):

```
(taiga-back) CELERY_ENABLED=False DJANGO_SETTINGS_MODULE=settings.config python
manage.py sample_data
```

Verification

To make sure that everything works, execute the following commands to run the backend in development mode for a quick test:

```
source .venv/bin/activate
(taiga-back) DJANGO_SETTINGS_MODULE=settings.config python manage.py runserver
```

Open your browser at http://localhost:8000/api/v1/. If your configuration is correct, you will see a JSON representation of REST API endpoints. Open your browser at http://localhost:8000/admin/ and log-in with your admin credentials. Stop the development server (Ctrl+C) before continuing.

2.8. Frontend Setup

This section describes the installation and configuration of the **taiga-front** module which serves the frontend application.

Get the code

```
cd ~
git clone https://github.com/taigaio/taiga-front-dist.git taiga-front-dist
cd taiga-front-dist
git checkout stable
```

Copy the example config file:

```
cp ~/taiga-front-dist/dist/conf.example.json ~/taiga-front-dist/dist/conf.json
```

Edit the example configuration following the pattern below (replace with your own details):

```
"api": "https://example.com/api/v1/",
    "eventsUrl": "wss://example.com/events",
    "debug": "true",
    "publicRegisterEnabled": true,
    "feedbackEnabled": true,
    "privacyPolicyUrl": null,
    "termsOfServiceUrl": null,
    "GDPRUrl": null,
    "maxUploadFileSize": null,
    "contribPlugins": []
}
```

Having **taiga-front-dist** downloaded and configured is insufficient. The next step is to expose the code (in **dist** directory) under a static file web server.

In this tutorial We use **NGINX** as a static file web server and reverse-proxy. The configuration of NGINX is explained later.

2.9. Events Setup

This section provides instructions on downloading **taiga-events**, installing its dependencies and configuring it for use in production:

The **taiga-events** module is the Taiga websocket server which allows **taiga-front** to show realtime changes in the backlog, taskboard, kanban and issues listing.

Get the code:

```
cd ~
git clone https://github.com/taigaio/taiga-events.git taiga-events
cd taiga-events
git checkout stable
```

Install the required JavaScript dependencies:

```
npm install
```

Create .env file based on the provided example.

```
cp .env.example .env
```

Update it with your RabbitMQ URL and your unique secret key. Your final .env should look similar to the following example:

```
RABBITMQ_URL="amqp://rabbitmquser:rabbitmqpassword@rabbitmqhost:5672/taiga"
SECRET="mysecret"
WEB_SOCKET_SERVER_PORT=8888
APP_PORT=3023
```

The secret value in .env must be the same as the SECRET_KEY in ~/taiga-back/settings/config.py.

2.10. Taiga protected Setup

This section describes the installation and configuration of the **taiga-protected** modules which protects the attachments from external downloads.

Get the code:

```
cd ~
git clone https://github.com/taigaio/taiga-protected.git taiga-protected
cd taiga-protected
git checkout stable
```

Create a virtualenv:

```
python3 -m venv .venv --prompt taiga-protected
source .venv/bin/activate
(taiga-protected) pip install --upgrade pip wheel
```

Install all Python dependencies:

```
(taiga-protected) pip install -r requirements.txt
```

Copy the example config file:

```
cp ~/taiga-protected/env.sample ~/taiga-protected/.env
```

The SECRET_KEY value in .env must be the same as the SECRET_KEY in ~/taiga-back/settings/config.py.

2.11. Start and Expose Taiga

Now it's time to create the different systemd services to serve different modules of Taiga.

Create a new systemd file at /etc/systemd/system/taiga.service to run taiga-back:

```
[Unit]
Description=taiga_back
After=network.target

[Service]
User=taiga
WorkingDirectory=/home/taiga/taiga-back
ExecStart=/home/taiga/taiga-back/.venv/bin/gunicorn --workers 4 --timeout 60 --log
-level=info --access-logfile - --bind 0.0.0.0:8001 taiga.wsgi
Restart=always
RestartSec=3

Environment=PYTHONUNBUFFERED=true
Environment=DJANGO_SETTINGS_MODULE=settings.config

[Install]
WantedBy=default.target
```

Reload the systemd daemon and start the taiga service:

```
sudo systemctl daemon-reload
sudo systemctl start taiga
sudo systemctl enable taiga
```

To verify that the service is running, execute the following command:

```
sudo systemctl status taiga
```

Create a new systemd file at /etc/systemd/system/taiga-async.service to run taiga-async:

[Unit] Description=taiga_async After=network.target [Service] User=taiga WorkingDirectory=/home/taiga/taiga-back ExecStart=/home/taiga/taiga-back/.venv/bin/celery -A taiga.celery worker --concurrency 4 -l INFO Restart=always RestartSec=3 ExecStop=/bin/kill -s TERM \$MAINPID Environment=PYTHONUNBUFFERED=true Environment=DJANGO_SETTINGS_MODULE=settings.config [Install] WantedBy=default.target

Reload the systemd daemon and start the taiga-async service:

```
sudo systemctl daemon-reload
sudo systemctl start taiga-async
sudo systemctl enable taiga-async
```

To verify that the service is running, execute the following command:

```
sudo systemctl status taiga-async
```

Create a new systemd file at /etc/systemd/system/taiga-events.service to run taiga-events:

```
[Unit]
Description=taiga_events
After=network.target

[Service]
User=taiga
WorkingDirectory=/home/taiga/taiga-events
ExecStart=npm run start:production
Restart=always
RestartSec=3

[Install]
WantedBy=default.target
```

Reload the systemd daemon and start the taiga-events service:

```
sudo systemctl daemon-reload
sudo systemctl start taiga-events
sudo systemctl enable taiga-events
```

To verify that the service is running, execute the following command:

```
sudo systemctl status taiga-events
```

Create a new systemd file at /etc/systemd/system/taiga-protected.service to run taiga-protected:

```
[Unit]
Description=taiga_protected
After=network.target

[Service]
User=taiga
WorkingDirectory=/home/taiga/taiga-protected
ExecStart=/home/taiga/taiga-protected/.venv/bin/gunicorn --workers 4 --timeout 60
--log-level=info --access-logfile - --bind 0.0.0.0:8003 server:app
Restart=always
RestartSec=3

Environment=PYTHONUNBUFFERED=true

[Install]
WantedBy=default.target
```

Reload the systemd daemon and start the taiga-protected service:

```
sudo systemctl daemon-reload
sudo systemctl start taiga-protected
sudo systemctl enable taiga-protected
```

To verify that the service is running, execute the following command:

```
sudo systemctl status taiga-protected
```

Remove the default NGINX config file to avoid collision with Taiga:

```
sudo rm /etc/nginx/sites-enabled/default
```

Create the logs folder (mandatory)

```
mkdir -p ~/logs
```

To configure a new NGINX virtualhost for Taiga, create and edit the /etc/nginx/conf.d/taiga.conf file, as follows:

```
server {
    listen 80 default_server;
    server_name _;
    return 301 https://$server_name$request_uri;
}
server {
    listen 443 default_server;
    server_name _; # See http://nginx.org/en/docs/http/server_names.html
    large_client_header_buffers 4 32k;
    client_max_body_size 50M;
    charset utf-8;
    access_log /home/taiga/logs/nginx.access.log;
    error_log /home/taiga/logs/nginx.error.log;
    # Frontend
    location / {
        root /home/taiga/taiga-front-dist/dist/;
        try_files $uri $uri/ /index.html;
    }
    # Backend
    location /api {
        proxy_set_header Host $http_host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Scheme $scheme;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_pass http://127.0.0.1:8001/api;
        proxy_redirect off;
    }
    # Admin access (/admin/)
    location /admin {
        proxy_set_header Host $http_host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Scheme $scheme;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_pass http://127.0.0.1:8001$request_uri;
        proxy_redirect off;
    }
    # Static files
    location /static {
        alias /home/taiga/taiga-back/static;
```

```
# Media
location /_protected {
    internal;
    alias /home/taiga/taiga-back/media/;
    add_header Content-disposition "attachment";
}
# Unprotected section
location /media/exports {
    alias /home/taiga/taiga-back/media/exports/;
    add_header Content-disposition "attachment";
}
location /media {
    proxy_set_header Host $http_host;
    proxy_set_header X-Real-IP $remote_addr;
   proxy_set_header X-Scheme $scheme;
    proxy_set_header X-Forwarded-Proto $scheme;
    proxy set header X-Forwarded-For $proxy add x forwarded for;
    proxy_pass http://127.0.0.1:8003/;
   proxy_redirect off;
}
# Events
location /events {
    proxy_pass http://127.0.0.1:8888/events;
    proxy_http_version 1.1;
    proxy_set_header Upgrade $http_upgrade;
   proxy_set_header Connection "upgrade";
   proxy connect timeout 7d;
    proxy_send_timeout 7d;
   proxy_read_timeout 7d;
}
# TLS
# Configure your TLS following the best practices inside your company
```

Execute the following command to verify the NGINX configuration and to track any error in the service:

```
sudo nginx -t
```

Finally, restart the nginx service:

```
sudo systemctl restart nginx
```

Restart all Taiga services after updating the configuration:

```
sudo systemctl restart 'taiga*'
```

Now you should have the service up and running on: https://example.com/

2.12. Troubleshooting

If you face any issue during or after installing Taiga, please check the content of the following files:

- /etc/nginx/conf.d/taiga.conf
- /etc/systemd/system/taiga.service
- /etc/systemd/system/taiga-async.service
- /etc/systemd/system/taiga-events.service
- /etc/systemd/system/taiga-protected.service
- /home/taiga/taiga-back/settings/config.py
- /home/taiga/taiga-front-dist/dist/conf.json
- /home/taiga/taiga-events/config.json
- /home/taiga/taiga-protected/.venv
- The result of command sudo systemctl status 'taiga*'

Execute the following commands to check the status of services used by Taiga:

```
sudo systemctl status nginx
sudo systemctl status rabbitmq-server
sudo systemctl status postgresql
```

Check If you see any error in the service statuses and make sure all service status is Active: active (running).