

# How to Install Exalate for GitHub on Docker

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You can host Exalate for GitHub on your own server. To do so, you need to install Exalate on Docker.

**Note:** You need to install Docker. Check the [docker documentation](#) for more details.

## Steps to Install Exalate for GitHub on Docker

### 1. Create directory and create docker-compose.yml file

Create a directory to hold the docker-compose file:

```
cd ~  
mkdir exalate-gitnode
```

Create or download a **docker-compose.yml** file

**Note:** Click [docker-compose.yml](#) to download the file.

**Important:** We recommend using the latest version of Exalate for GitHub. It can be found in the [Release History](#).

Enter the latest version in the `image` tag. For example, in `image: idalko/githubnode:5.12.0`, the version of Exalate for GitHub is `5.12.0`.

The **docker-compose.yml** file should contain the following information in it:

```

version: '2'

services:
  database:
    restart: unless-stopped
    image: postgres:12.19
    volumes:
      - ./persist/db:/var/lib/postgresql/data
      - ./createdb.sh:/docker-entrypoint-initdb.d/init-user-db.sh
    environment:
      - POSTGRES_PASSWORD=changeme
      - DB_NAME=githubnode
      - DB_USER=idalko
      - DB_PASS=idalko
    networks:
      - dbnet

  githubnode:
    restart: unless-stopped
    ports:
      - 9302:9002

#
# Change the image tag to the required version
# Check Release History on docs.exalate.com for an overview
#
image: idalko/githubnode:5.12.0
depends_on:
  - database #wait for postgres to be started, not for ready
volumes:
  - ./persist/home:/opt/githubnode/data
environment:
  # Add your environment settings here
  - GITHUBNODE_PG_HOST=database
  - GITHUBNODE_PG_DB=exalate?gssEncMode=disable
  - GITHUBNODE_PG_USER=idalko
  - GITHUBNODE_PG_PWD=idalko
  - GITHUBNODE_PORT=9302

#As part of the security improvements, Exalate 5.5.0 validates the origin header
#that the browser is sending upon every request to Exalate.
#In order to validate the origin header, Exalate needs to know what is the URL
#leading to it.
#When deploying Exalate to Docker one needs to put an environment variable NODE_SELF_URL
.
#Example:
# When you deploy Exalate onto a server, you configure a DNS rule such that
# whenever people navigate to foo.com, they reach your server's Exalate.
# You set up SSL so that https://foo.com leads to your Exalate on your server.
# Now you need to set environment variable

- NODE_SELF_URL=https://foo.com

#for your Exalate docker container.

networks:
  - dbnet
  - default

networks:
  dbnet:
    driver: bridge
  default:
    driver: bridge

```

## Connecting to Postgres 10 or Higher

For unencrypted connections from Exalate to a Postgres version 10 or higher, you need to disable `gssEncMode` with the following setting:

```

# exalate is the name of the database on the postgres instance
#
GITHUBNODE_PG_DB=exalate?gssEncMode=disable

```

## 2. Ensure that a correct database is setup using a createdb.sh

Create or download a **createdb.sh** file (referenced from docker-compose.yml):

**Note:** Click [createdb.sh](#) to download the file.

The file should contain the following information:

```
#!/bin/bash

TEST=`psql -U postgres <<-EOSQL
SELECT 1 FROM pg_database WHERE datname='$DB_NAME';
EOSQL`

echo "*****CREATING DOCKER DATABASE*****"
if [[ $TEST == "1" ]]; then
  # database exists
  # $? is 0
  exit 0
else
  psql -U postgres <<-EOSQL
  CREATE ROLE $DB_USER WITH LOGIN ENCRYPTED PASSWORD '${DB_PASS}' SUPERUSER;
  EOSQL

  psql -U postgres <<-EOSQL
  CREATE DATABASE $DB_NAME WITH OWNER $DB_USER ENCODING 'UNICODE' LC_COLLATE 'C' LC_CTYPE 'C' TEMPLATE template0
  ;
  EOSQL

  psql -U postgres <<-EOSQL
  GRANT ALL PRIVILEGES ON DATABASE $DB_NAME TO $DB_USER;
  EOSQL
fi

echo ""
echo "*****DOCKER DATABASE CREATED*****"
```

Ensure that the volumes are included in your backup strategy:

- persist

### 3. Set Environment Variables if necessary

Below, you can find the environment variables used for the app container. All are optional, and in the given example, we've overridden GITHUBNODE\_PG\_DB, GITHUBNODE\_PG\_USER, and GITHUBNODE\_PG\_PWD just to show how to pass different credentials to the Exalate application.

**Full list of environment variables:**

Variable name	Default value	Example	Description
GITHUBNODE_PG_HOST	GITHUBNODE_PG_HOST=database	GITHUBNODE_PG_HOST=db.acme.com	Tells the exalate application where is the postgres database to connect to if hosted on a different host
GITHUBNODE_PG_DB	GITHUBNODE_PG_DB=exalate	GITHUBNODE_PG_DB=exalate	Tells the exalate application what is the postgres database name to use in the exalate application
GITHUBNODE_PG_USER	GITHUBNODE_PG_USER=idalko	GITHUBNODE_PG_USER=exalate	Tells the exalate application what is the postgres database user to use in the exalate application to perform queries
GITHUBNODE_PG_PWD	GITHUBNODE_PG_PWD=idalko	GITHUBNODE_PG_PWD=secret	Tells the exalate application what is the postgres database password to use in the exalate application to perform queries

Variable name	Default value	Example	Description
GITHUBNODE_PORT	GITHUBNODE_PORT=9000	GITHUBNODE_PORT=8080	<p>Tells what wh to start the e: application or is the port wil exalategitnoc container, thu variable is ch example to 80</p> <pre>ports: - 9000:90</pre> <p>should also b</p> <pre>ports: - 8080:80</pre>
GITHUBNODE_SMTP_HOST_NAME	GITHUBNODE_SMTP_HOST_NAME=mail.server.com	GITHUBNODE_SMTP_HOST_NAME=smtp.gmail.com	Is used to ser notifications & blocking sync
GITHUBNODE_SMTP_PORT	GITHUBNODE_SMTP_PORT=465	GITHUBODE_SMTP_PORT=587	is used to ser notifications & blocking sync
GITHUBNODE_SMTP_FROM	GITHUBNODE_SMTP_FROM=admin@admin.com	GITHUBNODE_SMTP_FROM=my.name@gmail.com	Is used to ser notifications & blocking sync
GITHUBNODE_SMTP_USER	GITHUBNODE_SMTP_USER=admin	GITHUBNODE_SMTP_USER=my.name	Is used to ser notifications & blocking sync
GITHUBNODE_SMTP_PASS	GITHUBNODE_SMTP_PASS=1234567	GITHUBNODE_SMTP_PASS=secret	Is used to ser notifications & blocking sync
GITHUBNODE_SMTP_TLS	GITHUBNODE_SMTP_TLS=true	GITHUBNODE_SMTP_TLS=true	<p>Is used to ser notifications &amp; blocking sync</p> <p>Can be set to the</p> <p>GITHUBNODE should be set that accepts non-TLS conn</p>
HTTP_HEADERS	n/a	HTTP_HEADERS="TestName1: testAddHeader1"	Allows additic to pass betwe and the serve request head

### Using a Proxy for Outgoing Connections

Whenever the Exalate node needs to use a proxy to establish outgoing connections, use the following parameters in the environment (naming should be obvious):

- PROXY\_HTTP\_HOST

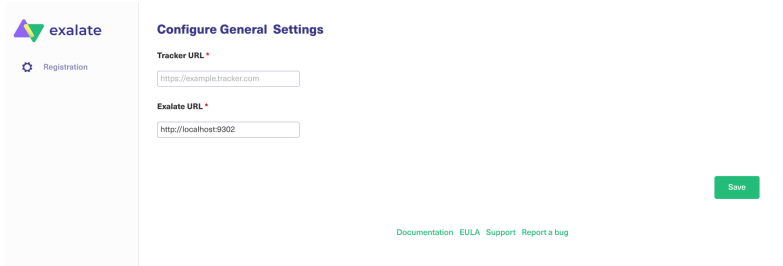
- PROXY\_HTTP\_PORT
- PROXY\_HTTPS\_HOST
- PROXY\_HTTPS\_PORT

## 4. Start the Application

```
cd ~/exalate-gitnode
docker-compose up -d
```

### Verify the installation

After performing these steps and checking that the container is up, you should be able to access the Exalate console via <http://localhost:9302>



**Note:** You might need to set up local port forwarding in order to get this to work.

## 5. Register the Node

To be able to fully use the functionality of your new node, it needs to be registered on the mapper. This mapper acts as a DNS server, mapping tracker URLs to node URLs.

Please raise a [ticket on the support portal](#) providing the following:

- URL of the GitHub instance
- URL of the Exalate node which has been deployed on premise

## How to Manage the Application on Docker

### Run Queries to the Application's Database

```
cd ~/exalate-gitnode
docker exec -it exalate-gitnode_database_1 bash
su postgres
psql -A $DB_NAME
```

You can find all tables using PSQLs `\dt+` command:

```
\dt+
```

All the Postgres SQL queries are permitted

To exit the application's DB:

```
\q
# \q exits the psql
exit
# exits the postgres user session
exit
# exits the exalate-gitnode_database_1 bash session
```

### Inspect the Application's Filesystem

```
cd ~/exalate-gitnode
docker exec -it exalate-gitnode_githubnode_1 bash
```

### Remove the application

```
cd ~/exalate-gitnode
docker-compose rm
```

Remove the application data

**Warning:** Do this only if you want to delete all the synchronization information, including the current synchronizations enqueued to be performed, and synchronization status. Ensure that the remote side you exalate issues with knows that you're stopping synchronization and are ready to handle synchronization errors.

```
cd ~/exalate-gitnode
# docker volume ls | grep exalate-gitnode_vol | awk '{ print $2 }' | xargs docker volume rm
docker volume rm exalate-gitnode_voldatabase
docker volume rm exalate-gitnode_volgithubnode
```

## System Administration Tasks

With the Exalate for Jira Cloud is running on your environment, you are also required to do the mandatory system administration tasks

- Backup (& restore tests)
- Disaster recovery procedure
- Upgrades whenever needed

**Note:** Please note that an Exalate version has a lifespan of 2 years. This is to ensure backward compatibility over the whole platform. There are regular new versions deployed which contain bug fixes, security-related improvements, and even new features. Watch the [release notes](#) page for any new versions.

## Upgrading Exalate on Docker

If you need to upgrade Exalate on Docker, here are the steps to follow:

### 1. Edit the YAML File:

Open the `docker-compose.yml` file in a text editor and modify the image tag for the service you wish to upgrade.

```
# use the latest version https://hub.docker.com/r/idalko/githubnode
image: idalko/githubnode:latest
depends_on:
  - database #wait for postgres to be started, not for ready
```

Replace `latest` with the latest or desired version tag.

### 2. Pull the Latest Image:

From the directory containing your `docker-compose.yml` file, pull the latest image.

```
docker-compose pull
```

### 3. Recreate the Container:

Using Docker Compose, you can easily recreate the container with the new image.

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

The `-d` flag runs the containers in detached mode. Docker Compose automatically stops the old container and starts a new one based on the updated image.

### 4. Post-Upgrade Checks:

After starting the upgraded container, check to make sure everything is running as expected:

- Log into the Exalate interface and verify that all your configurations, connections are intact.
- Test out a few synchronizations to make sure they work as expected.
- Check for any errors in the Docker logs or the Exalate logs.

# Troubleshooting

## Issues during the installation of the Exalate server for GitHub

If you have issues during the installation of the Exalate app for GitHub, you can find logs describing possible problem inside `/tmp`.

The name for the file is generated randomly and automatically by the OS, but you can find the file by the creation date.

## Issues while running the Exalate server for GitHub

Logs are generated under the directory: `/opt/githubnode/data/logs`.

Refer to these logs to get more information about possible issues and communicate with our support if you need any assistance.

## Support

Check our [Support](#) options.

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