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# **Gemnasium docs Documentation**

***Release 1.1.1***

**Gemnasium**

**Apr 06, 2017**



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# CHAPTER 1

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## Welcome

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Welcome to the Gemnasium Enterprise 1.1 documentation, where you can find information and guides to help you with Gemnasium Enterprise and start exploring its features.

Use the left navigation bar to browse the documentation, the Search bar in the top-left to look for something specific, or the links below to access some highlights.

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**Note:** Gemnasium Enterprise Edition will be referred as “GEE” in this documentation

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#### 1.1.3 - 2017-03-21

- Gemnasium Enterprise is now also available on Quay.io

#### 1.1.2 - 2017-02-16

- [BUG] Minor bug and fixes
- [BUG] UI pages now expose an error to the user if the backend is not available.
- [FEATURE] New button to copy the notification channels of a project to all the projects of the team
- [FEATURE] New `MAILER_EMAIL_FROM` env var to specify the sender of GEE email notifications
- [DOC] Added documentation for CA certs used in integrations
- [DOC] Added documentation for users behind proxies

#### 1.1.1 - 2017-02-03

- [BUG] Fix webhook handler. The service in charge of receiving and triggering a project sync was returning a 200 and dropping the event in some cases.

#### 1.1.0 - 2017-01-31

- [FEATURE] Add Bitbucket Server support
- [BUG] Weekly digests are now sent on Monday mornings, 8am, instead of Sunday at midnight

- [BUG] Adding an empty project from GitHub/Gitlab/bitbucket.org was causing the webhook registration to fail. The project bootstrapping was considered as finished, and the project was not synced after the first commit.

Note: We have switched to [Webpack 2](#) for assets bundling, this is transparent for users.

## **1.0.0 - 2017-01-27**

Same as 1.0.0-rc1.

## **1.0.0-rc1 - 2017-01-16**

This is the last pre-release before 1.0.0, if no bug is found.

- [FEATURE] Add Bitbucket.org (Bitbucket Cloud) Support
- [FEATURE] Add project logs with realtime update
- [FEATURE] Improve project notification channels configuration
- [FEATURE] Allow to edit existing project notification channel
- [FEATURE] Improve user notifications configuration
- [BUG] Fix various UI bugs
- [BUG] Some PHP packages were not fully synced

## **1.0.0-beta4 - 2016-12-15**

- [FEATURE] “New package release” notifications via Slack and email
- [BUG] Fix file upload form when adding unsupported file
- [BUG] Fix left menu bar behavior on small devices layout
- [BUG] Fix oauth signup error handling

## **1.0.0-beta3 - 2016-11-29**

- [FEATURE] GitLab Support
- [FEATURE] New notifications in the UI

Known issues:

- [BUG][GITLAB] Symlinks on dependency files are not followed
- [BUG][GITLAB] Dependency files greater than 2MB are ignored
- [BUG] Can't sign-in using an oauth account if the same email is already used

## 1.0.0-beta2 - 2016-11-18

- [FEATURE] Display commits in project page
- [FEATURE] Internal logging (live feeds will be available in beta3)
- [BUG] Fix a security issue when adding a project to a team. The tokens of the team owner were used instead of the user's.
- [BUG] Fix display issues in Firefox
- [BUG] Fix UI Cache issues
- [BUG] Offline projects color was not updated when pushing new dependency files
- [BUG] Sync was failing when commit already existed
- [BUG] Fix a bug preventing to upload new files in Offline projects

Known issues:

- [FEATURE] Gitlab support is delayed to beta3
- [BUG] Can't sign-in using an oauth account if the same email is already used

## 1.0.0-beta1 - 2016-10-21

- First private beta
- GitHub.com and GitHub Enterprise support
- Slack integration for notifications



### What is Gemnasium Enterprise?

Gemnasium Enterprise Edition (GEE) is the self-hosted version of Gemnasium, designed to run on your own servers, inside your network. A private license key is required to use the software, otherwise no data will be synced with gemnasium.com (making your instance unusable).

To get a valid license key, please contact our support.

### First steps

Gemnasium Enterprise is designed as a collaborative tool. Each project must be added inside a team context, that's why the first thing to do is to create your team. The name must be unique in the Gemnasium Enterprise instance.

### Add your colleagues

Go to the “Team” section of the main menu, and press the “+ Add member” button to invite co-workers. The role of the invited user will grant him/her access to your team:

- “Admin” users will be able to manage project and users
- “Basic” users will be able to access projects only

### Add projects

The first shortcut in the main menu “+ Add project” will allow you to add new projects to a team. Once the team is selected, a source must be chosen. By default, only “offline” projects are available, because your instance doesn't know anything about external sources.

Offline projects will allow to upload dependencies files (Gemfile, Gemfile.lock, package.json,...) directly to a project. This kind of project is called “offline”, because Gemnasium can't synchronize the files with an external source.

To add projects from `github.com`, or GitHub Enterprise, an external source must be created. Please refer to the corresponding pages in the “INSTALLATION AND CONFIGURATION” section of this documentation. More source types will be available in the next versions of Gemnasium Enterprise.

### Subscriptions

- As Gemnasium Enterprise is provided as a docker image, you must have a [Docker Hub](#) or [Quay](#) account to download it.
- A Gemnasium Enterprise license is required. If do not have your license yet, please contact our support.

### System Requirements

#### Hardware

- Physical or virtual system, or an instance running on a public or private IaaS.
- 1 vCPU
- Minimum of 2GB RAM
- Minimum 20GB hard disk space

#### Software

- OS: RedHat (RHEL, Atomic Host, Centos & Fedora flavors), Debian Stable. Any OS running docker should work but is not officially supported.
- Docker  $\geq$  1.9.1





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## Firewall configuration

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Gemnasium Enterprise is designed to run behind your firewalls, inside your network. It should be completely isolated from the outside, especially from incoming connections.

### Incoming traffic

Gemnasium only exposes two ports:

Port	Usage	Protocol
80	clear connection	http
443	secure connection	https

It's your responsibility to configure your network and firewall to restrict access to these ports. By default, Gemnasium exposes port 80 only to redirect to port 443. Custom ports might be used, refer to [License key](#) if needed.

### Outgoing traffic

While Gemnasium Enterprise should be completely isolated from the outside for incoming connections, some outgoing traffic is necessary for normal operation. The following ports must be open on your firewall for outgoing traffic:

Address	Port	Protocol	Usage
sync.gemnasium.com	443	tcp	Sync with Gemnasium main DB
index.docker.io	443	tcp	Pull updates of gemnasium/enterprise image, if used.
quay.io	443	tcp	Quay docker repository, if used.

### What data is sent to sync.gemnasium.com?

Your content is private, and will remain private. But synchronizing all packages, versions, changelogs, advisories, etc. with Gemnasium's main DB would require a huge amount of storage and a lot of bandwidth.

To avoid this situation, your instance of Gemnasium Enterprise periodically sends a list of the packages (dependencies) used in your projects to <https://sync.gemnasium.com>. In return, Gemnasium syncer provides all the metadata corresponding to this request, including the security advisories. Gemnasium keeps the following information in private log entries:

- Timestamp of the current sync request
- Customer (based on license key)
- Gemnasium version used
- Number of packages per type (gems, npms, ...)

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**Note:** Private dependencies are completely ignored by the syncer.

---

Advisories can be created at any time on Gemnasium.com; that's why your instance synchronizes hourly. If one of your projects is using a dependency affected by a security issue, you will be notified by your instance within the hour.

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**Note:** Gemnasium is using data (advisories) from security companies (partnerships only). Your data will never be submitted directly to these companies, but Gemnasium may share anonymized statistical data.

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## Run Gemnasium Enterprise

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Gemnasium Enterprise is shipped as a single, all-included [docker image](#).

### Download Gemnasium Enterprise

In order to be able to download the Gemnasium Enterprise docker image, you must have one of these accounts:

- [Docker Hub](#)
- [Quay](#)

Send us the name of the account used and we will share the image with that user.

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**Note:** This documentation is based on Docker hub image URLs, ie: `gemnasium/enterprise`. If Quay is being used instead, prefix the image name to have `quay.io/gemnasium/enterprise`.

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### Preparing volumes

Persistent volumes are needed to store Gemnasium Enterprise data. The easiest way to get started, is to create local volumes on your server, but it can be any kind of volume supported by the docker engine.

**See also:**

Please refer to Docker Volumes for more information: <https://docs.docker.com/engine/tutorials/dockervolumes/>

To create local volumes, on you server:

```
docker volume create --name gemnasium-data
docker volume create --name gemnasium-logs
```

## License key

As you will see, in all the `docker run` commands, there is a `-e LICENSE_KEY=YOUR_OWN_LICENSE_KEY \`. You need to replace `YOUR_OWN_LICENSE_KEY` with the license we gave you. If you don't have one, please get in touch and we'll get that sorted.

## Configuring SSL

A valid certificate must be provided to run Gemnasium Enterprise with the integrated SSL server (nginx). If you don't need Gemnasium Enterprise to serve content on https directly, go directly to the section: [Running without SSL](#).

The certificate files **must** be named after the server name.

Example: for `gemnasium.example.com`, the certificate files **must** be named:

- `gemnasium.example.com.cert.pem` for the certificate
- `gemnasium.example.com.key.pem` for its private key

Gemnasium will look for 2 files with the `.cert.pem` and `.key.pem` suffix.

If the certificate has an intermediate chain, it must concatenated after the server certificate:

```
cat server.cert.pem ca-chain.cert.pem > gemnasium.example.com.cert.pem
```

The 2 files **must** be available in `/etc/gemnasium/ssl`, inside the container.

```
docker run --detach \
  --name gemnasium \
  --restart always \
  -v /host/path/to/ssl:/etc/gemnasium/ssl \
  -p 80:80 -p 443:443 \
  -e LICENSE_KEY=YOUR_OWN_LICENSE_KEY \
  -v gemnasium-data:/var/opt/gemnasium/ \
  -v gemnasium-logs:/var/log/ \
  -v /var/run/docker.sock:/var/run/docker.sock \
  gemnasium/enterprise:latest
```

---

**Note:** Gemnasium needs the docker socket to be mounted only if the Reports feature is being used. If not, the line `-v /var/run/docker.sock:/var/run/docker.sock` can be safely removed.

---

This will pull and start Gemnasium Enterprise. Your instance will be available at <https://gemnasium.example.com> after a few seconds.

If you need to use a different port for https than 443, use the `EXTERNAL_URL` env var to specify the full URL of your Gemnasium Enterprise server, including the port used:

```
docker run --detach \
  --name gemnasium \
  --restart always \
  -v /host/path/to/ssl:/etc/gemnasium/ssl \
  -p 80:80 -p 8443:443 \
  -e LICENSE_KEY=YOUR_OWN_LICENSE_KEY \
  -e EXTERNAL_URL=https://gemnasium.example.com:8443/ \
  -v gemnasium-data:/var/opt/gemnasium/ \
  -v gemnasium-logs:/var/log/ \
```

```
-v /var/run/docker.sock:/var/run/docker.sock \
gemnasium/enterprise:latest
```

and start browsing <https://gemnasium.example.com:8443/>

## Running without SSL

**Warning:** We strongly discourage running Gemnasium Enterprise without any SSL termination. This section is present if you already have SSL terminations, like secured reverse-proxies, ssl appliances, etc.

Run the image:

```
docker run --detach \
  --name gemnasium \
  --restart always \
  -e REDIRECT_HTTP_TO_HTTPS=false \
  -e EXTERNAL_URL=https://gemnasium.example.com/ \
  -p 80:80 \
  -e LICENSE_KEY=YOUR_OWN_LICENSE_KEY \
  -v gemnasium-data:/var/opt/gemnasium/ \
  -v gemnasium-logs:/var/log/ \
  -v /var/run/docker.sock:/var/run/docker.sock \
  gemnasium/enterprise:latest
```

**Note:** The environment variable REDIRECT\_HTTP\_TO\_HTTPS is *true* by default, and must be *false* in this case.

The service is available after a few seconds on the port 80 of your server. Use the EXTERNAL\_URL variable to specify the full URL of your Gemnasium Enterprise server, including the port if necessary.

## SELinux

Gemnasium Enterprise can't be run directly on SELinux servers, because:

1. The volumes will be readonly by default
2. The docker socket will be restricted to the host

Use this command instead:

```
docker run --detach \
  --name gemnasium \
  --restart always \
  -v /host/path/to/ssl:/etc/gemnasium/ssl \
  -p 80:80 -p 443:443 \
  -e LICENSE_KEY=YOUR_OWN_LICENSE_KEY \
  -v gemnasium-data:/var/opt/gemnasium/:Z \
  -v gemnasium-logs:/var/log/:Z \
  -v /var/run/docker.sock:/var/run/docker.sock:Z \
  gemnasium/enterprise:latest
```

This will label the content inside the container with the exact MCS label that the container will run with, basically it runs `chcon -Rt svirt_sandbox_file_t -l s0:c1,c2 /var/db` where `s0:c1,c2` differs for each container.

**See also:**

More info: <http://www.projectatomic.io/blog/2015/06/using-volumes-with-docker-can-cause-problems-with-selinux/>

Please refer to this project to install the proper SELinux module to fix the second point.

## Volumes

Gemnasium is storing data in two folders, which should be mounted as volumes

Local location	Location in container	Usage
gemnasium-data (volume)	/var/opt/gemnasium	Gemnasium data
gemnasium-logs (volume)	/var/log	Gemnasium logs

Gemnasium data is composed mostly of the PostgreSQL database files, but also nsq data, etc. These files must be backed up, refer to the [Data Backup](#) section.

The `/var/log` contains the OS logs, and everything dedicated to gemnasium in `/var/log/gemnasium`.

Finally, as explained in the [License key](#) section, your certificate and key must be available in the `/etc/gemnasium/ssl` folder.

## Logging

By default, all logs will be sent to the standard output of the container (`stdout`), along with files in `/var/log`. This makes it easier to troubleshoot if needed.

## Graylog

Gemnasium Enterprise can be configured to log to a distant [Graylog](#) server. To enable this feature, use the following environment variables:

Env variables	Usage
GRAYLOG_SERVICE_HOST	Graylog input hostname/ip
GRAYLOG_SERVICE_PORT	Graylog input port

Example:

```
docker run --detach \  
  --name gemnasium \  
  --restart always \  
  -v /host/path/to/ssl:/etc/gemnasium/ssl \  
  -p 80:80 -p 443:443 \  
  -v gemnasium-data:/var/opt/gemnasium/ \  
  -v gemnasium-logs:/var/log/ \  
  -v /var/run/docker.sock:/var/run/docker.sock \  
  -e GRAYLOG_SERVICE_HOST=logs.example.log \  
  -e GRAYLOG_SERVICE_PORT=1515 \  
  gemnasium/enterprise:latest
```

Both variables must be set to activate the GELF output.

## Obtaining a shell

The docker image doesn't have a SSH server, because docker provides everything needed to get a shell console inside the container:

```
docker exec -it gemnasium bash
```

will create a new bash session, with the root user.

**Warning:** With great power comes great responsibility: as root, you can damage files inside the container, including your persisted data.





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## SMTP setup

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In order to send notifications (team invitations, digests, etc.), Gemnasium Enterprise needs a SMTP server. There is no such server included in the docker image, so an external SMTP server should be used. Note that SMTP connectivity is not fully required, just recommended.

### Configuration

SMTP can be configured by passing environment variable to the docker container:

Env variables	Usage
SMTP_SERVICE_HOST	Server host address
SMTP_SERVICE_PORT	Server port
SMTP_USER_NAME	Username
SMTP_PASSWORD	Password
SMTP_INSECURE	Skip SSL verification

The SMTP password can be plain auth, or a secret (CRAM-MD5 auth). These variables are all optional.

SSL and TLS are supported, and will be automatically used if the port (SMTP\_SERVICE\_PORT) is 465 or 587.

The sender for email notifications will be by default *app@gemnasium.com* which can be an issue with your smtp server. It can be updated by passing the MAILER\_EMAIL\_FROM environment var to your Gemnasium Enterprise container.



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### Environment Variables

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Gemnasium Enterprise is entirely configured using environment variables.

#### Variables persistence

If you don't want to specify by hand all environment variables in `docker run`, you can create a file including all the variables to be set: Compose expects each line in an env file to be in `VAR=VAL` format. Lines beginning with `#` (i.e. comments) are ignored, as are blank lines.

To use the environment file, add the `--env-file=[file name]` to your `docker run` command line.

With `docker-compose`, the name should be named `.env` in the same directory as your `docker-compose.yaml` file, and will be loaded automatically. Remember to specify the env variables expected in the file, otherwise `docker-compose` will simply ignore them.

## Variables List

Env variables	Usage	Required	Default
<b>Main</b>			
LICENSE_KEY	Your GEE private license key	required	
EXTERNAL_URL	Your GEE full URL	required	
<b>Logging</b>			
GRAYLOG_SERVICE_HOST	Graylog input hostname/ip	optional	
GRAYLOG_SERVICE_PORT	Graylog input port	if GRAYLOG_SERVICE_HOST is set	
<b>SMTP</b>			
SMTP_SERVICE_HOST	SMTP server host	optional	
SMTP_SERVICE_PORT	SMTP server port	optional	25
SMTP_USER_NAME	SMTP user	optional	
SMTP_PASSWORD	SMTP password (plain auth) or secret (CRAM-MD5 auth)	optional	
SMTP_INSECURE	SMTP skip SSL verification	optional	false
MAILER_EMAIL_FROM	Email notifications sender	optional	<a href="mailto:app@gemnasium.com">app@gemnasium.com</a>

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# Upgrade Gemnasium Enterprise

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While the data about packages, versions, etc. is automatically updated, and stored in your local database, Gemnasium Enterprise won't upgrade itself automatically.

## Using latest version

To upgrade Gemnasium Enterprise to a new version:

1- Pull the new image:

```
docker pull gemnasium/enterprise:latest
```

2- Stop and remove the container:

```
docker rm -f gemnasium
```

3- Run the image again (see *Preparing volumes*). Gemnasium Enterprise will update your data automatically, if necessary.

```
docker run [...]
```

## Using nightly version

Every night, a new build of Gemnasium Enterprise will be generated, as a `gemnasium/enterprise:nightly` image. This image is intended for debugging only, and should not be used for production.

## Using a tagged version

The available tags are listed here: <https://hub.docker.com/r/gemnasium/enterprise/tags/>

It is recommended to always use the `latest` tag.

## CHAPTER 10

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### Troubleshooting

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Read container logs:

```
docker logs -f gemnasium
```

Enter running container:

```
docker exec -it gemnasium /bin/bash
```





# CHAPTER 11

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## Data Backup

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Gemnasium Enterprise will store its data in a persistent volume (cf. [Volumes](#)).

It is YOUR responsibility to backup this volume. Gemnasium Enterprise has no capacities of backing up data.

### Snapshots

Disk snapshots are probably the best option to backup your data. All the data stored in the persistent volume will be saved at once, and can be restored at anytime.

If a restore is needed, remember to stop the container before restoring anything:

```
docker stop gemnasium
```

and remove it completely:

```
docker rm gemnasium
```

Once the data is restored, run again the image: [Preparing volumes](#)

### Using docker

As explained in the “[Manage data in containers](#)” [docker](#) page, docker may be used to create a tarball:

```
docker run --rm --volumes-from gemnasium -v $(pwd):/backup ubuntu tar cvf /backup/backup.tar /var/opt/gemnasium
```

It is highly recommended to stop the container before doing this operation.

## Restoring data with docker

With your backup in the local directly (pwd), untar your archive to restore the data in the `gemnasium-data` volume:

```
$ docker run --rm -v $(pwd):/backup -v gemnasium-data:/var/opt/gemnasium/ gemnasium/  
↪enterprise bash -c "cd /var/opt/gemnasium && tar xvf /backup/backup.tar --strip 1"
```

Once the data is restored, run again the image: *Preparing volumes*

# CHAPTER 12

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## Proxy configuration

---

Gemnasium Enterprise is designed to run behind your firewalls, inside your network. If your network is using a proxy to access http or https resources, you may need to adapt GEE configuration.

By default, docker will use a [default network bridge](#), so the network stack is shared with the host where docker is running.

The proxy configuration for Docker is beyond the scope of this documentation, please refer to Docker and your operating system documentation if needed.

Gemnasium Enterprise is using the posix environment vars `http_proxy` (`HTTP_PROXY`) and `no_proxy` (`NO_PROXY`) directly. Set these variables according to your network configuration. All the services inside the container will be aware of these two variables.

## NO\_PROXY configuration

As Gemnasium Enterprise is composed of several services running inside the container, the communication between the services might be affected by a proxy configuration on your network.

These hosts must be added to your current `no_proxy` var inside the container:

- Your Gemnasium Enterprise full URL
- `api`
- `gemnasium-api`
- `gemnasium-auth`
- `gemnasium-badges`
- `gemnasium-billing`
- `gemnasium-notifier`
- `gemnasium-repo-syncer`
- `nsqlookupd`

- nsqd
- postgresql

These hostnames are added to `/etc/hosts` when the container is starting, so it's important that a `curl gemnasium-api:8081` is working inside the container.

```
root@60bdf6bb1ab5:/# curl gemnasium-api:8081
<a href="http://docs.gemnasium.apiary.io">Moved Permanently</a>.
```

Remember that you can also pass an environment file to your docker container with `--env-file=[file name]`, so this file should contain a complete `no_proxy` definition.

# CHAPTER 13

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## Self-Signed Certificates

---

Gemnasium Enterprise doesn't require a certificate signed by a (well-)known authority. As with any other service running on your network, it's not recommended to use such certificate, unless a CA certificate is being used to sign it.

Gemnasium Enterprise will fail to contact your local servers if they are using such certificate, unless the right CA is available in the container.

---

**Note:** Only valid (ie: signed by a known authority) certificates will work with Gemnasium Enterprise.

---

## Installing a CA CERT

Gemnasium Enterprise is using a Debian Stable as the operating system. To make sure all services inside the container are using the right certificates, they must be installed into `/etc/ssl/certs/`. Do not mount a folder on this path directly, as you may hide the current certificates already present (Debian default ones). Each certificate can actually be mounted:

```
docker run [...] -v [ca-cert file path]:/etc/ssl/certs/[ca-cert file path]:ro_
→gemnasium/enterprise
```

---

**Note:** If you have more than one CA certificate, replicate this parameter for each.

---

## Getting a valid certificate

If you don't have a valid authority to sign your certificates, you may want to use [Let's Encrypt](#). They are delivering free certificates.



### GitHub.com

Before being able to add projects from github.com, Gemnasium Enterprise needs to be configured to be able to access it.

There're parts to it. First, creating an OAuth application on GitHub and then configuring Gemnasium Enterprise to use that application.

### Adding OAuth applications on GitHub

The first step we need to do create two new OAuth applications. You read that right; Gemnasium Enterprise needs two different OAuth applications. One to enable “Login with GitHub” and one to synchronize projects.

To do that:

- go on <https://github.com/settings/developers> (or alternatively, add the application to an organization: [https://github.com/organizations/{\[\]your\\_org{\[\]}/settings/applications](https://github.com/organizations/{[]your_org{[]}/settings/applications))
- click on the “Register a new application”
- Set the name to “Gemnasium Enterprise Login”, Homepage URL to your Gemnasium Enterprise base URL (example: “<https://gemnasium.example.com/>”) and finally the callback URL to be {homepage URL}/auth/auth/github.com/login/callback where you replace the home with your Gemnasium Enterprise host (example: <https://gemnasium.example.com/auth/auth/github.com/login/callback>)
- Click on the “Register application” button.

You will need some the “Client ID” and “Client Secret” you see on the confirmation page for the next section. You can keep that tab open and open a new tab to <https://github.com/settings/developers> to create the second application.

To create the second application required:

- go on <https://github.com/settings/developers>
- click on the “Register a new application”

- Set the name to “Gemnasium Enterprise Sync”, Homepage URL to your Gemnasium Enterprise base URL (example: “<https://gemnasium.example.com/>”) and finally the callback URL to be {homepage URL}/auth/auth/github.com/sync/callback where you replace the home with your Gemnasium Enterprise host (example: <https://gemnasium.example.com/auth/auth/github.com/sync/callback>)
- Click on the “Register application” button.

## Configure Gemnasium Enterprise to use GitHub

A convenient script is provided to configure your instance:

```
docker exec -it gemnasium configure
```

Your Gemnasium Enterprise users are now able to login using their GitHub account. A new source named “GitHub” is also available on the “Add Project” screen.

## GitHub Enterprise

GitHub Enterprise is no different than GitHub, the steps are the same as above, just replace *github.com* with your GitHub Enterprise instance URL.

When using the configuration script, make sure to select “GitHub Enterprise” instead of “GitHub.com”. The script will ask for your instance URL, and to name it.

Several GitHub Enterprise instances can be configured, just name them accordingly.

## Requirements

Gemnasium Enterprise has been tested against GitHub Enterprise  $\geq 2.7.X$ . If your version is older than 2.7 series, please contact our support.



### GitLab.com

Before being able to add projects from your GitLab Enterprise (GHE) instance, Gemnasium Enterprise needs to be configured to be able to access it.

There're two parts to it. First, creating an OAuth application on GitLab Enterprise and then configuring Gemnasium Enterprise to use that application.

### Adding an OAuth application on GitLab Enterprise

The first step we need to do create a new OAuth application.

To do that:

- go on <https://ghe.example.com/settings/developers> where *ghe.example.com* is the hostname of your GHE instance
- click on the “Register a new application”
- Set the name to “Gemnasium Enterprise Login”, Homepage URL to your Gemnasium Enterprise base URL (example: “<https://gemnasium.example.com/>”) and finally the callback URL to be {homepage URL}/auth/{GitLab Enterprise host}/login/callback where you replace the home and the GHE host (example: <https://gemnasium.example.com/auth/auth/gitlab-enterprise.example.com/login/callback>)
- Click on the “Register application” button.

You will need some the client ID & secret you see on the confirmation page for the next section. You can keep that tab open and open a new tab to <https://gitlab.com/settings/developers> to create the second application.

To create the second application required:

- go on <https://ghe.example.com/settings/developers> where *ghe.example.com* is the hostname of your GHE instance
- click on the “Register a new application”

- Set the name to “Gemnasium Enterprise Sync”, Homepage URL to your Gemnasium Enterprise base URL (example: “<https://gemnasium.example.com/>”) and finally the callback URL to be {homepage URL}/auth/auth/{GitLab Enterprise host}/sync/callback where you replace the home and the GHE host (example: <https://gemnasium.example.com/auth/auth/gitlab-enterprise.example.com/sync/callback>)
- Click on the “Register application” button.

## Configure Gemnasium Enterprise to use GitLab Enterprise

A convenient script is provided to add everything at once:

```
docker exec -it gemnasium configure
```

Select “GitLab Enterprise”, and then fill the corresponding fields with the values from the apps created above.

Your Gemnasium Enterprise users are now able to login using their GitLab Enterprise account. A new source with the name entered in the configure script is also available on the “Add Project” screen.

## GitLab CE/EE

GitLab.com is actually running the same code base as GitLab CE/EE, so the steps are the same as above. Just replace GitLab.com with your private GitLab instance URL.

When using the configuration script, make sure to select “GitLab CE/EE” instead of “GitLab.com”. The script will ask for your instance URL, and to name it.

Several GitLab instances can be configured, just name them accordingly.

## Requirements

Gemnasium Enterprise is compatible with GitLab  $\geq 8.14$ . There is a bug in nginx affecting lower versions of GitLab.

Before being able to add projects from bitbucket.org (A.K.A. Bitbucket Cloud), Gemnasium Enterprise needs to be configured to be able to access it.

First add an OAuth consumer on bitbucket.org, then configure Gemnasium Enterprise to use that OAuth consumer.

### Adding OAuth consumers on Bitbucket.org

The first step is to go to open the “Add OAuth consumer” form:

- Go to the Bitbucket Settings page.
- If needed, use the dropdown list and select the Bitbucket account of your company.
- Click on the “OAuth” item in the sidebar.
- Click on the “Add consumer” button.

Or simply visit: [https://bitbucket.org/account/user/\[\[your\\_account\]\]/oauth-consumers/new](https://bitbucket.org/account/user/[[your_account]]/oauth-consumers/new)

Then fill the form:

- Set the name to “Gemnasium Enterprise”.
- Set the callback URL to be `{homepage URL}/auth/auth/bitbucket.org` where you replace the home with your Gemnasium Enterprise host (example: `https://gemnasium.example.com/auth/auth/bitbucket.org`)
- Set the URL to your Gemnasium Enterprise base URL (example: “<https://gemnasium.example.com/>”).
- Grant permissions to: read account, read repositories, read and write webhooks.
- Save the new OAuth consumer.

You’ll then be redirected to the OAuth Consumers page and the consumer named “Gemnasium Enterprise” will be visible in the list. Click on its name to expand the item and retrieve the credentials: the consumer key and its secret.

## Configure Gemnasium Enterprise to use Bitbucket.org

A convenient script is provided to configure your instance:

```
docker exec -it gemnasium configure
```

Your Gemnasium Enterprise users are now able to login using their Bitbucket.org account. A new source named “Bitbucket.org” is also available on the “Add Project” screen.

## Advanced configuration

The default configuration described above enables both Bitbucket.org Sign In and project synchronization with Bitbucket.org. The advanced configuration makes it possible to restrict the integration to one of these two features.

To enable Bitbucket.org Sign Up, add an OAuth consumer with the permissions “account” and “email”, then run these commands to configure Gemnasium Enterprise accordingly:

```
docker exec -it gemnasium auth provider create bitbucket.org bitbucket https://
↪bitbucket.org/site/oauth2/authorize https://bitbucket.org/site/oauth2/access_token
docker exec -it gemnasium auth clients create bitbucket.org login OAUTH_CONSUMER_KEY_
↪OAUTH_CONSUMER_SECRET account,email
```

To enable Bitbucket.org Synchronization, add an OAuth consumer with the permissions “repository” and “webhook”, then run these commands to configure Gemnasium Enterprise accordingly:

```
docker exec -it gemnasium auth provider create bitbucket.org bitbucket https://
↪bitbucket.org/site/oauth2/authorize https://bitbucket.org/site/oauth2/access_token
docker exec -it gemnasium auth clients create bitbucket.org sync OAUTH_CONSUMER_KEY_
↪OAUTH_CONSUMER_SECRET repository,webhook
docker exec -it gemnasium repo-syncer sources create bitbucket.org "Bitbucket Cloud"
↪bitbucket https://api.bitbucket.org
```

OAUTH\_CONSUMER\_KEY and OAUTH\_CONSUMER\_SECRET must be replaced with the key and the secret of the OAuth consumer created on Bitbucket.org. See [Adding OAuth consumers on Bitbucket.org](#) above.

# CHAPTER 17

## Bitbucket Server

Before being able to add projects from Bitbucket Server (formerly know as Atlassian Stash), Gemnasium Enterprise needs to be configured to be able to access it.

Bitbucket Server is different from the other integrations since [OAuth 1.0](#) is being used, instead of [OAuth 2.0](#).

First add an OAuth consumer on Bitbucket Server, then configure Gemnasium Enterprise to use that OAuth consumer.

### Adding OAuth consumers on Bitbucket Server

Before configuring Bitbucket Server, make sure you have the public key of the certificate Gemnasium Enterprise uses to sign off all the requests it sends to OAuth 1.0 providers like Bitbucket Server. This public key is displayed when running the Gemnasium Enterprise configure script (see [Configure Gemnasium Enterprise to use Bitbucket Server](#) below).

On Bitbucket Server, OAuth consumers are registered as a special kind of “Application Links” with an “Incoming Authentication” configuration.

To access the “Application Links” settings:

- Log in Bitbucket Server as an admin,
- Go to the settings page, or click on the gear icon that’s in the upper-right corner of the page:



- Click on the “Application Links” item that’s under the “SETTINGS” section of the sidebar:

## Administration

- Overview
  - ACCOUNTS
    - Users
    - Groups
    - Global permissions
    - Authentication
    - Avatars
    - User Directories
  - SETTINGS
    - Server settings
    - Database
    - Application Navigator
    - Application Links
    - Mail server

### Accounts

- Users**  
Edit individual user details, passwords and groups membership.
- Groups**  
Create groups and manage the users within each group.
- Global permissions**  
Configure global user permissions.
- Authentication**  
Configure access, privacy and spam prevention settings.
- Avatars**  
Configure user avatar settings.
- User Directories**  
Connect Bitbucket to user directory servers - Active Directory, Crowd

### Settings

- Server settings**  
Configure HTTP, SSH and other server settings.
- Database**  
We recommend migrating to an external database for production use
- Application Navigator**  
Add links to the Application Navigator
- Application Links**  
Configure links to other applications, including Atlassian products.
- Mail server**  
Configure the SMTP server used to send notification emails.
- Licensing**  
View and configure license information

Or simply visit [https://{bitbucket\\_server}/plugins/servlet/applinks/listApplicationLinks](https://{bitbucket_server}/plugins/servlet/applinks/listApplicationLinks) where `bitbucket_server` is the hostname of your Bitbucket Server instance.

Then create a new Application Link for Gemnasium Enterprise:

- Enter the URL of your Gemnasium Enterprise instance,

## Configure Application Links

[Give Feedback](#)

[Create new link](#)


Application	Version	Status	Actions
-------------	---------	--------	---------

(<https://gemnasium.localhost> is an example, use your instance URL here)

- Click on “Create new link”.

Bitbucket Server then shows a warning because it’s not able to probe the URL in order to configure the Application Link automatically. You can safely ignore this warning and proceed by clicking on “Continue”.

## Configure Application URL



No response was received from the URL you entered - it may not be valid. Please fix the URL below, if needed, and click Continue.

Entered URL

New URL <sup>\*</sup>

Then, fill in the mandatory fields of the “Link application” form:

- Set the Application Name to “Gemnasium Enterprise”,
- Set the Application Type to “Generic Application”,
- Let the other fields empty and click on “Continue”.

## Link applications

You are creating a link from:



**Application URL:** https://bitbucket.priv.tech-angels.net

**Name:** Bitbucket

**Application:** Bitbucket Server

To this application:

**Application URL:** https://gemnasium.localhost/

Application Name \*

Application Type \*

Generic Application

Service Provider  
Name

Consumer key

Shared secret

Request Token URL

Access token URL

Authorize URL

Create incoming link

☐

Continue

Cancel



A new Application Link shows up in the list. Click on pen icon in order to edit its properties.

Application	Version	Status	Actions
 <b>Gemnasium Enterprise Private</b> <span>PRIMARY</span>	Generic Application	<span>NON-ATLASSIAN</span>	 ...

Then click on “Incoming Authentication” and fill in the form:

- Set the Consumer Key to “gemnasium\_enterprise”,
- Set the Consumer Name to “Gemnasium Enterprise”,
- Paste the Public Key that was given when configuring Gemnasium Enterprise (see [Configure Gemnasium Enterprise to use Bitbucket Server](#) below),
- Set the Consumer Callback URL to `{gemnasium_enterprise_url}/auth/auth/{bitbucket_hostname}` where you replace *gemnasium\_enterprise\_url* with the base URL of your Gemnasium Enterprise and *bitbucket\_hostname* with the hostname of your Bitbucket Server instance (example: `https://gemnasium.example.com/auth/auth/bitbucket.example.org`)
- Click on “Save”.

### Configure Gemnasium Xyz

[Application Details](#)  
[Outgoing Authentication](#)  
**Incoming Authentication**

This application Bitbucket (Bitbucket Server) can be configured to allow incoming requests from Gemnasium Xyz (Generic Application) using these authentication methods:

OAuth

Status **Not Configured**

Consumer Key\*

The key supplied by the consumer application. The format of this key is determined by the consumer.

Consumer Name\*

A short name for the consumer site, to help users identify the consumer when granting it access to data.

Description

For example, the consumer application name and URL, such as 'JIRA at `http://jira.mycompany.com`'

Close

**Important:** Make sure to use “gemnasium\_enterprise” as the Consumer Key

Gemnasium Enterprise can now connect to Bitbucket Server using the OAuth 1.0 protocol.

## Configure Gemnasium Enterprise to use Bitbucket Server

A convenient script is provided to configure your instance:

```
docker exec -it gemnasium configure
```

When prompted, give the hostname of your Bitbucket Server instance and the OAuth Consumer Key you have registered Gemnasium Enterprise with (example: *gemnasium\_enterprise*).

Your Gemnasium Enterprise users are now able to login using their Bitbucket Server account. Also, a new repository source named “Bitbucket Server” is available on the “Add Project” screen.

## Adding project webhooks

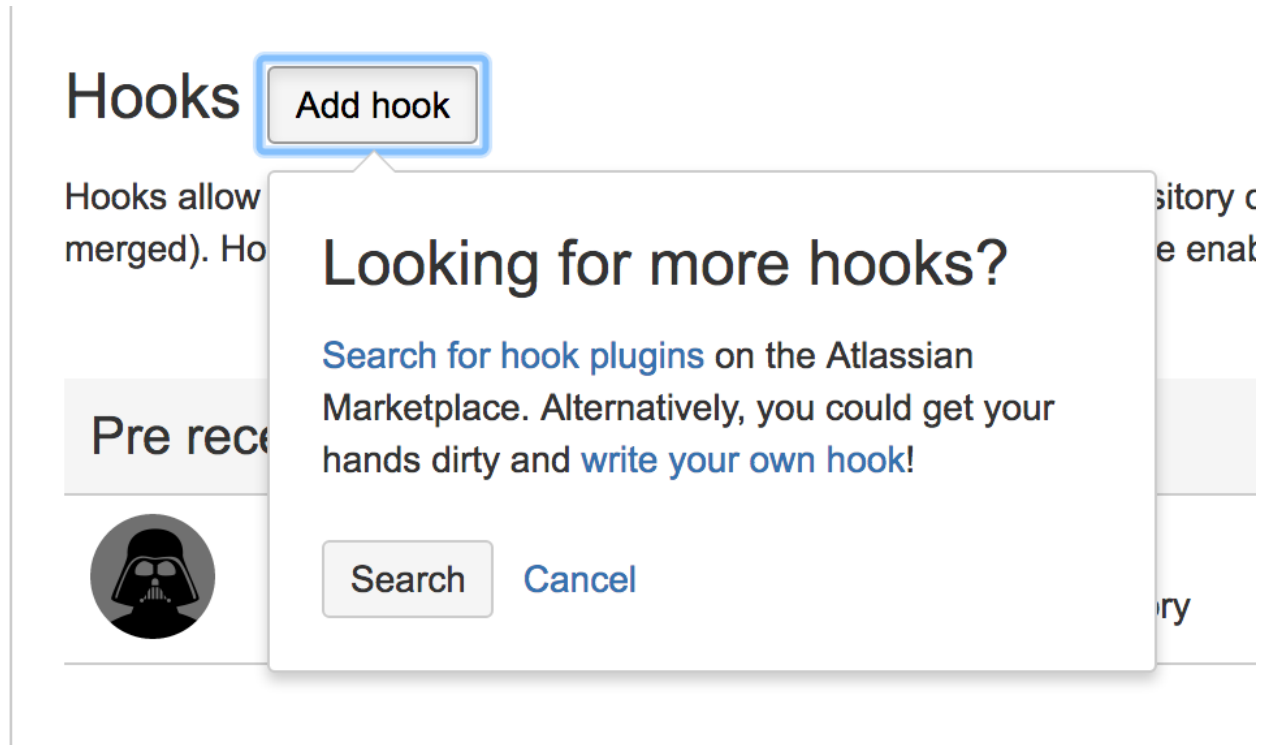
**Danger:** Bitbucket Server API does not provide any way to create webhooks in projects like GitHub or Gitlab (or even bitbucket.org). This operation is therefore manual, and must be executed for each project added to Gemnasium Enterprise.

Go to your Bitbucket Server project setting page, and click on the “Hooks” link.


The screenshot shows the Bitbucket Server interface. At the top, there's a navigation bar with 'Bitbucket', 'Projects', and 'Repositories'. A search bar is on the right. Below the navigation bar, the 'Settings' page is displayed. On the left, a sidebar contains various settings links: 'Repository details', 'SECURITY' (with sub-links for 'Repository permissions', 'Branch permissions', 'Access keys', and 'Audit log'), and 'WORKFLOW' (with sub-links for 'Hooks', 'Pull requests', 'HipChat integration', 'Branching model', and 'Default reviewers'). The 'Hooks' link is highlighted. The main content area is titled 'Repository details' and shows information for a repository named 'rails-app'. It includes fields for 'Name', 'Location on disk' (pointing to a path on the server), 'Approximate size' (with a link to 'Retrieve size details'), and 'Default branch' (set to 'master'). There are also checkboxes for 'Allow forks' and 'Transcode diffs', and a section for 'Large File Storage (LFS)' with an 'Allow LFS' checkbox. At the bottom, there are 'Save' and 'Cancel' buttons.

A webhook plugin must be installed (once) to be able to notify URLs.

- Click on the “Add Hook” button, then “Search”



- A new tab will open with the Atlassian plugins marketplace
- Search for “Web Post Hooks”, and select the “Bitbucket Server Web Post Hooks Plugin” plugin



**Bitbucket Server Web Post Hooks Plugin**  
 Atlassian Labs • Unsupported  
REPOSITORY HOOKS

★★☆☆ (10)  
 2,646 installations  
 Free

Manage

Notify other systems or services of commits to your Bitbucket Server repository by adding a Post-Receive Webhook.

**Notify other systems of commits to your repository**

You can notify other systems in your internal or external network.

**Configured on a per-repository basis**

All options are per repository

**Documentation**

Check out our [confluence page](#) for details documentation

**More details**

Allows you to send HTTP post requests to a URL when a commit is recieved.

**Rate and review**

Rate add-on: ★★☆☆

Review this add-on for other [Atlassian Marketplace](#) users.

Leave Review

[Support issues or requests](#)

**Screenshots (3)**

- v. 3.0.4
- Atlassian Closed-Source License

[Watch add-on](#)

[Support and issues](#)


[Customer reviews](#)

[Documentation](#)

[License details](#)


[Marketplace listing](#)

**People who use this add-on also installed:**




Javascript Hooks for Bitbucket Server

★★☆☆ (2)




Web Fragment Finder for Bitbucket Server

★☆☆☆ (0)



Hipchat Plugin for Bitbucket Server

★★★★ (14)




Bitbucket Server Archive Plugin


★★★★ (17)

Make sure you have the required permission level to install this plugin, or request the installation to an admin of your Bitbucket Server.

- Once installed, enable the plugin in the project settings:

Post receive - perform actions after commits are processed



**Post-Receive WebHooks**   
 Allows Bitbucket to POST commit related information to other systems via a simple WebHook URL.

Disabled **Enabled**

- Click on “Post-Receive WebHooks” (or the pen next to the name) to configure the plugin

## Post-Receive WebHooks

Bitbucket will send a POST request to the URLs provided after code has been pushed to your Git repository. The body of the POST request contains information about the repository where the change originated, a list of commits, and the user that made the push.

You can find the details in [our documentation](#).

URL <sup>\*</sup>

[Add another URL](#)

Save

Disable

Cancel

Enter the following URL:

`{gemnasium_enterprise_url}/repo-syncer/repos/{project_slug}/events`

where:

- `gemnasium_enterprise_url` is the URL of your Gemnasium Enterprise instance, starting with `https://`
- `project_slug` is composed of `{bitbucket_hostname}/{project}/{repo}`

In our example, the hook URL is `https://gemnasium.localhost/repo-syncer/repos/bitbucket.priv.tech-angels.net/GEM/rails-app/events` and the repo URL is `https://bitbucket.priv.tech-angels.net/projects/GEM/repos/rails-app/browse`



## CHAPTER 18

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### Slack

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Because it's an enterprise version installed on your server, you need to do a few things in order to add Slack support. The first step is to create a new Slack application, on Slack itself. Here are the steps:

- Go on [https://api.slack.com/apps?new\\_app=1](https://api.slack.com/apps?new_app=1)
- Set the App Name to be “Gemnasium Enterprise”, and then click on the “Create App” button.
- You will need the Client ID and Client Secret in a moment. You can keep them around or go back to see them when you need them.
- (optional) By default, there is no Gemnasium icon for the messages sent on Slack. If you want it, which we suggest, you can upload it on the “Basic Information” screen of the app you just created, in the “Display Information” section. You can use this icon..
- Go in the “OAuth & Permissions” section (in the left menu) and set the redirect URL to <https://gemnasium.example.com/auth/auth/slack.com/webhook/callback>

Now, we need to configure Gemnasium Enterprise to use it:

```
docker exec -it gemnasium configure
```

Select “Slack”, and then fill the corresponding fields with the values from the apps created above.

Now you only need to configure Slack notifications for a project in the web UI. You can do that in the “Settings” of each project.