



blackfire

INSTALLATION GUIDE

by **magecom**



Blackfire is a PHP Performance Management Solution. It enables you to get deep insights on how your code is executed and how it consumes resources, with the help of profiling and testing technologies. Blackfire can be used at any step of an application's lifecycle: during development, test, staging, and production. Its core technology relies on profiling techniques. While the application code is being executed, Blackfire gathers resource consumption data.

Blackfire can be installed whether into a host system or like a docker container. The latter option is for those who use Docker.

Install and configuration Blackfire.io

- Installation into a host system (Debian based distributives (Ubuntu, Mint, etc.))
- Installation like a docker container

Installation into a host system

(Debian based distributives (Ubuntu, Mint, etc.):

Blackfire uses a custom Debian repository to distribute its packages; it is compatible with most Debian-based distributions like Ubuntu and Linux-Mint.

To install the Blackfire.io into a host system, the following commands should be executed:

1. Register the packagecloud key:

```
wget -q -O - https://packages.blackfire.io/gpg.key | sudo apt-key add -
```

2. Add the repository to Debian source list:

```
echo "deb http://packages.blackfire.io/debian any main" | sudo tee /etc/apt/sources.list.d/blackfire.  
list && sudo apt update
```

3. Install the blackfire-agent package::

```
sudo apt install blackfire-agent
```

4. Configure the server agent credentials:

Go to the link <https://blackfire.io/my/settings/credentials> and you will find «Server ID» and «Server Token» keys under the section My Server Credentials.

```
sudo blackfire-agent --register --server-id=SERVER_ID --server-token=SERVER_TOKEN
```

5. Restart the agent service:

```
sudo /etc/init.d/blackfire-agent restart
```

NOTE:

During the agent installation, a new `/etc/init.d/blackfire-agent` service was created to start, stop, and restart it. Whenever you modify the agent configuration, restart it. If something goes wrong, check out the log file generated by default in `/var/log/blackfire/agent.log`. Change the log file or the log level in the `/etc/blackfire/agent` (and `/etc/default/blackfire-agent` when launched as a daemon by the system).

6. Install the blackfire-php package:

```
sudo apt install blackfire-php
```

7. Restart your web server or PHP-FPM.

Check if there are errors in the logs. To debug problems, change the log level and the log file in the probe configuration in php.ini.

```
; Log verbosity level (4: debug, 3: info, 2: warning, 1: error)
blackfire.log_level = 1
; Log file (STDERR by default)
blackfire.log_file = /tmp/blackfire.log
```

Known incompatibilities:

- PHP will likely crash when Blackfire is used when one of the following extensions is also enabled: XHProf, Pinba, and Suhosin.
- If XDebug is installed, the PHP engine may not behave as expected; consider disabling it when profiling.
- If pcov extension is installed, Blackfire will not behave as expected; consider disabling it when profiling.

To profile applications, you need to install a profiling client:

- Profile from a browser via our browser extensions (Web applications only). You are currently using Google Chrome. Congratulations! You can start profiling your applications from this browser as the Extension is already installed.
- Profile from the command line via the blackfire tool (Web applications, APIs, command line tools, daemons, and more). Configure it with your personal credentials:

Go to the link <https://blackfire.io/my/settings/credentials> and under the section My Client Credentials you will find «Client ID» and «Client Token» keys.

Start profiling

Via browser: <https://blackfire.io/docs/cookbooks/profiling-http-via-browser>

Via CLI: <https://blackfire.io/docs/cookbooks/profiling-http-via-cli>

Installation like a docker container

If you are using Docker, you might want to use the official Blackfire Docker image to run the Agent. To install the Blackfire.io as a docker container, the following commands should be executed:

1. Go to the link <https://blackfire.io/my/settings/credentials> and get your server credentials and set them to these variables:

```
export BLACKFIRE_SERVER_ID=Your Server ID
export BLACKFIRE_SERVER_TOKEN=Your Server Token
```

2. Install the Blackfire agent as a separate container:

```
docker run --name="blackfire" --net net -d -e BLACKFIRE_SERVER_ID -e BLACKFIRE_SERVER_TOKEN
blackfire/blackfire
```

NOTE:

set your network name to the --net attribute to connect the Blackfire container in a single network with other your containers.

3. When you want to use Blackfire, start the container by the command:

```
docker start blackfire
```

4. Go to your php container. For instance, by using this command:

```
docker exec -it php_container bash
```

5. Run commands to install the blackfire-php package:

Redhat-based containers (Fedora, CentOS, etc.):

```
sudo yum install pygpgme
wget -O - "http://packages.blackfire.io/fedora/blackfire.repo" | sudo tee /etc/yum.repos.d/blackfire.repo
sudo yum install blackfire-php
```

Debian-based containers (Ubuntu, Mint, etc.):

```
wget -q -O - https://packages.blackfire.io/gpg.key | sudo apt-key add -
echo "deb http://packages.blackfire.io/debian any main" | sudo tee /etc/apt/sources.list.d/blackfire.list
&& sudo apt update
sudo apt install blackfire-php
```

NOTE:
Possible issue with the public key. «The following signatures couldn't be verified because the public key is not available: NO_PUBKEY 696DBE66A72D76DA» (can be another key number)

To fix this, execute the command:

```
sudo apt install gnupg && sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 696DBE66A72D76DA
```

6. Change blackfire.agent_socket:

```
sudo vim /etc/php.d/zz-blackfire.ini
```

NOTE:
If the file does not exist, run the command: php --ini and pick up the file «zz-blackfire.ini» path:

And set this value:

blackfire.agent_socket	tcp://blackfire:8707
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7. Uncomment the following config and add values from <https://blackfire.io/my/settings/credentials>:

```
blackfire.server_id  
blackfire.server_token
```

8. Restart docker and run backfire container (step 3).

```
sudo systemctl restart docker
```

9. Install Chrome or Firefox Blackfire browser extension:

Links:

<https://chrome.google.com/webstore/detail/blackfire-profiler/miefikpgahefdbcbgoiicnmpbeeomffld>

<https://addons.mozilla.org/en-US/firefox/addon/blackfire/>

10. Start profiling.



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