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# Kwranking Documentation

*Release*

**OpenStack, LLC**

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Kwranking provides information about host efficiency. It deploys UnixBench on remote hosts using SSH and runs arithmetic tests. The returned value is stored in the DB (it never changes over time). During the tests, the max power consumption is reached and stored in Ceilometer, so the flop/w metric is build using the max power value retrieved in Ceilometer and the flop value returned by the benchmark. The flop/w metric is updated periodically, because the max power consumption may vary over the machine lifetime. An API allows the user to find the most efficient hosts from a list of hosts passed as parameter. Kwranking could be used to improve scheduling strategies. This documentation offers information on how Kwranking works.



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## Installing

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### 1.1 Installing Kwranging

1. Clone the Kwranging git repository to the management server:

```
$ git clone https://github.com/frossigneux/kwranging
```

2. As a user with `root` permissions or `sudo` privileges, run the Kwranging installer and copy the configuration files:

```
$ pip install kwranging  
$ cp -r kwranging/etc/kwranging /etc/
```

### 1.2 Running Kwranging service

Start the Kwranging API:

```
$ kwranging-api
```





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## Configuration Options

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The following table lists the Kwranging options in the configuration file. Please note that Kwranging uses openstack-common extensively, which requires that the other parameters are set appropriately.

Parameter	Default	Note
api_port	5001	API port
acl_enabled	true	Keystone authentication
policy_file	/etc/kwranging/policy.json	Access rules
log_file	/var/log/kwranging.log	Log file
re-fresh_interval	5184000	Interval between two requests to Ceilometer to retrieve the max value
sql_type	mysql	SQL type
sql_server	localhost	SQL server
sql_port	3306	SQL port
sql_user	root	SQL user
sql_password	password	SQL password
sql_database	kwranging	SQL database

The config file contains also a section dedicated to Keystone authentication (credentials used to contact Ceilometer).

Parameter	Default	Note
auth_uri	<a href="http://localhost:35357/v2.0">http://localhost:35357/v2.0</a>	Auth URI
admin_user	ceilometer	Admin
admin_password	password	Password
admin_tenant_name	service	Tenant name

A sample configuration file can be found in [kwranging.conf](#).

## 2.1 API

Verb	URL	Parameters	Expected result
GET	/v1/hosts/get-id/		Returns all hosts IDs
GET	/v1/hosts/get/		Returns all hosts details
GET	/v1/hosts/get/<host>/		Returns the host details
POST	/v1/hosts/get-rank/	{ "hosts": host list separated by ';', "method": ranking method (Efficiency or Flop or Wmax or Wmin), "number": number of hosts to return }	Ranks the hosts passed as parameter
PUT	/v1/hosts/set/	{ "host": hostname }	Add a host to benchmark in the database

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## Project Hosting Details

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**Code Hosting** <https://github.com/frossigneux/kwranking>