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# Honeycomb Documentation

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**Cymmetria**

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Honeycomb is an open-source honeypot framework created by [Cymmetria](#).

Honeycomb allows running honeypots with various integrations from a public library of plugins at [https://github.com/Cymmetria/honeycomb\\_plugins](https://github.com/Cymmetria/honeycomb_plugins)

Writing new honeypot services and integrations for honeycomb is super easy! See the [plugins repo](#) for more info.

Full CLI documentation can be found at <http://honeycomb.cymmetria.com/en/latest/cli.html>



# CHAPTER 1

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## Usage

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Using pip:

```
$ pip install honeycomb-framework
$ honeycomb --help
```

Using Docker:

```
$ docker run -v honeycomb.yml:/usr/share/honeycomb/honeycomb.yml cymmetria/honeycomb
```

## 1.1 Running Honeycomb from command line

### 1.1.1 honeycomb

Honeycomb is a honeypot framework.

```
honeycomb [OPTIONS] COMMAND [ARGS]...
```

#### Options

- H, --home** <home>  
Honeycomb home path [default: /home/docs/.config/honeycomb]
- iamroot**  
Force run as root (NOT RECOMMENDED!)
- c, --config** <config>  
Path to a honeycomb.yml file that provides instructions
- v, --verbose**  
Enable verbose logging

### **--version**

Show the version and exit.

## Environment variables

### **DEBUG**

Provide a default for `--verbose`

## integration

Honeycomb integration commands.

```
honeycomb integration [OPTIONS] COMMAND [ARGS]...
```

## configure

Configure an integration with default parameters.

You can still provide one-off integration arguments to `honeycomb.commands.service.run()` if required.

```
honeycomb integration configure [OPTIONS] INTEGRATION [ARGS]...
```

## Options

### **-e, --editable**

Load integration directly from unspecified path without installing (mainly for dev)

### **-a, --show\_args**

Show available integration arguments

## Arguments

### **INTEGRATION**

Required argument

### **ARGS**

Optional argument(s)

## install

Install a honeycomb integration from the online library, local path or zipfile.

```
honeycomb integration install [OPTIONS] [INTEGRATIONS]...
```

## Arguments

### **INTEGRATIONS**

Optional argument(s)



## list

List integrations.

```
honeycomb integration list [OPTIONS]
```

### Options

**-r, --remote**  
Include available integrations from online repository

## show

Show detailed information about a package.

```
honeycomb integration show [OPTIONS] INTEGRATION
```

### Options

**-r, --remote**  
Show information only from remote repository

### Arguments

**INTEGRATION**  
Required argument

## test

Execute the integration's internal test method to verify it's working as intended.

```
honeycomb integration test [OPTIONS] [INTEGRATIONS]...
```

### Options

**-e, --editable**  
Run integration directly from specified path (main for dev)

### Arguments

**INTEGRATIONS**  
Optional argument(s)

## uninstall

Uninstall a integration.

```
honeycomb integration uninstall [OPTIONS] [INTEGRATIONS]...
```

## Options

**-y, --yes**

Don't ask for confirmation of uninstall deletions.

## Arguments

**INTEGRATIONS**

Optional argument(s)

## service

Honeycomb service commands.

```
honeycomb service [OPTIONS] COMMAND [ARGS]...
```

## install

Install a honeypot service from the online library, local path or zipfile.

```
honeycomb service install [OPTIONS] [SERVICES]...
```

## Arguments

**SERVICES**

Optional argument(s)

## list

List services.

```
honeycomb service list [OPTIONS]
```

## Options

**-r, --remote**

Include available services from online repository

## logs

Show logs of daemonized service.

```
honeycomb service logs [OPTIONS] SERVICES...
```

### Options

- n, --num** <num>  
Number of lines to read from end of file [default: 10]
- f, --follow**  
Follow log output

### Arguments

**SERVICES**  
Required argument(s)

## run

Load and run a specific service.

```
honeycomb service run [OPTIONS] SERVICE [ARGS]...
```

### Options

- d, --daemon**  
Run service in daemon mode
- e, --editable**  
Load service directly from specified path without installing (mainly for dev)
- a, --show-args**  
Show available service arguments
- i, --integration** <integration>  
Enable an integration

### Arguments

**SERVICE**  
Required argument

**ARGS**  
Optional argument(s)

## show

Show detailed information about a package.

```
honeycomb service show [OPTIONS] SERVICE
```

### Options

**-r, --remote**  
Show information only from remote repository

### Arguments

**SERVICE**  
Required argument

## status

Show status of installed service(s).

```
honeycomb service status [OPTIONS] [SERVICES]...
```

### Options

**-a, --show-all**  
Show status for all services

### Arguments

**SERVICES**  
Optional argument(s)

## stop

Stop a running service daemon.

```
honeycomb service stop [OPTIONS] SERVICE
```

### Options

**-e, --editable**  
Load service directly from specified path without installing (mainly for dev)

## Arguments

### **SERVICE**

Required argument

### **test**

Execute the service's internal test method to verify it's working as intended.

If there's no such method, honeycomb will attempt to connect to the port listed in config.json

```
honeycomb service test [OPTIONS] [SERVICES]...
```

## Options

### **-f, --force**

Do not check if service is running before testing

### **-e, --editable**

Run service directly from specified path (main for dev)

## Arguments

### **SERVICES**

Optional argument(s)

### **uninstall**

Uninstall a service.

```
honeycomb service uninstall [OPTIONS] [SERVICES]...
```

## Options

### **-y, --yes**

Don't ask for confirmation of uninstall deletions.

## Arguments

### **SERVICES**

Optional argument(s)

## 1.2 Running Honeycomb in a container

The rationale of container support is to allow rapid configuration and deployment so that launching honeypots would be simple and easy.

Since Honeycomb is a standalone runner for services and integrations, it doesn't make sense for it to orchestrate deployment of external honeypots using docker. Instead, Honeycomb itself could be run as a container.

This means the goal is to allow simple configuration that can be passed on to Honeycomb and launch services with integrations easily.

To launch a Honeycomb service with a configured integration, the user needs to type in several commands to install a service, install an integration, configure that integration and finally run the service with optional parameters.

This actually resembles configuring a docker environment, where the user needs to type in several commands to define volumes, networks, and finally run the desired container.

A yml configuration that specifies all of the desired configurations (services, integrations, etc.) will be supplied to Honeycomb, and it will work like a state-machine to reach the desired state before finally running the service.

An example Honeycomb file can be found on [github](https://github.com/Cymmetria/honeycomb/blob/master/honeycomb.yml) <<https://github.com/Cymmetria/honeycomb/blob/master/honeycomb.yml>>.

```
1 ---
2 version: 1
3
4 services:
5   simple_http:
6     parameters:
7       port: 1234
8
9 integrations:
10   syslog:
11     parameters:
12       address: "127.0.0.1"
13       port: 5514
14       protocol: tcp
```

## 1.3 Plugin API Reference

### 1.3.1 honeycomb.servicemanager.base\_service module

Custom Service implementation from MazeRunner.

**class** `honeycomb.servicemanager.base_service.DockerService(*args, **kwargs)`  
Bases: `honeycomb.servicemanager.base_service.ServerCustomService`

Provides an ability to run a Docker container that will be monitored for events.

**docker\_image\_name**  
Return docker image name.

**docker\_params**  
Return a dictionary of docker run parameters.

**See also:**  
Docker run: <https://docs.docker.com/engine/reference/run/>

**Returns** Dictionary, e.g., `dict(ports={80: 80})`

**get\_lines()**  
Fetch log lines from the docker service.

**Returns** A blocking logs generator

**on\_server\_shutdown()**

Stop the container before shutting down.

**on\_server\_start()**

Service run loop function.

Run the desired docker container with parameters and start parsing the monitored file for alerts.

**parse\_line(line)**

Parse line and return dictionary if its an alert, else None / {}.

**read\_lines(file\_path, empty\_lines=False, signal\_ready=True)**

Fetch lines from file.

In case the file handler changes (logrotate), reopen the file.

#### Parameters

- **file\_path** – Path to file
- **empty\_lines** – Return empty lines
- **signal\_ready** – Report signal ready on start

```
class honeycomb.servicemanager.base_service.ServerCustomService (alert_types:  
                                                                list,          ser-  
                                                                vice_args: dict  
                                                                = {})
```

Bases: multiprocessing.context.Process

Custom Service Class.

This class provides a basic wrapper for honeycomb (and mazerunner) services.

**add\_alert\_to\_queue(alert\_dict)**

Log alert and send to integrations.

**alert\_types = None**

List of alert types, parsed from config.json

**alerts\_queue = None**

**emit(\*\*kwargs)**

Send alerts to logfile.

**Parameters** **kwargs** – Fields to pass to `honeycomb.decoymanager.models.Alert`

**logger = <logging.Logger object>**

Logger to be used by plugins and collected by main logger.

**on\_server\_shutdown()**

Shutdown function of the server.

Override this and take care to gracefully shut down your service (e.g., close files)

**on\_server\_start()**

Service run loop function.

The service manager will call this function in a new thread.

---

**Note:** Must call `signal_ready()` after finishing configuration

---

**run()**

Daemon entry point.

**run\_service()**

Run the service and start an alert processing queue.

**See also:**

Use `on_server_start()` and `on_server_shutdown()` for starting and shutting down your service

**service\_args = None**

Validated dictionary of service arguments (see: `honeycomb.utils.plugin_utils.parse_plugin_args()`)

**signal\_ready()**

Signal the service manager this service is ready for incoming connections.

**thread\_server = None**

### 1.3.2 honeycomb.integrationmanager.integration\_utils module

Honeycomb Integration Manager.

**class** `honeycomb.integrationmanager.integration_utils.BaseIntegration(integration_data)`

Bases: `object`

Base Output Integration Class.

Use `__init__()` to set up any prerequisites needed before sending events, validate parameters, etc.

**Parameters** `integration_data` (*dict*) – Integration parameters

**Raises** `IntegrationMissingRequiredFieldError` – If a required field is missing.

**format\_output\_data** (*output\_data*)

Process and format the `output_data` returned by `send_event()` before display.

This is currently only relevant for MazeRunner, if you don't return an output this should return `output_data` without change.

**Parameters** `output_data` – As returned by `send_event()`

**Return type** `dict`

**Returns** MazeRunner compatible UI output.

**Raises** `IntegrationOutputFormatError` – If there's a problem formatting the output data.

**poll\_for\_updates** (*integration\_output\_data*)

Poll external service for updates.

If service has enabled polling, this method will be called periodically and should act like `send_event()`

**Parameters** `integration_output_data` – Output data returned by previous `send_event()` or `poll_for_updates()`

**Returns** See `send_event()`

**Raises** `IntegrationPollEventError` – If there's a problem polling for updates.

**send\_event** (*alert\_dict*)

Send alert event to external integration.

**Parameters** `alert_dict` – A dictionary with all the alert fields.

**Return type** `tuple(dict(output_data), object(output_file))`



**Raises**

- ***IntegrationSendEventError*** – If there's a problem sending the event.
- ***IntegrationMissingRequiredFieldError*** – If a required field is missing.

**Returns** A tuple where the first value is a dictionary with information to display in the UI, and the second is an optional file to be attached. If polling is enabled, the returned `output_data` will be passed to `poll_for_updates()`. If your integration returns nothing, you should return `({}, None)`.

**test\_connection** (*integration\_data*)

Perform a test to ensure the integration is configured correctly.

This could include testing authentication or performing a test query.

**Parameters** *integration\_data* – Integration arguments.

**Returns** *success*

**Return type** tuple(bool(success), str(response))

## 1.4 Honeycomb API Reference

### 1.4.1 honeycomb package

#### Subpackages

#### honeycomb.commands.service package

#### Submodules

#### honeycomb.commands.service.install module

Honeycomb service install command.

#### honeycomb.commands.service.list module

Honeycomb service list command.

#### honeycomb.commands.service.logs module

Honeycomb service logs command.

#### honeycomb.commands.service.run module

Honeycomb service run command.

#### honeycomb.commands.service.show module

Honeycomb service show command.

### **honeycomb.commands.service.status module**

Honeycomb service status command.

### **honeycomb.commands.service.stop module**

Honeycomb service stop command.

### **honeycomb.commands.service.test module**

Honeycomb service test command.

### **honeycomb.commands.service.uninstall module**

Honeycomb service uninstall command.

### **honeycomb.commands.integration package**

#### **Submodules**

### **honeycomb.commands.integration.configure module**

Honeycomb integration run command.

### **honeycomb.commands.integration.install module**

Honeycomb integration install command.

### **honeycomb.commands.integration.list module**

Honeycomb integration list command.

### **honeycomb.commands.integration.show module**

Honeycomb integration show command.

### **honeycomb.commands.integration.test module**

Honeycomb integration test command.

### **honeycomb.commands.integration.uninstall module**

Honeycomb integration uninstall command.

## honeycomb.decoymanager package

### Submodules

### honeycomb.decoymanager.models module

Honeycomb defs and constants.

```
class honeycomb.decoymanager.models.Alert (alert_type: honey-  

comb.decoymanager.models.AlertType, id:  

str = NOTHING, status: int = 2, timestamp:  

datetime.datetime = NOTHING)
```

Bases: object

Alert object.

**ALERT\_STATUS** = ((0, 'Ignore'), (1, 'Mute'), (2, 'Alert'))

**STATUS\_ALERT** = 2

**STATUS\_IGNORED** = 0

**STATUS\_MUTED** = 1

**additional\_fields**

**address**

**alert\_type**

**cmd**

**decoy\_hostname**

**decoy\_ipv4**

**decoy\_name**

**decoy\_os**

**dest\_ip**

**dest\_port**

**domain**

**end\_timestamp**

**event\_description**

**event\_type**

**file\_accessed**

**id**

**image\_file**

**image\_md5**

**image\_path**

**image\_sha256**

**manufacturer**

**originating\_hostname**

```
originating_ip
originating_mac_address
originating_port
password
pid
ppid
request
status
timestamp
transport_protocol
uid
username
```

```
class honeycomb.decoymanager.models.AlertType(name: str, label: str, service_type: honey-
                                              comb.servicemanager.models.ServiceType)
    Bases: object
    Alert Type.
    label
    name
    service_type
```

## Module contents

Honeycomb Decoy Manager.

## honeycomb.integrationmanager package

### Submodules

#### honeycomb.integrationmanager.defs module

Honeycomb integrations definitions and constants.

```
class honeycomb.integrationmanager.defs.IntegrationAlertStatuses
    Bases: honeycomb.defs.IBaseType
    Provides information about the alert status in queue.
    DONE = BaseNameLabel(name='done', label='Done')
    ERROR_MISSING_SEND_FIELDS = BaseNameLabel(name='error_missing', label='Error. Missing')
    ERROR_POLLING = BaseNameLabel(name='error_polling', label='Error polling')
    ERROR_POLLING_FORMATTING = BaseNameLabel(name='error_polling_formatting', label='Error')
    ERROR_SENDING = BaseNameLabel(name='error_sending', label='Error sending')
```

```

ERROR_SENDING_FORMATTING = BaseNameLabel(name='error_sending_formatting', label='Error
IN_POLLING = BaseNameLabel(name='in_polling', label='Polling')
PENDING = BaseNameLabel(name='pending', label='Pending')
POLLING = BaseNameLabel(name='polling', label='Polling')
class honeycomb.integrationmanager.defs.IntegrationTypes
    Bases: honeycomb.defs.IBaseType
    Integration types.
    Currently only output event is supported.
EVENT_OUTPUT = BaseNameLabel(name='event_output', label='Event output')

```

### honeycomb.integrationmanager.error\_messages module

Honeycomb integration error messages.

### honeycomb.integrationmanager.exceptions module

Honeycomb Output Integration Exceptions.

```

exception honeycomb.integrationmanager.exceptions.IntegrationMissingRequiredFieldError(*args,
                                                                                       **kwargs)
    Bases: honeycomb.exceptions.PluginError
    IntegrationMissingRequiredFieldError.
    Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.
exception honeycomb.integrationmanager.exceptions.IntegrationNoMethodImplementationError(*args,
                                                                                             **kwargs)
    Bases: honeycomb.exceptions.PluginError
    IntegrationNoMethodImplementationError.
    Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.
exception honeycomb.integrationmanager.exceptions.IntegrationNotFound(*args,
                                                                           **kwargs)
    Bases: honeycomb.exceptions.PluginError
    Integration not found.
    Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.
    msg_format = 'Cannot find integration named {}, try installing it?'
exception honeycomb.integrationmanager.exceptions.IntegrationOutputFormatError(*args,
                                                                                     **kwargs)
    Bases: honeycomb.exceptions.PluginError
    IntegrationOutputFormatError.
    Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.
exception honeycomb.integrationmanager.exceptions.IntegrationPackageError(*args,
                                                                               **kwargs)
    Bases: honeycomb.exceptions.PluginError
    IntegrationPackageError.

```

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

```
exception honeycomb.integrationmanager.exceptions.IntegrationPollEventError (*args,  
                                                                    **kwargs)
```

Bases: *honeycomb.exceptions.PluginError*

IntegrationPollEventError.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

```
exception honeycomb.integrationmanager.exceptions.IntegrationSendEventError (*args,  
                                                                    **kwargs)
```

Bases: *honeycomb.exceptions.PluginError*

IntegrationSendEventError.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

```
msg_format = 'Error sending integration event:  {}'
```

```
exception honeycomb.integrationmanager.exceptions.IntegrationTestFailed (*args,  
                                                                    **kwargs)
```

Bases: *honeycomb.exceptions.PluginError*

Integration not found.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

```
msg_format = 'Integration test failed, details:  {}'
```

## honeycomb.integrationmanager.integration\_utils module

Honeycomb Integration Manager.

```
class honeycomb.integrationmanager.integration_utils.BaseIntegration (integration_data)  
    Bases: object
```

Base Output Integration Class.

Use `__init__()` to set up any prerequisites needed before sending events, validate paramaters, etc.

**Parameters** `integration_data` (*dict*) – Integration parameters

**Raises** *IntegrationMissingRequiredFieldError* – If a required field is missing.

```
format_output_data (output_data)
```

Process and format the output\_data returned by `send_event()` before display.

This is currently only relevant for MazeRunner, if you don't return an output this should return output\_data without change.

**Parameters** `output_data` – As returned by `send_event()`

**Return type** dict

**Returns** MazeRunner compatible UI output.

**Raises** *IntegrationOutputFormatError* – If there's a problem formatting the output data.

```
poll_for_updates (integration_output_data)
```

Poll external service for updates.

If service has enabled polling, this method will be called periodically and should act like `send_event()`

**Parameters** `integration_output_data` – Output data returned by previous `send_event()` or `poll_for_updates()`

**Returns** See `send_event()`

**Raises** `IntegrationPollEventError` – If there's a problem polling for updates.

**send\_event** (`alert_dict`)

Send alert event to external integration.

**Parameters** `alert_dict` – A dictionary with all the alert fields.

**Return type** tuple(dict(output\_data), object(output\_file))

**Raises**

- `IntegrationSendEventError` – If there's a problem sending the event.
- `IntegrationMissingRequiredFieldError` – If a required field is missing.

**Returns** A tuple where the first value is a dictionary with information to display in the UI, and the second is an optional file to be attached. If polling is enabled, the returned `output_data` will be passed to `poll_for_updates()`. If your integration returns nothing, you should return `({}, None)`.

**test\_connection** (`integration_data`)

Perform a test to ensure the integration is configured correctly.

This could include testing authentication or performing a test query.

**Parameters** `integration_data` – Integration arguments.

**Returns** `success`

**Return type** tuple(bool(success), str(response))

## honeycomb.integrationmanager.models module

Honeycomb integration models.

```
class honeycomb.integrationmanager.models.ConfiguredIntegration (name: str,
                                                                path: str,
                                                                integration: honey-
                                                                comb.integrationmanager.models.Integration,
                                                                send_muted:
                                                                bool =
                                                                False, created_at: date-
                                                                time.datetime
                                                                = NOTHING)
```

Bases: `object`

Configured integration model.

```
class honeycomb.integrationmanager.models.Integration (parameters:      str,      dis-
                                                    play_name:      str,      re-
                                                    quired_fields:      list,
                                                    polling_enabled:      bool,
                                                    integration_type:      str,
                                                    max_send_retries:      int,
                                                    supported_event_types: list,
                                                    test_connection_enabled:
bool,      module=None, de-
description:      str = None,
polling_duration:      date-
time.timedelta = 0)
```

Bases: object

Integration model.

```
class honeycomb.integrationmanager.models.IntegrationAlert (alert:      honey-
comb.decoymanager.models.Alert,
status:      str,      re-
tries:      int,      config-
ured_integration:
honey-
comb.integrationmanager.models.ConfiguredIn
```

Bases: object

Integration alert model.

## honeycomb.integrationmanager.registration module

Honeycomb service manager.

honeycomb.integrationmanager.registration.**get\_integration\_module** (integration\_path)  
Add custom paths to sys and import integration module.

**Parameters** **integration\_path** – Path to integration folder

honeycomb.integrationmanager.registration.**register\_integration** (package\_folder)  
Register a honeycomb integration.

**Parameters** **package\_folder** – Path to folder with integration to load

**Returns** Validated integration object

**Return type** honeycomb.utils.defs.Integration()

## honeycomb.integrationmanager.tasks module

Honeycomb integration tasks.

honeycomb.integrationmanager.tasks.**configure\_integration** (path)  
Configure and enable an integration.

honeycomb.integrationmanager.tasks.**create\_integration\_alert\_and\_call\_send** (alert,  
con-  
fig-  
ured\_integration)  
Create an IntegrationAlert object and send it to Integration.



```
honeycomb.integrationmanager.tasks.get_current_datetime_utc()
```

Return a datetime object localized to UTC.

```
honeycomb.integrationmanager.tasks.get_valid_configured_integrations(alert)
```

Return a list of integrations for alert filtered by alert\_type.

**Returns** A list of relevant integrations

```
honeycomb.integrationmanager.tasks.poll_integration_alert_data(integration_alert)
```

Poll for updates on waiting IntegrationAlerts.

```
honeycomb.integrationmanager.tasks.poll_integration_information_for_waiting_integration_alerts()
```

poll\_integration\_information\_for\_waiting\_integration\_alerts.

```
honeycomb.integrationmanager.tasks.send_alert_to_configured_integration(integration_alert)
```

Send IntegrationAlert to configured integration.

```
honeycomb.integrationmanager.tasks.send_alert_to_subscribed_integrations(alert)
```

Send Alert to relevant integrations.

## Module contents

Honeycomb Output Manager.

## honeycomb.servicemanager package

### Submodules

#### honeycomb.servicemanager.base\_service module

Custom Service implementation from MazeRunner.

```
class honeycomb.servicemanager.base_service.DockerService(*args, **kwargs)
```

Bases: *honeycomb.servicemanager.base\_service.ServerCustomService*

Provides an ability to run a Docker container that will be monitored for events.

**docker\_image\_name**

Return docker image name.

**docker\_params**

Return a dictionary of docker run parameters.

**See also:**

Docker run: <https://docs.docker.com/engine/reference/run/>

**Returns** Dictionary, e.g., dict (ports={80: 80})

```
get_lines()
```

Fetch log lines from the docker service.

**Returns** A blocking logs generator

```
on_server_shutdown()
```

Stop the container before shutting down.

**on\_server\_start ()**

Service run loop function.

Run the desired docker container with parameters and start parsing the monitored file for alerts.

**parse\_line (line)**

Parse line and return dictionary if its an alert, else None / {}.

**read\_lines (file\_path, empty\_lines=False, signal\_ready=True)**

Fetch lines from file.

In case the file handler changes (logrotate), reopen the file.

### Parameters

- **file\_path** – Path to file
- **empty\_lines** – Return empty lines
- **signal\_ready** – Report signal ready on start

```
class honeycomb.servicemanager.base_service.ServerCustomService (alert_types:  
                                                                list,          ser-  
                                                                vice_args: dict  
                                                                = {})
```

Bases: multiprocessing.context.Process

Custom Service Class.

This class provides a basic wrapper for honeycomb (and mazerunner) services.

**add\_alert\_to\_queue (alert\_dict)**

Log alert and send to integrations.

**alert\_types = None**

List of alert types, parsed from config.json

**alerts\_queue = None**

**emit (\*\*kwargs)**

Send alerts to logfile.

**Parameters** **kwargs** – Fields to pass to `honeycomb.decoymanager.models.Alert`

**logger = <logging.Logger object>**

Logger to be used by plugins and collected by main logger.

**on\_server\_shutdown ()**

Shutdown function of the server.

Override this and take care to gracefully shut down your service (e.g., close files)

**on\_server\_start ()**

Service run loop function.

The service manager will call this function in a new thread.

---

**Note:** Must call `signal_ready()` after finishing configuration

---

**run ()**

Daemon entry point.

**run\_service()**

Run the service and start an alert processing queue.

**See also:**

Use `on_server_start()` and `on_server_shutdown()` for starting and shutting down your service

**service\_args = None**

Validated dictionary of service arguments (see: `honeycomb.utils.plugin_utils.parse_plugin_args()`)

**signal\_ready()**

Signal the service manager this service is ready for incoming connections.

**thread\_server = None**

## honeycomb.servicemanager.defs module

Honeycomb services definitions and constants.

`honeycomb.servicemanager.defs.ALLOWED_PROTOCOLS = ['TCP', 'UDP']`

Parameters.

`honeycomb.servicemanager.defs.STDERRLOG = 'stderr.log'`

Service section.

## honeycomb.servicemanager.error\_messages module

Honeycomb services error messages.

## honeycomb.servicemanager.exceptions module

Honeycomb Service Manager Exceptions.

**exception** `honeycomb.servicemanager.exceptions.ServiceManagerException(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Generic Service Manager Exception.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**exception** `honeycomb.servicemanager.exceptions.ServiceNotFound(*args, **kwargs)`

Bases: `honeycomb.servicemanager.exceptions.ServiceManagerException`

Specified service does not exist.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = 'Cannot find service named {}, try installing it?'

**exception** `honeycomb.servicemanager.exceptions.UnsupportedOS(*args, **kwargs)`

Bases: `honeycomb.servicemanager.exceptions.ServiceManagerException`

Specified service does not exist.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = 'Service requires running on {} and you are using {}'

## honeycomb.servicemanager.models module

Honeycomb service models.

```
class honeycomb.servicemanager.models.OSFamilies
    Bases: honeycomb.defs.IBaseType
    Defines supported platforms for services.

    ALL = BaseNameLabel(name='All', label='All')
    LINUX = BaseNameLabel(name='Linux', label='Linux')
    MACOS = BaseNameLabel(name='Darwin', label='Darwin')
    WINDOWS = BaseNameLabel(name='Windows', label='Windows')

class honeycomb.servicemanager.models.ServiceType(name: str, ports: list, label: str, allow_many: bool, supported_os_families: list, alert_types: list = [])
    Bases: object
    Holds loaded service metadata.
```

## honeycomb.servicemanager.registration module

Honeycomb service manager.

```
honeycomb.servicemanager.registration.get_service_module(service_path)
    Add custom paths to sys and import service module.

    Parameters service_path – Path to service folder

honeycomb.servicemanager.registration.register_service(package_folder)
    Register a honeycomb service.

    Parameters package_folder – Path to folder with service to load

    Returns Validated service object

    Return type honeycomb.utils.defs.ServiceType()
```

## Module contents

Honeycomb Service Manager.

## honeycomb.utils package

### Submodules

## honeycomb.utils.config\_utils module

Honeycomb Config Utilities.

`honeycomb.utils.config_utils.config_field_type(field, cls)`

Validate a config field against a type.

Similar functionality to `validate_field_matches_type()` but returns `honeycomb.defs.ConfigField`

`honeycomb.utils.config_utils.get_config_parameters(plugin_path)`

Return the parameters section from config.json.

`honeycomb.utils.config_utils.get_truetype(value)`

Convert a string to a pythonized parameter.

`honeycomb.utils.config_utils.is_valid_field_name(value)`

Ensure field name is valid.

`honeycomb.utils.config_utils.process_config(ctx, configfile)`

Process a yaml config with instructions.

This is a heavy method that loads lots of content, so we only run the imports if its called.

`honeycomb.utils.config_utils.validate_config(config_json, fields)`

Validate a JSON file configuration against list of `honeycomb.defs.ConfigField`.

`honeycomb.utils.config_utils.validate_config_parameters(config_json, allowed_keys, allowed_types)`

Validate parameters in config file.

`honeycomb.utils.config_utils.validate_field(field, allowed_keys, allowed_types)`

Validate field is allowed and valid.

`honeycomb.utils.config_utils.validate_field_matches_type(field, value, field_type, select_items=None, _min=None, _max=None)`

Validate a config field against a specific type.

## honeycomb.utils.daemon module

Honeycomb DaemonRunner utility.

```
class honeycomb.utils.daemon.myRunner(app, pidfile=None, stdout=<_io.TextIOWrapper
    name='<stdout>' mode='w' encoding='UTF-8'>,
    stderr=<_io.TextIOWrapper
    name='<stderr>' mode='w' encoding='UTF-8'>, stdin=<_io.TextIOWrapper
    name='/dev/null' mode='rt' encoding='UTF-8'>)
```

Bases: `daemon.runner.DaemonRunner`

Overriding default runner behaviour to be simpler.

Override init to fit honeycomb needs.

We initialize app with default stdout/stderr from sys instead of file path and remove the use of `parse_args()` since it's not actually a standalone runner

## honeycomb.utils.plugin\_utils module

Honeycomb generic plugin install utils.

**exception** `honeycomb.utils.plugin_utils.CTError(errors)`

Bases: `Exception`

Copytree exception class, used to collect errors from the recursive `copy_tree` function.

Collect errors.

**Parameters** `errors` – Collected errors

`honeycomb.utils.plugin_utils.copy_file(src, dst)`

Copy a single file.

**Parameters**

- **src** – Source name
- **dst** – Destination name

`honeycomb.utils.plugin_utils.copy_tree(src, dst, symlinks=False, ignore=[])`

Copy a full directory structure.

**Parameters**

- **src** – Source path
- **dst** – Destination path
- **symlinks** – Copy symlinks
- **ignore** – Subdirs/filenames to ignore

`honeycomb.utils.plugin_utils.get_plugin_path(home, plugin_type, plugin_name, editable=False)`

Return path to plugin.

**Parameters**

- **home** – Path to honeycomb home
- **plugin\_type** – Type of plugin (`honeycomb.defs.SERVICES` or `honeycomb.defs.INTEGRATIONS`)
- **plugin\_name** – Name of plugin
- **editable** – Use `plugin_name` as direct path instead of loading from honeycomb home folder

`honeycomb.utils.plugin_utils.get_select_items(items)`

Return list of possible select items.

`honeycomb.utils.plugin_utils.install_deps(pkgpath)`

Install plugin dependencies using pip.

We import pip here to reduce load time for when its not needed.

`honeycomb.utils.plugin_utils.install_dir(pkgpath, install_path, register_func, delete_after_install=False)`

Install plugin from specified directory.

`install_path` and `register_func` are same as `install_plugin()`. :param `delete_after_install`: Delete `pkgpath` after install (used in `install_from_zip()`).

`honeycomb.utils.plugin_utils.install_from_repo(pkgname, plugin_type, install_path, register_func)`

Install plugin from online repo.

```
honeycomb.utils.plugin_utils.install_from_zip(pkgpath, install_path, register_func,
                                              delete_after_install=False)
```

Install plugin from zipfile.

```
honeycomb.utils.plugin_utils.install_plugin(pkgpath, plugin_type, install_path, register_func)
```

Install specified plugin.

#### Parameters

- **pkgpath** – Name of plugin to be downloaded from online repo or path to plugin folder or zip file.
- **install\_path** – Path where plugin will be installed.
- **register\_func** – Method used to register and validate plugin.

```
honeycomb.utils.plugin_utils.list_local_plugins(plugin_type, plugins_path, plugin_details)
```

List local plugins with details.

```
honeycomb.utils.plugin_utils.list_remote_plugins(installed_plugins, plugin_type)
```

List remote plugins from online repo.

```
honeycomb.utils.plugin_utils.parse_plugin_args(command_args, config_args)
```

Parse command line arguments based on the plugin's parameters config.

#### Parameters

- **command\_args** – Command line arguments as provided by the user in *key=value* format.
- **config\_args** – Plugin parameters parsed from config.json.

**Returns** Validated dictionary of parameters that will be passed to plugin class

```
honeycomb.utils.plugin_utils.print_plugin_args(plugin_path)
```

Print plugin parameters table.

```
honeycomb.utils.plugin_utils.uninstall_plugin(pkgpath, force)
```

Uninstall a plugin.

#### Parameters

- **pkgpath** – Path to package to uninstall (delete)
- **force** – Force uninstall without asking

## honeycomb.utils.tailer module

Honeycomb service log tailer.

```
class honeycomb.utils.tailer.Tailer(name: str, filepath: str, color: str = "", nlines: int =
    10, follow: bool = False, outfile=<_io.TextIOWrapper
    name='<stdout>' mode='w' encoding='UTF-8'>,
    sleeptime: int = 0.5, show_name: bool = True,
    used_colors: list = [])
```

Bases: object

Colorized file tailer.

Print lines from a file prefixed with a colored name. Optionally continue to follow file.

```
follow_file()
```

Follow a file and send every new line to a callback.

**print\_log** (*line*)

Print a line from a logfile.

**print\_named\_log** (*line*)

Print a line from a logfile prefixed with service name.

**stop** ()

Stop follow.

### honeycomb.utils.wait module

Honeycomb wait utilities.

**exception** honeycomb.utils.wait.TimeoutException

Bases: Exception

Exception to be raised on timeout.

honeycomb.utils.wait.search\_json\_log (*filepath, key, value*)

Search json log file for a key=value pair.

#### Parameters

- **filepath** – Valid path to a json file
- **key** – key to match
- **value** – value to match

**Returns** First matching line in json log file, parsed by `json.loads()`

honeycomb.utils.wait.wait\_until (*func, check\_return\_value=True, total\_timeout=60, interval=0.5, exc\_list=None, error\_message="", \*args, \*\*kwargs*)

Run a command in a loop until desired result or timeout occurs.

#### Parameters

- **func** – Function to call and wait for
- **check\_return\_value** (*bool*) – Examine return value
- **total\_timeout** (*int*) – Wait timeout,
- **interval** (*float*) – Sleep interval between retries
- **exc\_list** (*list*) – Acceptable exception list
- **error\_message** (*str*) – Default error messages
- **args** – args to pass to func
- **kwargs** – kwargs to pass to fun

### Module contents

Honeycomb Utils.



## Submodules

### honeycomb.cli module

Honeycomb Command Line Interface.

```
class honeycomb.cli.MyLogger (name, level=0)
    Bases: logging.Logger

    Custom Logger.

    Initialize the logger with a name and an optional level.

    makeRecord (name, level, fn, lno, msg, args, exc_info, func=None, extra=None, sinfo=None)
        Override default logger to allow overriding of internal attributes.

honeycomb.cli.setup_logging (home, verbose)
    Configure logging for honeycomb.
```

### honeycomb.defs module

Honeycomb defs and constants.

```
class honeycomb.defs.BaseCollection
    Bases: object

    Abstract type collection mixin, should hold BaseNameLabel attributes.

class honeycomb.defs.BaseNameLabel (name, label)
    Bases: object

    Generic name/label class.

honeycomb.defs.CONFIG_FILE_NAME = 'config.json'
    Parameters constants.

class honeycomb.defs.ConfigField (validator_func, get_error_message)
    Bases: object

    Config Validator.

    error_message is also a function to calculate the error when we ran the validator_func

honeycomb.defs.GITHUB_RAW_URL = 'https://raw.githubusercontent.com/Cymmetria/honeycomb_plugins'
    Config constants.

class honeycomb.defs.IBaseType
    Bases: object

    Abstract type interface, provides BaseNameLabel collection methods.

    classmethod all_labels ()
        Return list of all property labels.

    classmethod all_names ()
        Return list of all property names.
```

### honeycomb.error\_messages module

Honeycomb generic error messages.

## honeycomb.exceptions module

Honeycomb Exceptions.

**exception** `honeycomb.exceptions.BaseHoneycombException(*args, **kwargs)`

Bases: `click.exceptions.ClickException`

Base Exception.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `None`

**exception** `honeycomb.exceptions.ConfigFieldMissing(*args, **kwargs)`

Bases: `honeycomb.exceptions.ConfigValidationError`

Field is missing from config file.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `'field {} is missing from config file'`

**exception** `honeycomb.exceptions.ConfigFieldTypeMismatch(*args, **kwargs)`

Bases: `honeycomb.exceptions.ConfigValidationError`

Config field does not match specified type.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `'Parameters: Bad value for {}={} (must be {})'`

**exception** `honeycomb.exceptions.ConfigFieldValidationError(*args, **kwargs)`

Bases: `honeycomb.exceptions.ConfigValidationError`

Error validating config field.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `'Failed to import config. error in field {} with value {}: {}'`

**exception** `honeycomb.exceptions.ConfigFileNotFound(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Config file not found.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `'Missing file {}'`

**exception** `honeycomb.exceptions.ConfigValidationError(*args, **kwargs)`

Bases: `honeycomb.exceptions.BaseHoneycombException`

Base config validation error.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**exception** `honeycomb.exceptions.ParametersFieldError(*args, **kwargs)`

Bases: `honeycomb.exceptions.ConfigValidationError`

Error validating parameter.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = `"Parameters: '{}' is not a valid {}"`

**exception** `honeycomb.exceptions.PathNotFound(*args, **kwargs)`

Bases: `honeycomb.exceptions.BaseHoneycombException`

Specified path was not found.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = 'Cannot find path {}'

**exception** `honeycomb.exceptions.PluginAlreadyInstalled(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Plugin already installed.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = '{} is already installed'

**exception** `honeycomb.exceptions.PluginError(*args, **kwargs)`

Bases: `honeycomb.exceptions.BaseHoneycombException`

Base Plugin Exception.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**exception** `honeycomb.exceptions.PluginNotFoundInOnlineRepo(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Plugin not found in online repo.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = 'Cannot find {} in online repository'

**exception** `honeycomb.exceptions.PluginRepoConnectionError(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Connection error when trying to connect to plugin repo.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = 'Unable to access online repository (check debug logs for detailed info)'

**exception** `honeycomb.exceptions.RequiredFieldMissing(*args, **kwargs)`

Bases: `honeycomb.exceptions.PluginError`

Required parameter is missing.

Raise ClickException and log msg with relevant debugging info from the frame that raised the exception.

**msg\_format** = "Parameters: '{}' is missing (use --show\_args to see all parameters)"



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