This is the documentation for Rasa Open Source. If you're looking for Rasa Pro documentation, please visit this page.

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mands and the parameters you can pass to them. **Cheat Sheet**

Command	Effect
rasa init	Creates a new project with example training data, actions, and config files.
rasa train	Trains a model using your NLU data and stories, saves trained model in ./models .
rasa interactive	Starts an interactive learning session to create new training data by chatting to your assistant.
rasa shell	Loads your trained model and lets you talk to your assistant on the command line.
rasa run	Starts a server with your trained model.
rasa run actions	Starts an action server using the Rasa SDK.
rasa visualize	Generates a visual representation of your stories.
rasa test	Tests a trained Rasa model on any files starting with test
rasa test e2e	Runs end-to-end testing fully integrated with the action server that serves as acceptance testing.
rasa data split nlu	Performs a 80/20 split of your NLU training data.
rasa data split stories	Do the same as rasa data split nlu, but for your stories data.
rasa data convert	Converts training data between different formats.
rasa data migrate	Migrates 2.0 domain to 3.0 format.
rasa data validate	Checks the domain, NLU and conversation

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Change Log

Command	Effect
	data for inconsistencies.
rasa export	Exports conversations from a tracker store to an event broker.
rasa evaluate markers	Extracts markers from an existing tracker store.
rasa marker upload	Upload marker configurations to Analytics Data Pipeline
rasa license	Display licensing information.
rasa -h	Shows all available commands.

(i) NOTE

If you run into character encoding issues on Windows like:

UnicodeEncodeError: 'charmap' codec can't encode character ...

or the terminal is not displaying colored messages properly,

prepend winpty to the command you would like to run. For example winpty rasa init instead of rasa init

Log Level

Rasa produces log messages at several different levels (eg. warning, info, error and so on). You can control which level of logs you would like to see with --verbose (same as -v) or --debug (same as -vv) as optional command line arguments. See each command below for more explanation on what these arguments mean.

In addition to CLI arguments, several environment variables allow you to control log output in a more granular way. With these environment variables, you can configure log levels for messages created by external libraries such as Matplotlib, Pika, and Kafka. These variables follow **standard logging level in Python**. Currently, following environment variables are supported:

- LOG_LEVEL_LIBRARIES: This is the general environment variable to configure log level for the main libraries Rasa uses. It covers Tensorflow, asyncio, APScheduler, SocketlO, Matplotlib, RabbitMQ, Kafka.
- **2.** LOG_LEVEL_MATPLOTLIB: This is the specialized environment variable to configure log level only for Matplotlib.
- **3.** LOG_LEVEL_RABBITMQ: This is the specialized environment variable to configure log level only for AMQP libraries, at the moment it handles log levels from aio_pika and aiormq.

- **4.** LOG_LEVEL_KAFKA: This is the specialized environment variable to configure log level only for kafka.
- **5.** LOG_LEVEL_PRESIDIO: This is the specialized environment variable to configure log level only for Presidio, at the moment it handles log levels from presidio_analyzer and presidio_anonymizer.
- **6.** LOG_LEVEL_FAKER: This is the specialized environment variable to configure log level only for Faker.

General configuration (LOG_LEVEL_LIBRARIES) has less priority than library level specific configuration (LOG_LEVEL_MATPLOTLIB, LOG_LEVEL_RABBITMQ etc); and CLI parameter sets the lowest level log messages which will be handled. This means variables can be used together with a predictable result. As an example:

LOG_LEVEL_LIBRARIES=ERROR LOG_LEVEL_MATPLOTLIB=WARNING LOG_LEVEL_KA

The above command run will result in showing:

- messages with DEBUG level and higher by default (due to --debug)
- messages with WARNING level and higher for Matplotlib
- · messages with DEBUG level and higher for kafka
- messages with ERROR level and higher for other libraries not configured

Note that CLI config sets the lowest level log messages to be handled, hence the following command will set the log level to INFO (due to --verbose) and no debug messages will be seen (library level configuration will not have any effect):

LOG_LEVEL_LIBRARIES=DEBUG LOG_LEVEL_MATPLOTLIB=DEBUG rasa shell --\

As an aside, CLI log level sets the level at the root logger (which has the important handler - coloredlogs handler); this means even if an environment variable sets a library logger to a lower level, the root logger will reject messages from that library. If not specified, the CLI log level is set to INFO.

Custom logging configuration

! NEW IN 3.4

The Rasa CLI now includes a new argument
--logging-config-file which accepts a YAML file as value.

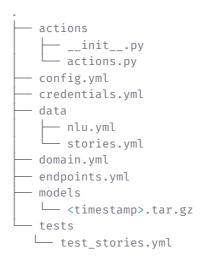
You can now configure any logging formatters or handlers in a separate YAML file. The logging config YAML file must follow the **Python built-in dictionary schema**, otherwise it will fail validation. You can pass this file as argument to the --logging-config-file CLI option and use it with any of the rasa commands.

rasa init

This command sets up a complete assistant for you with some example training data:

rasa init

It creates the following files:



It will ask you if you want to train an initial model using this data. If you answer no, the models directory will be empty.

Any of the default CLI commands will expect this project setup, so this is the best way to get started. You can run rasa train, rasa shell and rasa test without any additional configuration.

rasa train

The following command trains a Rasa model:

rasa train

If you have existing models in your directory (under models/ by default), only the parts of your model that have changed will be re-trained. For example, if you edit your NLU training data and nothing else, only the NLU part will be trained.

If you want to train an NLU or dialogue model individually, you can run rasa train nlu or rasa train core. If you provide training data only for one one of these, rasa train will fall back to one of these commands by default.

rasa train will store the trained model in the directory defined by --out, models/ by default. The name of the model by default is <timestamp>.tar.gz . If you want to name your model differently, you can specify the name using the --fixed-model-name flag.

By default validation is run before training the model. If you want to skip validation, you can use the <code>--skip-validation</code> flag. If you want to fail on validation warnings, you can use the <code>--fail-on-validation-warnings</code> flag. The <code>--validation-max-history</code> is analogous to the <code>--max-history</code> argument of rasa data validate.

The following arguments can be used to configure the training process:

```
usage: rasa train [-h] [-v] [-vv] [--quiet]
                  [--logging-config-file LOGGING_CONFIG_FILE]
                  [--data DATA [DATA ...]] [-c CONFIG] [-d DOMAIN]
                  [--dry-run] [--skip-validation]
                  [--fail-on-validation-warnings]
                  [--validation-max-history VALIDATION MAX HISTORY]
                  [--augmentation AUGMENTATION] [--debug-plots]
                  [--num-threads NUM_THREADS]
                  [--fixed-model-name FIXED_MODEL_NAME] [--persist-
                  [--force] [--finetune [FINETUNE]]
                  [--epoch-fraction EPOCH_FRACTION] [--endpoints EN
                  {core, nlu} ...
positional arguments:
  {core,nlu}
                        Trains a Rasa Core model using your stories
   core
   nlu
                        Trains a Rasa NLU model using your NLU data
options:
  -h, --help
                       show this help message and exit
  --data DATA [DATA ...]
                        Paths to the Core and NLU data files. (defa
                        ['data'])
  -c CONFIG, --config CONFIG
                        The policy and NLU pipeline configuration (
                        (default: config.yml)
  -d DOMAIN, --domain DOMAIN
                        Domain specification. This can be a single
                        or a directory that contains several files
```

specifications in it. The content of these be read and merged together. (default: doma Directory where your models should be store

(default: models)

--dry-run If enabled, no actual training will be perf

Instead, it will be determined whether a more be re-trained and this information will be the output. The return code is a 4-bit bit can also be used to determine what exactly retrained: - 0 means that no extensive trained updating by running 'rasa train'). - 1 mean needs to be retrained - 8 means the training forced (--force argument is specified) (defealse)

--skip-validation Skip validation step before training. (defa

--fail-on-validation-warnings

--out OUT

Fail on validation warnings. If omitted on will exit with a non zero status code (defa

--validation-max-history VALIDATION_MAX_HISTORY

Number of turns taken into account for stol validation. (default: None)

--augmentation AUGMENTATION

How much data augmentation to use during t_1

(default: 50)

--debug-plots If enabled, will create plots showing check their connections between story blocks in a

called `story_blocks_connections.html`. (de

False,

--num-threads $NUM_THREADS$

Maximum amount of threads to use when trair (default: None)

--fixed-model-name FIXED_MODEL_NAME

If set, the name of the model file/director set to the given name. (default: None)

--persist-nlu-data Persist the NLU training data in the saved

(default: False)

--force Force a model training even if the data has

changed. (default: False)

--finetune [FINETUNE]

Fine-tune a previously trained model. If not is provided, Rasa Open Source will try to datest trained model from the model directs

specified via '--out'. (default: None)

--epoch-fraction EPOCH FRACTION

Fraction of epochs which are currently specthe model configuration which should be use $\ensuremath{\mathsf{u}}$

finetuning a model. (default: None)

--endpoints ENDPOINTS

Configuration file for the connectors as a
(default: endpoints.yml)

Python Logging Options:

You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info.

-v, --verbose Be verbose. Sets logging level to INFO. (de

None)

-vv, --debug Print lots of debugging statements. Sets lo

to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (c

None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configurat:

will be set to the given name. (default: No

See the section on data augmentation for info on how data augmentation works and how to choose a value for the flag. Note that TEDPolicy is the only policy affected by data augmentation.

See the following section on **incremental training** for more information about the --epoch-fraction argument.

Incremental training

! NEW IN 2.2

This feature is experimental. We introduce experimental features to get feedback from our community, so we encourage you to try it out! However, the functionality might be changed or removed in the future. If you have feedback (positive or negative) please share it with us on the **Rasa Forum**.

In order to improve the performance of an assistant, it's helpful to practice **CDD** and add new training examples based on how your users have talked to your assistant. You can use rasa train --finetune to initialize the pipeline with an already trained model and further finetune it on the new training dataset that includes the additional training examples. This will help reduce the training time of the new model.

By default, the command picks up the latest model in the models/ directory. If you have a specific model which you want to improve, you may specify the path to this by running

rasa train --finetune <path to model to finetune> . Finetuning a model usually requires fewer epochs to train machine learning components like DIETClassifier , ResponseSelector and TEDPolicy compared to training from scratch. Either use a model configuration for finetuning which defines fewer epochs than before or use the flag --epoch-fraction .

--epoch-fraction will use a fraction of the epochs specified for each machine learning component in the model configuration file. For example, if DIETClassifier is configured to use 100 epochs, specifying --epoch-fraction 0.5 will only use 50 epochs for finetuning.

You can also finetune an NLU-only or dialogue management-only model by using rasa train nlu --finetune and rasa train core --finetune

respectively.

To be able to fine tune a model, the following conditions must be met:

- The configuration supplied should be exactly the same as the configuration used to train the model which is being finetuned. The only parameter that you can change is epochs for the individual machine learning components and policies.
- 2. The set of labels(intents, actions, entities and slots) for which the base model is trained should be exactly the same as the ones present in the training data used for finetuning. This means that you cannot add new intent, action, entity or slot labels to your training data during incremental training. You can still add new training examples for each of the existing labels. If you have added/removed labels in the training data, the pipeline needs to be trained from scratch.
- **3.** The model to be finetuned is trained with MINIMUM_COMPATIBLE_VERSION of the currently installed rasa version.

rasa interactive

You can start an interactive learning session by running:

```
rasa interactive
```

This will first train a model and then start an interactive shell session. You can then correct your assistants predictions as you talk to it. If

UnexpecTEDIntentPolicy is included in the pipeline,

action_unlikely_intent can be triggered at any conversation turn.

Subsequently, the following message will be displayed:

```
The bot wants to run 'action_unlikely_intent' to indicate that the at this point in the conversation. Check out UnexpecTEDIntentPolice
```

As the message states, this is an indication that you have explored a conversation path which is unexpected according to the current set of training stories and hence adding this path to training stories is recommended. Like other bot actions, you can choose to confirm or deny running this action.

If you provide a trained model using the --model argument, training is skipped and that model will be loaded instead.

During interactive learning, Rasa will plot the current conversation and a few similar conversations from the training data to help you keep track of where you are. You can view the visualization at http://localhost:5005/visualization.html as soon as the session has started.

This diagram can take some time to generate. To skip the visualization, run rasa interactive --skip-visualization.

(!) ADD THE ASSISTANT_ID KEY INTRODUCED IN 3.5

Running interactive learning with a pre-trained model whose metadata does not include the assistant_id will exit with an error. If this happens, add the required key with a unique identifier value in config.yml and re-run training.

The following arguments can be used to configure the interactive learning session:

```
usage: rasa interactive [-h] [-v] [-vv] [--quiet]
                        [--logging-config-file LOGGING_CONFIG_FILE]
                        [-p PORT] [-m MODEL] [--data DATA [DATA ...
                        [--skip-visualization]
                        [--conversation-id CONVERSATION ID]
                        [--endpoints ENDPOINTS] [-c CONFIG] [-d DON
                        [--out OUT] [--augmentation AUGMENTATION]
                        [--debug-plots] [--finetune [FINETUNE]]
                        [--epoch-fraction EPOCH_FRACTION] [--force]
                        [--persist-nlu-data]
                        {core} ... [model-as-positional-argument]
positional arguments:
  {core}
                        Starts an interactive learning session mode
   core
                        new training data for a Rasa Core model by
                        Uses the 'RegexMessageHandler', i.e. `/<in1
                        format.
  model-as-positional-argument
                        Path to a trained Rasa model. If a director
                        specified, it will use the latest model in
                        directory. (default: None)
options:
  -h, --help
                        show this help message and exit
  --e2e
                        Save story files in e2e format. In this for
                        messages will be included in the stories. (
                        False)
  -p PORT, --port PORT Port to run the server at. (default: 5005)
  -m MODEL, --model MODEL
                        Path to a trained Rasa model. If a director
                        specified, it will use the latest model in
                        directory. (default: None)
  --data DATA [DATA ...]
                        Paths to the Core and NLU data files. (defa
                        ['data'])
  --skip-visualization Disable plotting the visualization during i
                        learning. (default: False)
  --conversation-id CONVERSATION ID
                        Specify the id of the conversation the mess
                        in. Defaults to a UUID that will be randoml
                        generated. (default: 9ba867a8817147f9ae870c
  --endpoints ENDPOINTS
```

Configuration file for the model server and connectors as a yml file. (default: endpoir

Python Logging Options:

You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info.

Be verbose. Sets logging level to INFO. (de -v. --verbose

None)

-vv, --debug Print lots of debugging statements. Sets lo

to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (

None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configurati will be set to the given name. (default: No

Train Arguments:

-c CONFIG, --config CONFIG

The policy and NLU pipeline configuration (

(default: config.yml)

-d DOMAIN, --domain DOMAIN

Domain specification. This can be a single or a directory that contains several files specifications in it. The content of these be read and merged together. (default: domain

--out OUT Directory where your models should be store

(default: models)

--augmentation AUGMENTATION

How much data augmentation to use during to

(default: 50)

--debug-plots If enabled, will create plots showing check

their connections between story blocks in a called `story_blocks_connections.html`. (de

False)

--finetune [FINETUNE]

Fine-tune a previously trained model. If no is provided, Rasa Open Source will try to 1 latest trained model from the model direct(specified via '--out'. (default: None)

--epoch-fraction EPOCH_FRACTION

Fraction of epochs which are currently spec the model configuration which should be use

finetuning a model. (default: None)

Force a model training even if the data has --force

changed. (default: False)

--persist-nlu-data Persist the NLU training data in the saved

(default: False)

rasa shell

You can start a chat session by running:

rasa shell

By default, this will load up the latest trained model. You can specify a different model to be loaded by using the --model flag.

If you start the shell with an NLU-only model, rasa shell will output the intents and entities predicted for any message you enter.

If you have trained a combined Rasa model but only want to see what your model extracts as intents and entities from text, you can use the command rasa shell nlu.

To increase the logging level for debugging, run:

```
rasa shell --debug
```

(i) NOTE

In order to see the typical greetings and/or session start behavior you might see in an external channel, you will need to explicitly send /session_start as the first message. Otherwise, the session start behavior will begin as described in Session configuration.

The following arguments can be used to configure the command. Most arguments overlap with rasa run; see the following section for more info on those arguments.

Note that the --connector argument will always be set to cmdline when running rasa shell. This means all credentials in your credentials file will be ignored, and if you provide your own value for the --connector argument it will also be ignored.

```
usage: rasa shell [-h] [-v] [-vv] [--quiet]
                  [--logging-config-file LOGGING_CONFIG_FILE]
                  [--conversation-id CONVERSATION_ID] [-m MODEL]
                  [--log-file LOG_FILE] [--use-syslog]
                  [--syslog-address SYSLOG ADDRESS]
                  [--syslog-port SYSLOG_PORT]
                  [--syslog-protocol SYSLOG_PROTOCOL] [--endpoints
                  [-i INTERFACE] [-p PORT] [-t AUTH_TOKEN] [--cors
                  [--enable-api] [--response-timeout RESPONSE_TIME(
                  [--request-timeout REQUEST_TIMEOUT]
                  [--remote-storage REMOTE_STORAGE]
                  [--ssl-certificate SSL_CERTIFICATE]
                  [--ssl-keyfile SSL KEYFILE] [--ssl-ca-file SSL C/
                  [--ssl-password SSL_PASSWORD] [--credentials CREI
                  [--connector CONNECTOR] [--jwt-secret JWT_SECRET]
                  [--jwt-method JWT_METHOD]
                  [--jwt-private-key JWT_PRIVATE_KEY]
                  {nlu} ... [model-as-positional-argument]
```

```
positional arguments:
    {nlu}
```

nlu Interprets messages on the command line us:

model-as-positional-argument

Path to a trained Rasa model. If a director specified, it will use the latest model in directory. (default: None)

options:

-h, --help show this help message and exit

--conversation-id CONVERSATION_ID

Set the conversation ID. (default: 39ef71936f8f41f288953f66100901a9)

-m MODEL, --model MODEL

Path to a trained Rasa model. If a director specified, it will use the latest model in directory. (default: models)

--log-file LOG_FILE Store logs in specified file. (default: Nor --use-syslog Add syslog as a log handler (default: False

--syslog-address SYSLOG_ADDRESS

Address of the syslog server. --use-sylog if required (default: localhost)

--syslog-port SYSLOG_PORT

Port of the syslog server. --use-sylog flag required (default: 514)

--syslog-protocol SYSLOG_PROTOCOL

Protocol used with the syslog server. Can t (default) or TCP (default: UDP)

--endpoints ENDPOINTS

Configuration file for the model server and connectors as a yml file. (default: endpoir

Python Logging Options:

You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info.

-v, --verbose Be verbose. Sets logging level to INFO. (de

None)

-vv, --debug Print lots of debugging statements. Sets lo

to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (c

None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configuration will be set to the given name. (default: No

Server Settings:

-i INTERFACE, --interface INTERFACE

Network interface to run the server on. (de 0.0.0.0)

-p PORT, --port PORT Port to run the server at. (default: 5005)

-t AUTH_TOKEN, --auth-token AUTH_TOKEN

Enable token based authentication. Requests provide the token to be accepted. (defaults

--cors [CORS \dots] Enable CORS for the passed origin. Use * to

all origins. (default: None)

--enable-api Start the web server API in addition to the

channel. (default: False)

--response-timeout RESPONSE_TIMEOUT

Maximum time a response can take to process (default: 3600)

--request-timeout REQUEST TIMEOUT

Maximum time a request can take to process

```
Command Line Interface
                        (default: 300)
  --remote-storage REMOTE_STORAGE
                        Set the remote location where your Rasa mod
                        stored, e.g. on AWS. (default: None)
  --ssl-certificate SSL_CERTIFICATE
                        Set the SSL Certificate to create a TLS sec
                        server. (default: None)
  --ssl-keyfile SSL_KEYFILE
                        Set the SSL Keyfile to create a TLS secured
                        (default: None)
  --ssl-ca-file SSL_CA_FILE
                        If your SSL certificate needs to be verific
                        specify the CA file using this parameter. (
  --ssl-password SSL_PASSWORD
                        If your ssl-keyfile is protected by a passw
                        can specify it using this paramer. (default
Channels:
  --credentials CREDENTIALS
                        Authentication credentials for the connector
                        file. (default: None)
  --connector CONNECTOR
                        Service to connect to. (default: None)
JWT Authentication:
  --jwt-secret JWT_SECRET
                        Public key for asymmetric JWT methods or sł
                        secretfor symmetric methods. Please also ma
                        use --jwt-method to select the method of th
                        signature, otherwise this argument will be
                        ignored. Note that this key is meant for sec
                        HTTP API. (default: None)
  --jwt-method JWT_METHOD
                        Method used for the signature of the JWT
```

authentication payload. (default: HS256)

--jwt-private-key JWT_PRIVATE_KEY

A private key used for generating web toker dependent upon which hashing algorithm is a must be used together with --jwt-secret for the public key. (default: None)

rasa run

To start a server running your trained model, run:

rasa run

By default the Rasa server uses HTTP for its communication. To secure the communication with SSL and run the server on HTTPS, you need to provide a valid certificate and the corresponding private key file. You can specify these files as part of the rasa run command. If you encrypted your keyfile with a password during creation, you need to add the --ssl-password as well.

```
rasa run --ssl-certificate myssl.crt --ssl-keyfile myssl.key --ssl-
```

Rasa by default listens on each available network interface. You can limit this to a specific network interface using the -i command line option.

```
rasa run -i 192.168.69.150
```

Rasa will by default connect to all channels specified in your credentials file. To connect to a single channel and ignore all other channels in your credentials file, specify the name of the channel in the --connector argument.

```
rasa run --connector rest
```

The name of the channel should match the name you specify in your credentials file. For supported channels see the page about messaging and voice channels.

The following arguments can be used to configure your Rasa server:

```
usage: rasa run [-h] [-v] [-vv] [--quiet]
                [--logging-config-file LOGGING_CONFIG_FILE] [-m MOI
                [--log-file LOG_FILE] [--use-syslog]
                [--syslog-address SYSLOG_ADDRESS] [--syslog-port S\
                [--syslog-protocol SYSLOG_PROTOCOL] [--endpoints EN
                [-i INTERFACE] [-p PORT] [-t AUTH_TOKEN] [--cors [(
                [--enable-api] [--response-timeout RESPONSE_TIMEOU]
                [--request-timeout REQUEST TIMEOUT]
                [--remote-storage REMOTE_STORAGE]
                [--ssl-certificate SSL_CERTIFICATE]
                [--ssl-keyfile SSL KEYFILE] [--ssl-ca-file SSL CA F
                [--ssl-password SSL_PASSWORD] [--credentials CREDEN
                [--connector CONNECTOR] [--jwt-secret JWT_SECRET]
                [--jwt-method JWT_METHOD] [--jwt-private-key JWT_PF
                {actions} ... [model-as-positional-argument]
positional arguments:
  {actions}
   actions
                        Runs the action server.
  model-as-positional-argument
                        Path to a trained Rasa model. If a director
                        specified, it will use the latest model in
                        directory. (default: None)
options:
                        show this help message and exit
  -h, --help
  -m MODEL, --model MODEL
                        Path to a trained Rasa model. If a director
```

specified, it will use the latest model in directory. (default: models) --log-file LOG_FILE Store logs in specified file. (default: Nor Add syslog as a log handler (default: False --use-syslog --syslog-address SYSLOG_ADDRESS Address of the syslog server. --use-sylog t required (default: localhost) --syslog-port SYSLOG_PORT Port of the syslog server. --use-sylog flag required (default: 514) --syslog-protocol SYSLOG_PROTOCOL Protocol used with the syslog server. Can k (default) or TCP (default: UDP) --endpoints ENDPOINTS Configuration file for the model server and connectors as a yml file. (default: endpoir Python Logging Options: You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info. Be verbose. Sets logging level to INFO. (de -v, --verbose None) Print lots of debugging statements. Sets lo -vv, --debug to DEBUG. (default: None) Be quiet! Sets logging level to WARNING. ((--quiet None) --logging-config-file LOGGING CONFIG FILE If set, the name of the logging configurati will be set to the given name. (default: No Server Settings: -i INTERFACE, --interface INTERFACE Network interface to run the server on. (de 0.0.0.0) -p PORT, --port PORT Port to run the server at. (default: 5005) -t AUTH_TOKEN, --auth-token AUTH_TOKEN Enable token based authentication. Requests provide the token to be accepted. (default: --cors [CORS ...] Enable CORS for the passed origin. Use * to all origins. (default: None) Start the web server API in addition to the --enable-api channel. (default: False) --response-timeout RESPONSE_TIMEOUT Maximum time a response can take to process (default: 3600) --request-timeout REQUEST_TIMEOUT Maximum time a request can take to process (default: 300) --remote-storage REMOTE_STORAGE Set the remote location where your Rasa mod stored, e.g. on AWS. (default: None) --ssl-certificate SSL CERTIFICATE Set the SSL Certificate to create a TLS sec server. (default: None) --ssl-keyfile SSL KEYFILE Set the SSL Keyfile to create a TLS secured (default: None) --ssl-ca-file SSL CA FILE If your SSL certificate needs to be verific

specify the CA file using this parameter. (

None)

```
--ssl-password SSL_PASSWORD
                        If your ssl-keyfile is protected by a passw
                        can specify it using this paramer. (default
Channels:
  --credentials CREDENTIALS
                        Authentication credentials for the connector
                        file. (default: None)
  --connector CONNECTOR
                        Service to connect to. (default: None)
JWT Authentication:
  --jwt-secret JWT SECRET
                        Public key for asymmetric JWT methods or sł
                        secretfor symmetric methods. Please also ma
                        use --jwt-method to select the method of th
                        signature, otherwise this argument will be
                        ignored. Note that this key is meant for sec
                        HTTP API. (default: None)
  --jwt-method JWT_METHOD
                        Method used for the signature of the JWT
                        authentication payload. (default: HS256)
  --jwt-private-key JWT_PRIVATE_KEY
                        A private key used for generating web toker
                        dependent upon which hashing algorithm is a
                        must be used together with --jwt-secret for
                        the public key. (default: None)
```

For more information on the additional parameters, see **Model Storage**. See the Rasa **HTTP API** page for detailed documentation of all the endpoints.

rasa run actions

To start an action server with the Rasa SDK, run:

rasa run actions

The following arguments can be used to adapt the server settings:

```
--ssl-keyfile SSL_KEYFILE
                        Set the SSL certificate to create a TLS sec
                        server. (default: None)
  --ssl-certificate SSL_CERTIFICATE
                        Set the SSL certificate to create a TLS sec
                        server. (default: None)
  --ssl-password SSL_PASSWORD
                        If your ssl-keyfile is protected by a passv
                        can specify it using this paramer. (default
                        Enable auto-reloading of modules containing
  --auto-reload
                        subclasses. (default: False)
Python Logging Options:
  You can control level of log messages printed. In addition to the
  arguments, a more fine grained configuration can be achieved with
  environment variables. See online documentation for more info.
```

```
-v, --verbose Be verbose. Sets logging level to INFO. (de None)

-vv, --debug Print lots of debugging statements. Sets lot to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (or None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configurations
```

will be set to the given name. (default: No

rasa visualize

To generate a graph of your stories in the browser, run:

```
rasa visualize
```

If your stories are located somewhere other than the default location data/, you can specify their location with the --stories flag.

The following arguments can be used to configure this command:

```
--out OUT
                        Filename of the output path, e.g. 'graph.h1
                        (default: graph.html)
 --max-history MAX_HISTORY
                        Max history to consider when merging paths
                        output graph. (default: 2)
 -u NLU, --nlu NLU
                        File or folder containing your NLU data, us
                        insert example messages into the graph. (de
                        None)
Python Logging Options:
 You can control level of log messages printed. In addition to the
 arguments, a more fine grained configuration can be achieved with
 environment variables. See online documentation for more info.
 -v, --verbose
                        Be verbose. Sets logging level to INFO. (de
                        None)
 -vv, --debug
                        Print lots of debugging statements. Sets lo
                        to DEBUG. (default: None)
 --quiet
                        Be quiet! Sets logging level to WARNING. ((
                        None)
 --logging-config-file LOGGING CONFIG FILE
                        If set, the name of the logging configurati
                        will be set to the given name. (default: No
```

rasa test

To evaluate a model on your test data, run:

```
rasa test
```

This will test your latest trained model on any end-to-end stories you have defined in files with the test_ prefix. If you want to use a different model,

```
you can specify it using the --model flag.
```

To evaluate the dialogue and NLU models separately, use the commands below:

```
rasa test core
```

and

```
rasa test nlu
```

You can find more details on specific arguments for each testing type in Evaluating an NLU Model and Evaluating a Dialogue Management Model.

The following arguments are available for rasa test:

```
usage: rasa test [-h] [-v] [-vv] [--quiet]
                 [--logging-config-file LOGGING_CONFIG_FILE] [-m M(
                 [-s STORIES] [--max-stories MAX_STORIES]
                 [--endpoints ENDPOINTS] [--fail-on-prediction-error
                 [--url URL] [--evaluate-model-directory] [-u NLU]
                 [-c CONFIG [CONFIG ...]] [-d DOMAIN] [--cross-vali
                 [-f FOLDS] [-r RUNS] [-p PERCENTAGES [PERCENTAGES
                 [--no-plot] [--successes] [--no-errors] [--no-warr
                 [--out OUT]
                 {core,nlu} ...
positional arguments:
  {core,nlu}
                        Tests Rasa Core models using your test stol
    core
    nlu
                        Tests Rasa NLU models using your test NLU (
options:
  -h, --help
                        show this help message and exit
  -m MODEL, --model MODEL
                        Path to a trained Rasa model. If a director
                        specified, it will use the latest model in
                        directory. (default: models)
  --no-plot
                        Don't render evaluation plots. (default: Fa
  --successes
                        If set successful predictions will be writt
                        file. (default: False)
                        If set incorrect predictions will NOT be wi
  --no-errors
                        file. (default: False)
                        If set prediction warnings will NOT be writ
  --no-warnings
                        file. (default: False)
                        Output path for any files created during th
  --out OUT
                        evaluation. (default: results)
Python Logging Options:
  You can control level of log messages printed. In addition to the
  arguments, a more fine grained configuration can be achieved with
  environment variables. See online documentation for more info.
                        Be verbose. Sets logging level to INFO. (de
  -v, --verbose
                        None)
                        Print lots of debugging statements. Sets lo
  -vv, --debug
                        to DEBUG. (default: None)
  --quiet
                        Be quiet! Sets logging level to WARNING. ((
                        None)
  --logging-config-file LOGGING CONFIG FILE
                        If set, the name of the logging configurati
                        will be set to the given name. (default: No
Core Test Arguments:
  -s STORIES, --stories STORIES
                        File or folder containing your test stories
                        .)
  --max-stories MAX STORIES
                        Maximum number of stories to test on. (defa
  --endpoints ENDPOINTS
                        Configuration file for the connectors as a
                        (default: endpoints.yml)
  --fail-on-prediction-errors
                        If a prediction error is encountered, an ex
                        thrown. This can be used to validate storic
                        tests, e.g. on travis. (default: False)
```

--url URL If supplied, downloads a story file from a trains on it. Fetches the data by sending a request to the supplied URL. (default: None --evaluate-model-directory Should be set to evaluate models trained vi train core --config <config-1> <config-2>'. in the provided directory are evaluated and against each other. (default: False) NLU Test Arguments: -u NLU, --nlu NLU File or folder containing your NLU data. (c data) -c CONFIG [CONFIG ...], --config CONFIG [CONFIG ...] Model configuration file. If a single file and cross validation mode is chosen, crossis performed, if multiple configs or a fold configs are passed, models will be trained compared directly. (default: None) -d DOMAIN, --domain DOMAIN Domain specification. This can be a single or a directory that contains several files specifications in it. The content of these be read and merged together. (default: domain

rasa test e2e

Rasa Pro Only

$\mathbb Q$ rasa pro license

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! NEW IN 3.5

You can now use end-to-end testing to test your assistant as a whole, including dialogue management and custom actions.

To run end-to-end testing on your trained model, run:

rasa test e2e

This will test your latest trained model on any end-to-end test cases you have. If you want to use a different model, you can specify it using the --model flag.

The following arguments are available for rasa test e2e:

```
usage: rasa test e2e [-h] [-v] [-vv] [--quiet] [--logging-config-fi
Runs end-to-end testing.
optional arguments:
  -h, --help
                        show this help message and exit
  -o, --e2e-results
                       Results file containing end-to-end testing
  --remote-storage REMOTE_STORAGE
                        Set the remote location where your Rasa mod
  -m MODEL, --model MODEL
                        Path to a trained Rasa model. If a director
  --endpoints ENDPOINTS
                        Configuration file for the model server and
Python Logging Options:
  You can control level of log messages printed. In addition to the
  -v, --verbose
                        Be verbose. Sets logging level to INFO. (de
  -vv, --debug
                        Print lots of debugging statements. Sets lo
                        Be quiet! Sets logging level to WARNING. ((
  --auiet
  --logging-config-file LOGGING_CONFIG_FILE
                        If set, the name of the logging configurati
Testing Settings:
                        Input file or folder containing end-to-end
  path-to-test-cases
  --fail-fast
                        Fail the test suite as soon as a unit test
```

rasa data split

To create a train-test split of your NLU training data, run:

```
rasa data split nlu
```

This will create a 80/20 split of train/test data by default. You can specify the training data, the fraction, and the output directory using the following arguments:

```
None)
--out OUT
Directory where the split files should be s
(default: train_test_split)
```

```
Python Logging Options:
```

You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info.

```
-v, --verbose Be verbose. Sets logging level to INFO. (de None)

-vv, --debug Print lots of debugging statements. Sets lot to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (on None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configuration will be set to the given name. (default: No
```

If you have NLG data for retrieval actions, this will be saved to separate files:

To split your stories, you can use the following command:

```
rasa data split stories
```

It has the same arguments as split nlu command, but loads yaml files with stories and perform random splitting. Directory train_test_split will contain all yaml files processed with prefixes train_ or test_ containing train and test parts.

rasa data convert nlu

You can convert NLU data from

- · LUIS data format,
- · WIT data format,
- Dialogflow data format, or
- JSON

to

- YAML or
- JSON

You can start the converter by running:

```
rasa data convert nlu
```

You can specify the input file or directory, output file or directory, and the output format with the following arguments:

```
usage: rasa data convert nlu [-h] [-v] [-vv] [--quiet]
                             [--logging-config-file LOGGING_CONFIG_
                             [-f {json,yaml}] [--data DATA [DATA ...
                             [--out OUT] [-l LANGUAGE]
options:
  -h, --help
                        show this help message and exit
  -f {json,yaml}, --format {json,yaml}
                        Output format the training data should be (
                        into. (default: yaml)
  --data DATA [DATA ...]
                        Paths to the files or directories containing
                        data. (default: data)
  --out OUT
                        File (for `json`) or existing path (for `ya
                        to save training data in Rasa format. (defa
                        converted data)
  -l LANGUAGE, --language LANGUAGE
                        Language of data. (default: en)
Python Logging Options:
  You can control level of log messages printed. In addition to the
  arguments, a more fine grained configuration can be achieved with
  environment variables. See online documentation for more info.
                        Be verbose. Sets logging level to INFO. (de
  -v, --verbose
  -vv, --debug
                        Print lots of debugging statements. Sets lo
                        to DEBUG. (default: None)
  --quiet
                        Be quiet! Sets logging level to WARNING. ((
                        None)
  --logging-config-file LOGGING CONFIG FILE
                        If set, the name of the logging configurati
                        will be set to the given name. (default: No
```

rasa data migrate

The domain is the only data file whose format changed between 2.0 and 3.0. You can automatically migrate a 2.0 domain to the 3.0 format.

You can start the migration by running:

rasa data migrate

You can specify the input file or directory and the output file or directory with the following arguments:

```
rasa data migrate -d DOMAIN --out OUT_PATH
```

If no arguments are specified, the default domain path (domain.yml) will be used for both input and output files.

This command will also back-up your 2.0 domain file(s) into a different original_domain.yml file or directory labeled original_domain.

Note that the slots in the migrated domain will contain **mapping conditions** if these slots are part of a form's required_slots.

A CAUTION

Exceptions will be raised and the migration process terminated if invalid domain files are provided or if they are already in the 3.0 format, if slots or forms are missing from your original files or if the slots or forms sections are spread across multiple domain files. This is done to avoid duplication of migrated sections in your domain files. Please make sure all your slots' or forms' definitions are grouped into a single file.

You can learn more about this command by running:

```
rasa data migrate --help
```

rasa data validate

You can check your domain, NLU data, or story data for mistakes and inconsistencies. To validate your data, run this command:

```
rasa data validate
```

The validator searches for errors in the data, e.g. two intents that have some identical training examples. The validator also checks if you have any stories

where different assistant actions follow from the same dialogue history. Conflicts between stories will prevent a model from learning the correct pattern for a dialogue.

(!) SEARCHING FOR THE ASSISTANT_ID KEY INTRODUCED IN 3.5

The validator will check whether the assistant_id key is present in the config file and will issue a warning if this key is missing or if the default value has not been changed.

If you pass a <code>max_history</code> value to one or more policies in your <code>config.yml</code> file, provide the smallest of those values in the validator command using the <code>--max-history</code> <code><max_history></code> flag.

You can also validate only the story structure by running this command:

rasa data validate stories

(i) NOTE

Running rasa data validate does **not** test if your **rules** are consistent with your stories. However, during training, the RulePolicy checks for conflicts between rules and stories. Any such conflict will abort training.

Also, if you use end-to-end stories, then this might not capture all conflicts. Specifically, if two user inputs result in different tokens yet exactly the same featurization, then conflicting actions after these inputs may exist but will not be reported by the tool.

To interrupt validation even for minor issues such as unused intents or responses, use the --fail-on-warnings flag.

A CHECK YOUR STORY NAMES

The rasa data validate stories command assumes that all your story names are unique!

You can use rasa data validate with additional arguments, e.g. to specify the location of your data and domain files:

```
usage: rasa data validate [-h] [-v] [-vv] [--quiet]
                          [--logging-config-file LOGGING_CONFIG_FIL
                          [--max-history MAX_HISTORY] [-c CONFIG]
                          [--fail-on-warnings] [-d DOMAIN]
                          [--data DATA [DATA ...]]
                          {stories} ...
positional arguments:
  {stories}
   stories
                        Checks for inconsistencies in the story fil
options:
  -h, --help
                        show this help message and exit
  --max-history MAX_HISTORY
                        Number of turns taken into account for stol
                        validation. (default: None)
  -c CONFIG, --config CONFIG
                        The policy and NLU pipeline configuration (
                        (default: config.yml)
  --fail-on-warnings
                        Fail validation on warnings and errors. If
                        only errors will result in a non zero exit
                        (default: False)
  -d DOMAIN, --domain DOMAIN
                        Domain specification. This can be a single
                        or a directory that contains several files
                        specifications in it. The content of these
                        be read and merged together. (default: domain
  --data DATA [DATA ...]
                        Paths to the files or directories containing
                        data. (default: data)
Python Logging Options:
  You can control level of log messages printed. In addition to the
  arguments, a more fine grained configuration can be achieved with
  environment variables. See online documentation for more info.
  -v, --verbose
                        Be verbose. Sets logging level to INFO. (de
                        None)
  -vv, --debug
                        Print lots of debugging statements. Sets lo
                        to DEBUG. (default: None)
  --quiet
                        Be quiet! Sets logging level to WARNING. (
```

None)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configurati will be set to the given name. (default: No



To export events from a tracker store using an event broker, run:

rasa export

You can specify the location of the environments file, the minimum and maximum timestamps of events that should be published, as well as the conversation IDs that should be published:

```
usage: rasa export [-h] [-v] [-vv] [--quiet]
                   [--logging-config-file LOGGING_CONFIG_FILE]
                   [--endpoints ENDPOINTS]
                   [--minimum-timestamp MINIMUM_TIMESTAMP]
                   [--maximum-timestamp MAXIMUM_TIMESTAMP]
                   [--offset-timestamps-by-seconds OFFSET TIMESTAMF
                   [--conversation-ids CONVERSATION_IDS]
options:
  -h, --help
                        show this help message and exit
  --endpoints ENDPOINTS
                        Endpoint configuration file specifying the
                        store and event broker. (default: endpoints
  --minimum-timestamp MINIMUM_TIMESTAMP
                        Minimum timestamp of events to be exported.
                        constraint is applied in a 'greater than or
                        comparison. (default: None)
  --maximum-timestamp MAXIMUM_TIMESTAMP
                        Maximum timestamp of events to be exported.
                        constraint is applied in a 'less than' comp
                        (default: None)
  --offset-timestamps-by-seconds OFFSET_TIMESTAMPS_BY_SECONDS
                        Offset all event timestamps by the specific
                        seconds. This won't modify the stored event
                        tracker store, but only change the timestan
                        events exported to the broker. (default: No
  --conversation-ids CONVERSATION_IDS
                        Comma-separated list of conversation IDs to
                        If unset, all available conversation IDs wi
                        exported. (default: None)
Python Logging Options:
  You can control level of log messages printed. In addition to the
  arguments, a more fine grained configuration can be achieved with
  environment variables. See online documentation for more info.
  -v, --verbose
                        Be verbose. Sets logging level to INFO. (de
                        None)
  -vv, --debug
                        Print lots of debugging statements. Sets lo
                        to DEBUG. (default: None)
  --quiet
                        Be quiet! Sets logging level to WARNING. ((
                        None)
  --logging-config-file LOGGING CONFIG FILE
```

igsquare import conversations into Rasa X/enterprise

This command is most commonly used to import old conversations into Rasa X/Enterprise to annotate them. Read more about importing conversations into Rasa X/Enterprise.

If set, the name of the logging configurati will be set to the given name. (default: No

rasa evaluate markers

A CAUTION

This feature is currently experimental and might change or be removed in the future. Share your feedback in the forum to help us make it production-ready.

The following command applies the **markers** you defined in your marker configuration file, to pre-existing dialogues stored in your **tracker store**, and produces .csv files containing the extracted markers and summary statistics:

```
rasa evaluate markers all extracted_markers.csv
```

Use the following arguments to configure the marker extraction process:

```
usage: rasa evaluate markers [-h] [-v] [-vv] [--quiet] [--config C(
positional arguments:
  output_filename
                       The filename to write the extracted markers
  {first_n,sample,all}
    first_n
                        Select trackers sequentially until N are ta
                        Select trackers by sampling N.
   sample
                       Select all trackers.
   all
optional arguments:
                        show this help message and exit
  -h, --help
  --config CONFIG
                        The config file(s) containing marker defini
                        merged together. (default: markers.yml)
  --no-stats
                        Do not compute summary statistics. (defaul1
  --stats-file-prefix [STATS_FILE_PREFIX]
                        The common file prefix of the files where \nu
                         `-per-session.csv` will be added automatica
  --endpoints ENDPOINTS
                        Configuration file for the tracker store as
  -d DOMAIN, --domain DOMAIN
                        Domain specification. This can be a single
                        domain.yml)
Python Logging Options:
  -v, --verbose
                        Be verbose. Sets logging level to INFO. (de
  -vv, --debug
                        Print lots of debugging statements. Sets lo
                        Be quiet! Sets logging level to WARNING. ((
  --quiet
```

rasa markers upload

Rasa Pro Only

Q RASA PRO LICENSE

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! NEW IN 3.6

This command is available from Rasa Pro 3.6.0 and requires **Rasa Analytics Data Pipeline**

This command applies to markers and their real-time processing. Running this command validates the marker configuration file against the domain file and uploads the configuration to Analytics Data Pipeline

```
usage: rasa markers upload [-h] [-v] [-vv] [--quiet]
                           [--logging-config-file LOGGING_CONFIG_F]
                           [--config CONFIG]
                           [--rasa-pro-services-url RASA PRO SERVI(
                           [-d DOMAIN]
optional arguments:
 -h, --help
                       show this help message and exit
  --config CONFIG
                       The marker configuration file(s) containing
                        definitions. This can be a single YAML file
                        directory that contains several files with
                        definitions in it. The content of these fil
                        read and merged together. (default: markers
  --rasa-pro-services-url RASA_PRO_SERVICES_URL
                        The URL of the Rasa Pro Services instance 1
                        markers to. Specified URL should not contain
                        slash. (default: )
  -d DOMAIN, --domain DOMAIN
                        Domain specification. This can be a single
                        or a directory that contains several files
                        specifications in it. The content of these
                        be read and merged together. (default: domain
Python Logging Options:
```

You can control level of log messages printed. In addition to the arguments, a more fine grained configuration can be achieved with environment variables. See online documentation for more info.

```
-v, --verbose Be verbose. Sets logging level to INFO. (de None)

-vv, --debug Print lots of debugging statements. Sets log to DEBUG. (default: None)

--quiet Be quiet! Sets logging level to WARNING. (continue)

--logging-config-file LOGGING_CONFIG_FILE

If set, the name of the logging configurations.
```

```
will be set to the given name. (default: Note Description:
The `rasa markers upload` command allows you to upload markers to Examples:
Upload Markers to Rasa Pro Services:
rasa markers upload --config markers.yml --rasa-pro-services-upload --config markers-upload --conf
```

rasa license

Rasa Pro Only



You'll need a license to get started with Rasa Pro. Talk with Sales

! NEW IN 3.3

This command was introduced.

Use rasa license to display information about licensing in Rasa Pro, especially information about 3rd party dependencies licenses.

Here is the list of all possible arguments:

```
usage: rasa license [-h] [-v] [-vv] [--quiet] [--logging-config-fil
Display licensing information.
options:
 -h, --help
                       show this help message and exit
Python Logging Options:
  You can control level of log messages printed. In addition to the
                      Be verbose. Sets logging level to INFO. (de
  -v, --verbose
  -vv, --debug
                       Print lots of debugging statements. Sets lo
  --quiet
                        Be quiet! Sets logging level to WARNING. (
  --logging-config-file LOGGING_CONFIG_FILE
                        If set, the name of the logging configurati
Previous
                                                            Next
```

« Migrate From Other Tools (beta)

Conversation-Driven
Development »

Last updated on 2/23/2024 by GitHub CI

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