

# Deconcentrator

let deconcentrator do the „hard“ work of checking multiple natural language understanding processing providers.

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### scope

be a common endpoint for various nlu providers:

- [RASA](<https://rasa.com/docs/rasa/>)

others aren't implemented yet, but implementation should be trivial:

- [Microsoft

LUIS](<https://azure.microsoft.com/de-de/services/cognitive-services/language-understanding-intelligent-service/>) - [Google Cloud NLU](<https://cloud.google.com/natural-language/>) - [IBM Watson

NLU](<https://www.ibm.com/watson/services/natural-language-understanding/>)

### principles

#### important frameworks/software pieces

- [nginx](<https://nginx.org>): reverse proxy (static files) and uwsgi gateway -

[uWSGI](<https://pypi.org/project/uWSGI/>): wsgi implementation - [Django REST

framework](<https://www.django-rest-framework.org/>): REST interfaces, viewsets, generic serialization

logic etc.

- [Django](<https://www.djangoproject.com/>): „The web framework for perfectionists with deadlines.“ -

[Celery](<https://docs.celeryproject.org/>): Distributed task queue for delegating I/O tasks (like doing

web requests) - [RabbitMQ](<https://www.rabbitmq.com/>): async task queue itself -

[redis](<https://redis.io/>): django cache, session cache, celery result backend -

[memcached](<https://memcached.org/>): django cache. - [PostgreSQL](<https://www.postgresql.org/>): database backend.

#### important models

- `Method`: the abstraction of a function to retrieve an actual NLU processing result. - `Provider`: the actual provider, which is doing some kind of NLU processing. - `Strategy`: how to select a `Provider` for a specific `Objective` - `Objective`: kind of a task that has to be done. It's the main entry-point, user-supplied. It contains the actual

payload which has to be NLU processed and selects an strategy.

- `Job`: the `Strategy` creates jobs from an `Objective`. Each job then has a specific `Provider` to use for processing. - `Result`: the outcome of asking a `Provider`.

## implementation details

- `Objective`, `Job` and `Result` make use of non-abc-dispatching (i. e. dispatching without a common abstract base

```
class). That means:  
- they have a common method with equal signature called `execute()` and  
are connected to the same `post_save`  
  handler.  
- once an object of one of these classes is `save`d, the `post_save` hook  
will call that common method.  
- that method, then, calls the `Strategy` model method for further  
handling.  
- to avoid infinite recursion, one has to avoid calling `save()` within  
the `Strategy` method, instead using the  
  `
```

- the `ViewSet`'s design:

1. `Method`s, `Strategy`s, `Job`s and `Result`s can only be read
2. `Provider`s can be CRUD on demand.
3. `Objective`s can be created and retrieved, but not updated or deleted.

## how-to

## Versioning

## Authors

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