AnyBlok / Bus Documentation

Release 1.1.0

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Front Matter

Information about the AnyBlok / Bus project.

1.1 Project Homepage

AnyBlok is hosted on github - the main project page is at https://github.com/AnyBlok/anyblok_bus. Source code is tracked here using GIT.

Releases and project status are available on Pypi at http://pypi.python.org/pypi/anyblok_bus.

The most recent published version of this documentation should be at http://doc.anyblok-bus.anyblok.org.

1.2 Installation

Install released versions of AnyBlok from the Python package index with pip or a similar tool:

```
pip install anyblok_bus
```

Installation via source distribution is via the `setup.py` script:

```
python setup.py install
```

Installation will add the `anyblok` commands to the environment.

1.3 Unit Test

Run the test with `nose`:

```
pip install nose
nosetests anyblok_bus/tests
```

1.4 Script

anyblok_bus add `console_script` to launch worker. A worker consume a queue defined by the decorator **anyblok_bus.bus_consumer**:

```
anyblok_bus -c anyblok_config_file.cfg
```

..note:: The profile name in the configuration is used to find the correct url to connect to rabbitmq

1.5 Dependencies

AnyBlok / Bus works with **Python 3.3** and later and pika. The install process will ensure that AnyBlok is installed, in addition to other dependencies. The latest version of them is strongly recommended.

1.6 Author

Jean-Sébastien Suzanne

1.7 Contributors

Anybox team:

- Jean-Sébastien Suzanne
- Florent Jouatte

Sensee team:

- Julien SZKUDLAPSKI

1.8 Bugs

Bugs and feature enhancements to AnyBlok should be reported on the Issue tracker.

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Usage

2.1 Declare a new consumer

In an AnyBlok Model you have to decorate a method with **bus_consumer**

```python
from  anyblok_bus import bus_consumer
from anyblok import Declarations
from .schema import MySchema

@Declarations.register(Declarations.Model)
class MyModel:

    @bus_consumer(queue_name='name of the queue', schema=MySchema())
    def my_consumer(cls, body):
        # do something
```

The schema must be an instance of marshmallow.Schema, see the marshmallow documentation

---

Note: The decorated method become a classmethod with always the same prototype (cls, body) body is the desarialization of the message from the queue by the schema.

2.2 Publish a message through rabbitmq

The publication is done by **registry.Bus.publish** method:

```python
registry.Bus.publish('exchange', 'routing_key', message, mimestype)
```

if the message have not be send, then an exception is raised

..warning:

```
A profile must be defined and selected by the AnyBlok configuration **bus_profile**
```

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Code

3.1 Declare a consumer on queue with a marshmallow schema

3.1.1 decorator `bus_consumer`

anyblok_bus.consumer.**bus_consumer**(*queue_name=None*, *schema=None*)

3.1.2 anyblok model plugin

class anyblok_bus.consumer.**BusConsumerPlugin**(*registry*)

    Bases: anyblok.model.plugins.ModelPluginBase

    anyblok.model.plugin to allow the build of the anyblok_bus.bus_consumer

    initialisation_tranformation_properties(*properties*, *transformation_properties*)

        Initialise the transform properties

        Parameters

- **properties** – the properties declared in the model
- **new_type_properties** – param to add in a new base if need

    insert_in_bases(*new_base*, *namespace*, *properties*, *transformation_properties*)

        Insert in a base the overload

        Parameters

- **new_base** – the base to be put on front of all bases
- **namespace** – the namespace of the model
- **properties** – the properties declared in the model
- **transformation_properties** – the properties of the model

transform_base_attribute(*attr*, *method*, *namespace*, *base*, *transformation_properties*, *new_type_properties*)

> transform the attribute for the final Model

> > **Parameters**

> > > - **attr** – attribute name
> > >
> > > - **method** – method pointer of the attribute
> > >
> > > - **namespace** – the namespace of the model
> > >
> > > - **base** – One of the base of the model
> > >
> > > - **transformation_properties** – the properties of the model
> > >
> > > - **new_type_properties** – param to add in a new base if need

3.2 Worker

class anyblok_bus.worker.**Worker**(*registry*, *profile*, *withautocommit=True*)

> Bases: object

> Define consumers to consume the queue défined in the AnyBlok registry by the bus_consumer decorator

```
worker = Worker(anyblokregistry, profilename)
worker.start()  # blocking loop
worker.is_ready()  # return True if all the consumer are started
worker.stop()  # stop the loop and close the connection with rabbitmq
```

> > **Parameters**

> > > - **registry** – anyblok registry instance
> > >
> > > - **profile** – the name of the profile which give the url of rabbitmq

> **close_channel_and_connection**()

> **connect**()
> > Creating connection object

> **declare_consumer**(*queue*, *model*, *method*)

> **get_url**()
> > Retrieve connection url

> **is_ready**()

> **on_cancelok**(*unused_frame*)

> **on_channel_closed**(*channel*, *reply_code*, *reply_text*)
> > Called when channel is closed

> **on_channel_open**(*channel*)
> > Called when channel is opened

> **on_connection_closed**(*connection*, *reply_code*, *reply_text*)
> > Called when connection is closed by the server

> **on_connection_open**(**a*)
> > Called when we are fully connected to RabbitMQ

> **reconnect**()

start()
> Creating connection object and starting event loop

stop()

stop_consuming()
> Set profile's state to 'disconnected' and cancels every related consumers

3.2.1 Exceptions

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Bloks

4.1 Blok bus

class `anyblok_bus.bloks.bus.`**Bus**(*registry*)

 Bases: `anyblok.blok.Blok`

 Add bus configuration in AnyBlok

 author = 'Suzanne Jean-Sébastien'

 conditional_by = []

 conflicting_by = []

 classmethod import_declaration_module()

  Do the python import for the Declaration of the model or other

 name = 'bus'

 optional_by = []

 classmethod reload_declaration_module(*reload*)

 required = ['anyblok-core']

 required_by = []

 version = '1.1.0'

4.1.1 Memento

This blok define two Models:

- **Model.Bus.Profile**: list the connection available to a rabbitmq server

- **Model.Bus.Message**: Give the received message witch did not be imported correctly by the consumer

4.1.2 API doc

Bus

class `anyblok_bus.bloks.bus.bus.`**`Bus`**
  Bases: `object`

  Namespace Bus

  AnyBlok registration:

  - Type: Model
  - Registry name: Model.Bus
  - Tablename: bus

  classmethod `get_consumers`()
    Return the list of the consumers

  classmethod `publish`(*exchange*, *routing_key*, *data*, *contenttype*)
    Publish a message in an exchange with a routing key through rabbitmq with the profile given by the anyblok configuration

    Parameters

      - **`exchange`** – name of the exchange
      - **`routing_key`** – name of the routing key
      - **`data`** – str or unitcode to send through rabbitmq
      - **`contenttype`** – the mimestype of the data

    Exception PublishException

Profile

class `anyblok_bus.bloks.bus.profile.`**`Profile`**
  Bases: `object`

  AnyBlok registration:

  - Type: Model
  - Registry name: Model.Bus.Profile
  - Tablename: bus_profile

Fields	
name	`size - 64` `nullable - False` `primary_key - True` `Type - anyblok.column.String` `unique - True` `default - anyblok.column.NoDefaultValue`
state	`size - 64` `nullable - False` `default - 'disconnected'` `Type - anyblok.column.Selection`
description	`size - 64` `Type - anyblok.column.String` `default - anyblok.column.NoDefaultValue`
url	`nullable - False` `default - anyblok.column.NoDefaultValue` `Type - anyblok.column.URL`

Message

class `anyblok_bus.bloks.bus.message.`**`Message`**
    Bases: `object`

    AnyBlok registration:

- Type: Model

- Registry name: Model.Bus.Message

- Tablename: bus_message

Fields	
edit_date	• is auto updated - True • nullable - False • default timezone - <UTC> • Type - anyblok.column.DateTime
model	• size - 64 • nullable - False • default - anyblok.column.NoDefaultValue • Type - anyblok.column.String
queue	• size - 64 • nullable - False • default - anyblok.column.NoDefaultValue • Type - anyblok.column.String
create_date	• is auto updated - False • nullable - False • default timezone - <UTC> • Type - anyblok.column.DateTime
id	• autoincrement - True • default - anyblok.column.NoDefaultValue • primary_key - True • Type - anyblok.column.Integer
sequence	• nullable - False • default - 100 • Type - anyblok.column.Integer
error	• Type - anyblok.column.Text • default - anyblok.column.NoDefaultValue
content_type	• size - 64 • nullable - False • default - 'application/json' • Type - anyblok.column.String
message	• nullable - False • default - anyblok.column.NoDefaultValue • Type - anyblok.column.LargeBinary
method	• size - 64 • nullable - False

consume()
> Try to consume on message to import it in database

classmethod consume_all()
> Try to consume all the message, ordered by the sequence

Exceptions

exception anyblok_bus.bloks.bus.exceptions.**PublishException**
> Bases: Exception

Exception Error for Publish a message through rabbitmq

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- *CHANGELOG*
  - *1.1.0 (2018-09-15)*
  - *1.0.0 (2018-06-05)*

CHAPTER 5

CHANGELOG

5.1 1.1.0 (2018-09-15)

- Improved logging: for helping to debug the messages
- Added create and update date columns
- fixed `consume_all` method. now the method does not stop when an exception is raised
- Used marsmallow version >= 3.0.0

5.2 1.0.0 (2018-06-05)

- add Worker to consume the message from rabbitmq
- add publish method to publish a message to rabbitmq
- add **anyblok_bus.bus_consumer** add decorator to défine the consumer

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