Package ‘yhatr’

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Description Deploy, maintain, and invoke models via the Yhat REST API.
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add.dependency

Private function that adds a package to the list of dependencies that will be installed on the ScienceOps server

Usage

add.dependency(name, importName, src, version, install)

Arguments

name
name of the package to be installed

importName
name under which the package is imported (for a github package, this may be different from the name used to install it)

src
source that the package is installed from (CRAN or github)

version
version of the package

install
whether or not the package should be installed in the model image

capture.src

Private function for capturing the source code of model

Usage

capture.src(funcs, capture.model.require = TRUE)
check.dependencies

Arguments

funcs functions to capture, defaults to required yhat model functions
capture.model.require flag to capture the model.require function

Description

Checks dependencies and makes sure all are installed.

Usage

check.dependencies()

check.image.size

Private function for checking the size of the user’s image.

Description

Private function for checking the size of the user’s image.

Usage

check.image.size()

is.https

Private predicate function that checks if the protocol of a url is https.

Description

Private predicate function that checks if the protocol of a url is https.

Usage

is.https(x)

Arguments

x is a url string
set.model.require  
*Private function that generates a model.require function based on the libraries that have been imported in this session.*

**Description**
Private function that generates a model.require function based on the libraries that have been imported in this session.

**Usage**

code
```r
set.model.require()
```

description

---

yhat.batchDeploy  
*Deploy a batch model to Yhat servers*

**Description**
This function will deploy your batch model to the yhat servers.

**Usage**

code
```r
yhat.batchDeploy(job_name, confirm = TRUE)
```

description

**Arguments**
- `job_name` : name of batch job
- `confirm` : boolean indicating whether to prompt before deploying

**Examples**

code
```r
yhat.config <- c(
  username = "your username",
  apikey = "your apikey",
  env = "http://sandbox.yhatq.com/
)
yhat.batch <- function() {
  name <- "ross"
  greeting <- paste("Hello", name)
  print(greeting)
}
## Not run:
yhat.batchDeploy("helloworld")
## End(Not run)
```
Deploy a model to Yhat's servers

Description

This function takes model.transform and model.predict and creates a model on Yhat’s servers which can be called from any programming language via Yhat’s REST API (see `yhat.predict`).

Usage

```r
yhat.deploy(model_name, packages = c(), confirm = TRUE,
            custom_image = NULL)
```

Arguments

- `model_name` : name of your model
- `packages` : list of packages to install using apt-get
- `confirm` : boolean indicating whether to prompt before deploying
- `custom_image` : name of the image you’d like your model to use

Examples

```r
yhat.config <- c(
  username = "your username",
  apikey = "your apikey",
  env = "http://sandbox.yhathq.com/"
)
iris$Sepal.Width_sq <- iris$Sepal.Width^2
fit <- glm(I(Species)=="virginica" ~ ., data=iris)
model.require <- function()
  require("randomforest")
}
model.transform <- function(df) {
  df$Sepal.Width_sq <- df$Sepal.Width^2
  df
}
model.predict <- function(df) {
  data.frame("prediction"=predict(fit, df, type="response"))
}
## Not run:
yhat.deploy("irisModel")
yhat.deploy("irisModelCustomImage", custom_image="myImage:latest")
## End(Not run)
```
**yhat.get**

*Private function for performing a GET request*

**Description**

Private function for performing a GET request

**Usage**

```r
yhat.get(endpoint, query = c())
```

**Arguments**

- `endpoint` /path for REST request
- `query` url parameters for request

---

**yhat.library**

*Import one or more libraries and add them to the Yhat model’s dependency list*

**Description**

Import one or more libraries and add them to the Yhat model’s dependency list

**Usage**

```r
yhat.library(name, src = "CRAN", version = NULL, user = NULL, install = TRUE)
```

**Arguments**

- `name` name of the package to be added
- `src` source from which the package will be installed on ScienceOps (github or CRAN)
- `version` version of the package to be added
- `user` Github username associated with the package
- `install` Whether the package should also be installed into the model on the ScienceOps server; this is typically set to False when the package has already been added to the ScienceOps base image.
Examples

```r
## Not run:
yhat.library("MASS")
yhat.library(c("wesanderson", "stringr"))
yhat.library("cats", src="github", user="hilaryparker")
yhat.library("hilaryparker/cats")
yhat.library("my_proprietary_package", install=FALSE)

## End(Not run)
```

---

**yhat.ls**  
*Private function for determining model dependencies*

**Description**

List all object names which are dependencies of `model.transform` and `model.predict` or `yhat.batch` if this is a batch mode deploy

**Usage**

```r
yhat.ls(batchMode = FALSE)
```

**Arguments**

- `batchMode`  
  boolean to capture `yhat.batch` code for a batch job

---

**yhat.post**  
*Private function for performing a POST request*

**Description**

Private function for performing a POST request

**Usage**

```r
yhat.post(endpoint, query = c(), data, silent = TRUE, bulk = FALSE)
```

**Arguments**

- `endpoint`  
  /path for REST request
- `query`  
  url parameters for request
- `data`  
  payload to be converted to raw JSON
- `silent`  
  should output of url to console be silenced? Default is FALSE.
- `bulk`  
  is this a bulk style request? Default is FALSE.
yhat.predict

Make a prediction using Yhat.

Description

This function calls Yhat’s REST API and returns a response formatted as a data frame.

Usage

yhat.predict(model_name, data, model_owner, raw_input = FALSE, silent = TRUE)

Arguments

- model_name: the name of the model you want to call
- data: input data for the model
- model_owner: the owner of the model [optional]
- raw_input: when true, incoming data will NOT be coerced into data.frame
- silent: should output of url to console (via yhat.post) be silenced? Default is FALSE.

Examples

```r
yhat.config <- c(
  username = "your username",
  apikey = "your apikey",
  env = "http://sandbox.yhathq.com/"
)
## Not run:
yhat.predict("irisModel", iris)
```

## End(Not run)

yhat.predict_bulk

Make bulk predictions using Yhat.

Description

This function calls Yhat’s bulk API and returns a response formatted as a data frame.

Usage

yhat.predict_bulk(model_name, data, model_owner, raw_input = FALSE, silent = TRUE)
yhat.predict_raw

Arguments

- `model_name` - the name of the model you want to call
- `data` - input rows of data to be scored
- `model_owner` - the owner of the model [optional]
- `raw_input` - when true, incoming data will NOT be coerced into data.frame
- `silent` - should output of url to console (via `yhat.post`) be silenced? Default is FALSE.

Examples

```r
yhat.config <- c(
  username = "your username",
  apikey = "your apikey",
  env = "http://sandbox.yhatq.com/
)
## Not run:
yhat.predict_bulk("irisModel", iris)
## End(Not run)
```

yhat.predict_raw  

Calls Yhat’s REST API and returns a JSON document containing both the prediction and associated metadata.

Description

Calls Yhat’s REST API and returns a JSON document containing both the prediction and associated metadata.

Usage

```r
yhat.predict_raw(model_name, data, model_owner, raw_input = FALSE, silent = TRUE, bulk = FALSE)
```

Arguments

- `model_name` - the name of the model you want to call
- `data` - input data for the model
- `model_owner` - the owner of the model [optional]
- `raw_input` - when true, incoming data will NOT be coerced into data.frame
- `silent` - should output of url to console (via `yhat.post`) be silenced? Default is FALSE.
- `bulk` - should the bulk api be used Default is FALSE.
Examples

```r
yhat.config <- c(
  username = "your username",
  apikey = "your apikey"
)
## Not run:
yhat.predict_raw("irisModel", iris)
## End(Not run)
```

---

### yhat.spider.block

*Private function for recursively looking for variables*

**Description**

Private function for recursively looking for variables

**Usage**

```r
yhat.spider.block(block, defined.vars = c())
```

**Arguments**

- **block**: code block to spider
- **defined.vars**: variables which have already been defined within the scope of the block. e.g. function argument

---

### yhat.spider.func

*Private function for spidering function source code*

**Description**

Private function for spidering function source code

**Usage**

```r
yhat.spider.func(func.name)
```

**Arguments**

- **func.name**: name of function you want to spider
yhat.unload

---

**yhat.unload**  *Removes a library from the Yhat model's dependency list*

---

**Description**

Removes a library from the Yhat model’s dependency list

**Usage**

```r
yhat.unload(name)
```

**Arguments**

- `name` of the package to be removed

**Examples**

```r
# Not run:
yhat.unload("wesanderson")

# End(Not run)
```

---

**yhat.verify**  *Private function for verifying username and apikey*

---

**Description**

Private function for verifying username and apikey

**Usage**

```r
yhat.verify()
```
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