
awsapilib Documentation

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Contents:

AWSAPILIB

A python library that exposes AWS services that are not covered by boto3, through the usage of undocumented APIs.

- Documentation: <https://awsapilib.readthedocs.org/en/latest>

1.1 Development Workflow

The workflow supports the following steps

- lint
- test
- build
- document
- upload
- graph

These actions are supported out of the box by the corresponding scripts under `_CI/scripts` directory with sane defaults based on best practices. Sourcing `setup_aliases.ps1` for windows powershell or `setup_aliases.sh` in bash on Mac or Linux will provide with handy aliases for the shell of all those commands prepended with an underscore.

The bootstrap script creates a `.venv` directory inside the project directory hosting the virtual environment. It uses `pipenv` for that. It is called by all other scripts before they do anything. So one could simple start by calling `_lint` and that would set up everything before it tried to actually lint the project

Once the code is ready to be delivered the `_tag` script should be called accepting one of three arguments, `patch`, `minor`, `major` following the semantic versioning scheme. So for the initial delivery one would call

```
$ _tag -minor
```

which would bump the version of the project to 0.1.0 tag it in git and do a push and also ask for the change and automatically update `HISTORY.rst` with the version and the change provided.

So the full workflow after git is initialized is:

- repeat as necessary (of course it could be `test - code - lint` :))
 - code
 - lint
 - test
- commit and push
- develop more through the code-lint-test cycle

- tag (with the appropriate argument)
- build
- upload (if you want to host your package in pypi)
- document (of course this could be run at any point)

1.2 Important Information

This template is based on pipenv. In order to be compatible with requirements.txt so the actual created package can be used by any part of the existing python ecosystem some hacks were needed. So when building a package out of this **do not** simple call

```
$ python setup.py sdist bdist_egg
```

as this will produce an unusable artifact with files missing. Instead use the provided build and upload scripts that create all the necessary files in the artifact.

1.3 Project Features

- Please look into the usage files.

INSTALLATION

At the command line:

```
$ pip install awsapilib
```

Or, if you have virtualenvwrapper installed:

```
$ mkvirtualenv awsapilib  
$ pip install awsapilib
```

Or, if you are using pipenv:

```
$ pipenv install awsapilib
```

Or, if you are using pipx:

```
$ pipx install awsapilib
```

CHAPTER
THREE

USAGE

USAGE FOR CONTROLTOWER

To use ControlTower in a project:

```
from awsapilib import ControlTower
tower = ControlTower('arn:aws:iam::ACCOUNTID:role/ValidAdministrativeRole')

for account in tower.accounts:
    print(account.name)
>>> root
    Audit
    Log archive

for account in tower.accounts:
    print(account.guardrail_compliance_status)
>>> COMPLIANT
    COMPLIANT
    COMPLIANT

for ou in tower.organizational_units:
    print(ou.name)
>>> Custom
    Core
    Root

# Creates an OU under root
tower.create_organizational_unit('TestOU')
>>> True

# Creates an OU under Workload/Production
# It would raise NonExistentOU exception if the structure does not exist
tower.create_organizational_unit('TestOU', parent_hierarchy=['Workload', 'Production'])
>>> True

# Creates an OU under Workload/Production
# It would create the structure if the structure does not exist
tower.create_organizational_unit('TestOU', parent_hierarchy=['Workload', 'Production'],
↪ force_create=True)
>>> True

# Deletes an OU under Root OU
tower.delete_organizational_unit('TestOU')
```

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```
>>> True

# Deletes an OU under Workload/Production
tower.delete_organizational_unit('TestOU', parent_hierarchy=['Workload','Production'])
>>> True

# Creates account "account-name" under OU "SomeOu" under Root OU
tower.create_account(account_name='account-name',
                     account_email='root-email@domain.com',
                     organizational_unit='SomeOU')
>>> True

# Creates account "account-name" under OU "SomeOu" under Workload/Production
# It would raise NonExistentOU exception if the structure does not exist
tower.create_account(account_name='account-name',
                     account_email='root-email@domain.com',
                     organizational_unit='SomeOU',
                     parent_hierarchy=['Workload','Production'])
>>> True

# Creates account "account-name" under OU "SomeOu" under Workload/Production
# It would create the structure if the structure does not exist
tower.create_account(account_name='account-name',
                     account_email='root-email@domain.com',
                     organizational_unit='SomeOU',
                     parent_hierarchy=['Workload','Production'],
                     force_parent_hierarchy_creation=True)
>>> True

# Creates account "account-name" under OU "SomeOu" under Workload/Production
# It would create the structure if the structure does not exist
# Uses all possible attributes.
tower.create_account(account_name='account-name',
                     account_email='root-email@domain.com',
                     organizational_unit='SomeOU',
                     parent_hierarchy=['Workload','Production'],
                     product_name='product-name-for-account',
                     sso_first_name='Bob',
                     sso_last_name='Builder',
                     sso_user_email='bob-builder@construction.com',
                     force_parent_hierarchy_creation=True)
>>> True
```


USAGE FOR SSO

To use Sso in a project:

```
from awsapilib import Sso
sso = Sso('arn:aws:iam::ACCOUNTID:role/ValidAdministrativeRole')

for group in sso.groups:
    print(group.name)
```


USAGE FOR BILLING

To use Billing in a project:

```
from awsapilib import Billing
billing = Billing('arn:aws:iam::ACCOUNTID:role/ValidAdministrativeRole')

# Set tax inheritance on
billing.tax.inheritance = True

# Set tax information
billing.tax.set_information('some address', 'some city', 'some postal code', 'legal name
↳', 'VAT', 'country code')

# Enable pdf invoice
billing.preferences.pdf_invoice_by_mail = True

# Enable credit sharing
billing.preferences.credit_sharing = True

# Set currency to EUR
billing.currency = 'EUR'

# Disable IAM access to billing (needs to be enabled by root and cannot be enabled by
↳this after disabled!)
billing.iam_access = False
```


USAGE FOR ACCOUNT MANAGER

To use Account Manager in a project:

```
from awsapilib import AccountManager, PasswordManager

password_manager = PasswordManager()
# Most actions require a captcha to be solved to continue.
# The process is interactive and you get a prompt to solve the captcha by following a
↳url with it
# in a standard console or by presenting the captcha in the terminal if you are using
↳iTerm

# Using the Captcha2 solver would automate the process.
from awsapilib.captcha import Captcha2
solver = Captcha2('API_TOKEN_HERE_FOR_2CAPTCHA_SERVICE')
password_manager = PasswordManager(solver=solver)

# Request the reset of a password for an account
password_manager.request_password_reset('EMAIL_OF_AN_ACCOUNT')
# The above should trigger a reset email with a reset link

# Reset the password
password_manager.reset_password('RESET_URL_RECEIVED_BY_EMAIL_HERE', 'PASSWORD_TO_SET')

account_manager = AccountManager(email, password, region, mfa_serial)
# Most actions require a captcha to be solved to continue.
# The process is interactive and you get a prompt to solve the captcha by following a
↳url with it
# in a standard console or by presenting the captcha in the terminal if you are using
↳iTerm

# Using the Captcha2 solver would automate the process.
from awsapilib.captcha import Captcha2
solver = Captcha2('API_TOKEN_HERE_FOR_2CAPTCHA_SERVICE')
account_manager = AccountManager(email, password, region, mfa_serial, solver=solver)

# Enable IAM billing console access for the account
print(account_manager.iam.billing_console_access)
>>> False

account_manager.iam.billing_console_access = True
```

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```
print(account_manager.iam.billing_console_access)
>>> True

# Interface with MFA actions
# Create a virtual MFA
# Warning! Setting an MFA will require re instantiation of the account manager with the
↳ new seed
# before more actions can be performed on the account.
# Also due to eventual consistency there might be some time required between setting the
↳ MFA and
# being able to use it in which case there might be authentication errors in between if
↳ actions are
# performed in sequence. The time is usually less than half a minute.
seed = account_manager.mfa.create_virtual_device() # default name is "root-account-mfa-
↳ device"
                                                    # can be overridden by passing a name
↳ variable
# !! Save the seed somewhere super safe

# Get the current virtual MFA
device = account_manager.mfa.get_virtual_device()
print(device.serial_number)
arn:aws:iam::ACCOUNTID:mfa/root-account-mfa-device

# Delete a virtual MFA
account_manager.mfa.delete_virtual_device(device.serial_number)

# Update info and terminate account

# Update name of account
account_manager.update_account_name('NEW_NAME_TO_SET')

# Update email of the account
# Due to eventual consistency there might be some time required between changing the
↳ email and
# being able to use it in which case there might be authentication errors in between if
↳ actions are
# performed in sequence. The time is usually less than half a minute.
account_manager.update_account_email('NEW_EMAIL_TO_SET')

# Terminate an account
account_manager.terminate_account()
```

CONTRIBUTING

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

8.1 Submit Feedback

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.

8.1.1 Get Started!

Ready to contribute? Here's how to set up *awsapilib* for local development. Using of pipenv is highly recommended.

1. Clone your fork locally:

```
$ git clone https://github.com/schubergphilis/awsapilib
```

2. Install your local copy into a virtualenv. Assuming you have pipenv installed, this is how you set up your clone for local development:

```
$ cd awsapilib/  
$ pipenv install --ignore-pipfile
```

3. Create a branch for local development:

```
$ git checkout -b name-of-your-bugfix-or-feature
```

Now you can make your changes locally. Do your development while using the CI capabilities and making sure the code passes lint, test, build and document stages.

4. Commit your changes and push your branch to the server:

```
$ git add .  
$ git commit -m "Your detailed description of your changes."  
$ git push origin name-of-your-bugfix-or-feature
```

5. Submit a merge request

AWSAPILIB

9.1 awsapilib package

9.1.1 Subpackages

awsapilib.authentication package

Submodules

awsapilib.authentication.authentication module

Main code for authentication.

class awsapilib.authentication.authentication.**Authenticator**(*arn, session_duration=3600, region=None*)

Bases: *BaseAuthenticator*

Interfaces with aws authentication mechanisms, providing pre signed urls, or authenticated sessions.

property assumed_role_credentials

Valid credentials for an assumed session.

Returns

A properly structured dictionary of an assumed session credentials.

Return type

credentials (dict)

get_billing_authenticated_session()

Authenticates to billing and returns an authenticated session.

Returns

An authenticated session with headers and cookies set.

Return type

session (requests.Session)

get_cloudformation_authenticated_session()

Authenticates to cloudformation and returns an authenticated session.

Returns

An authenticated session with headers and cookies set.

Return type

session (requests.Session)

```
get_signed_url(domain='Example.com', destination=None)
```

Returns a pre signed url that is authenticated.

Parameters

- **domain** (*str*) – The domain to request the session as.
- **destination** (*str*) – The service to redirect to after successful redirection.

Returns

An authenticated pre signed url.

Return type

url (str)

```
get_sso_authenticated_session()
```

Authenticates to Single Sign On and returns an authenticated session.

Returns

An authenticated session with headers and cookies set.

Return type

session (requests.Session)

```
property session_credentials
```

Valid credentials for a session.

Returns

A properly structured dictionary of session credentials.

Return type

credentials (dict)

```
class awsapilib.authentication.authentication.BaseAuthenticator(region=None)
```

Bases: *LoggerMixin*

Interfaces with aws authentication mechanisms, providing pre signed urls, or authenticated sessions.

[illegible]

Bases: object

Object modeling the data required for csrf token filtering.

```
attribute_value: str
```

attributes: dict

entity_type: str

headers_name: str[illegible]

Bases: object

Dataclass holding the domains required for authenticating.

```
console: str = 'console.aws.amazon.com'
```

region: str

property regional_console

The domain of the regional console.

Returns

The regional console domain.

Return type

regional_console (str)

root: str = 'aws.amazon.com'

sign_in: str = 'signin.aws.amazon.com'

```
class awsapilib.authentication.authentication.FilterCookie(name: str, domain: str = "",
                                                           exact_match: bool = False)
```

Bases: object

Object modeling a cookie for filtering.

domain: str = ''

exact_match: bool = False

name: str

```
class awsapilib.authentication.authentication.LoggerMixin
```

Bases: object

Logger.

property logger

Exposes the logger to be used by objects using the Mixin.

Returns

The properly named logger.

Return type

logger (logger)

```
class awsapilib.authentication.authentication.Urls(region: str, scheme: str = 'https://', root_domain:
                                                    str = 'aws.amazon.com', root: str =
                                                    'https://aws.amazon.com', sign_in: str =
                                                    'https://signin.aws.amazon.com', console: str =
                                                    'https://console.aws.amazon.com', console_home:
                                                    str =
                                                    'https://console.aws.amazon.com/console/home',
                                                    billing_home: str =
                                                    'https://console.aws.amazon.com/billing/home',
                                                    billing_rest: str =
                                                    'https://console.aws.amazon.com/billing/rest',
                                                    iam_home: str =
                                                    'https://console.aws.amazon.com/iam/home',
                                                    iam_api: str =
                                                    'https://console.aws.amazon.com/iam/api',
                                                    federation: str =
                                                    'https://signin.aws.amazon.com/federation')
```

Bases: object

Dataclass holding the urls required for authenticating.

billing_home: str = 'https://console.aws.amazon.com/billing/home'

billing_rest: str = 'https://console.aws.amazon.com/billing/rest'

console: str = 'https://console.aws.amazon.com'

console_home: str = 'https://console.aws.amazon.com/console/home'

federation: str = 'https://signin.aws.amazon.com/federation'

property global_billing_home

The url of the global billing console.

Returns

The url of the global billing console.

Return type

global_billing (str)

property global_iam_home

The url of the global IAM console.

Returns

The url of the global IAM console.

Return type

global_iam_home (str)

iam_api: str = 'https://console.aws.amazon.com/iam/api'

iam_home: str = 'https://console.aws.amazon.com/iam/home'

region: str

property regional_console

The url of the regional console.

Returns

The regional console url.

Return type

regional_console (str)

property regional_console_home

The url of the regional console home page.

Returns

The regional console home page url.

Return type

regional_console (str)

property regional_control_tower

The url of the regional control tower service.

Returns

The regional control tower on url.

Return type

regional_control_tower (str)

property regional_relay_state

The regional relay state url.

Returns

The regional relay state url.

Return type

relay_state (str)

property regional_single_sign_on

The url of the regional single sign on.

Returns

The regional single sign on url.

Return type

regional_single_sign_on (str)

root: str = 'https://aws.amazon.com'**root_domain:** str = 'aws.amazon.com'**scheme:** str = 'https://'**sign_in:** str = 'https://signin.aws.amazon.com'**awsapilib.authentication.authenticationexceptions module**

Custom exception code for authentication.

exception awsapilib.authentication.authenticationexceptions.**ExpiredCredentials**

Bases: Exception

Credentials used to assume the role has expired.

exception awsapilib.authentication.authenticationexceptions.**InvalidCredentials**

Bases: Exception

No credentials or the credentials provided are not correct.

exception awsapilib.authentication.authenticationexceptions.**NoSigninTokenReceived**

Bases: Exception

No Signing token was received.

awsapilib.authentication.utils module

Main code for utils.

class awsapilib.authentication.utils.**HarParser**(*har_file*)

Bases: object

Parses a provided har file.

get_communication_for_billing()

Returns a text of the communication of a valid login to billing.

Returns

Returns a text of the communication of a valid login to billing.

Return type

text (str)

get_communication_for_cloudformation()

Returns a text of the communication of a valid login to cloud formation service.

Returns

Returns a text of the communication of a valid login to cloud formation service.

Return type

text (str)

get_communication_for_console()

Returns a text of the communication of a valid login to console.

Returns

Returns a text of the communication of a valid login to console.

Return type

text (str)

get_communication_for_control_tower()

Returns a text of the communication of a valid login to control tower.

Returns

Returns a text of the communication of a valid login to control tower.

Return type

text (str)

get_communication_for_iam()

Returns a text of the communication of a valid login to iam service.

Returns

Returns a text of the communication of a valid login to iam service.

Return type

text (str)

get_communication_for_sso()

Returns a text of the communication of a valid login to single sign on.

Returns

Returns a text of the communication of a valid login to single sign on.

Return type

text (str)

render_communication_for_billing()

Prints a text of the communication of a valid login to billing.

Returns

None

render_communication_for_cloudformation()

Prints a text of the communication of a valid login to cloud formation service.

Returns

None

render_communication_for_console()

Prints a text of the communication of a valid login to console.

Returns

None

render_communication_for_control_tower()

Prints a text of the communication of a valid login to control tower.

Returns

None

render_communication_for_iam()

Prints a text of the communication of a valid login iam service.

Returns

None

render_communication_for_sso()

Prints a text of the communication of a valid login to single sign on.

Returns

None

Module contents

awsauthenticationlib package.

Import all parts from awsauthenticationlib here

awsapilib.billing package

Submodules

awsapilib.billing.billing module

Main code for billing.

class awsapilib.billing.billing.**Billing**(arn, region=None)

Bases: *LoggerMixin*

Models Control Tower by wrapping around service catalog.

property account_id

Account id.

property currency

Currency settings.

Returns

The currency set.

Return type

currency (str)

property disabled_region_states

Disabled region states.

property enabled_region_states

Enabled region states.

property iam_access

IAM access to billing setting.

property market_place_id

Marker place id of account.

property payment_cards

Payment cards.

property preferences

Preferences settings.

Returns

The preferences settings object.

Return typepreferences (*Preferences*)**property sor_id**

Sor id.

property tax

Tax settings.

Returns

The tax settings object.

Return typetax (*Tax*)**class** awsapilib.billing.billing.PaymentCard(*billing, data*)Bases: *LoggerMixin*

Models a payment card.

property address_id

Address id.

property address_line_1

First line of the address settings.

property address_line_2

Second line of the address settings.

property city

City.

property company

Company.

property country_code

Country code.

property email_address_list

Email address list.

property full_name

Full name.

property payment_instrument_arn

Payment instrument arn.

property phone_number

Phone number.

property postal_code

Postal code.

property state

State.

class awsapilib.billing.billing.**Preferences**(*billing*)

Bases: [*LoggerMixin*](#)

Models the preferences of the billing console.

property credit_sharing

The setting of the credit sharing.

Returns

True if set, False otherwise.

Return type

setting (bool)

property pdf_invoice_by_mail

The setting of the pdf invoice by email.

Returns

True if set, False otherwise.

Return type

setting (bool)

class awsapilib.billing.billing.**Tax**(*billing*)

Bases: [*LoggerMixin*](#)

Models the tax settings of the billing console.

property available_country_codes_eu

The available country codes of the tax settings for eu.

Returns

Available country codes

Return type

codes (list)

property inheritance

The inheritance settings of the billing preferences.

Returns

True if set, False otherwise.

Return type

setting (bool)

set_information(*address, city, postal_code, legal_name, vat_number, country_code, state=None*)

The inheritance settings setter of the billing preferences.

Returns

None

awsapilib.billing.billingexceptions module

Custom exception code for billing.

exception awsapilib.billing.billingexceptions.IAMAccessDenied

Bases: Exception

IAM User and Role Access to Billing Information on the account console is not set.

exception awsapilib.billing.billingexceptions.InvalidCountryCode

Bases: Exception

The country code provided is not valid.

exception awsapilib.billing.billingexceptions.InvalidCurrency

Bases: Exception

The currency provided is not a valid value.

exception awsapilib.billing.billingexceptions.NonEditableSetting

Bases: Exception

The setting is not editable, or time disabled.

exception awsapilib.billing.billingexceptions.ServerError

Bases: Exception

The response was not successful.

Module contents

billing package.

Import all parts from billing here

awsapilib.captcha package

Submodules

awsapilib.captcha.captcha module

Main code for captcha.

class awsapilib.captcha.captcha.Captcha2(*api_token*)

Bases: [Solver](#)

2captcha solver.

solve(*url*)

Presents a captcha image url and returns the captcha.

Parameters

url (*str*) – The url to provide that should have the captcha image.

Returns

The captcha.

Return type

guess (*str*)

class awsapilib.captcha.captcha.Term

Bases: [Solver](#)

Interactive captcha solver for iTerm terminals.

solve(*url*)

Presents a captcha image and returns the user's guess for the captcha.

Parameters

url (*str*) – The url to provide that should have the captcha image.

Returns

The guess of the user for the captcha.

Return type

guess (*str*)

class awsapilib.captcha.captcha.Solver

Bases: ABC, [LoggerMixin](#)

Interface for a Solver object.

abstract solve(*url*)

Solves a url.

class awsapilib.captcha.captcha.Terminal

Bases: [Solver](#)

Interactive captcha solver for standard terminals.

solve(*url*)

Presents a captcha image url and returns the user's guess for the captcha.

Parameters

url (*str*) – The url to provide that should have the captcha image.

Returns

The guess of the user for the captcha.

Return type

guess (str)

awsapilib.captcha.captchaexceptions module

Custom exception code for captcha.

exception awsapilib.captcha.captchaexceptions.**CaptchaError**

Bases: Exception

There was an error retrieving the captcha.

exception awsapilib.captcha.captchaexceptions.**InvalidOrNoBalanceApiToken**

Bases: Exception

The api token provided either does not provide access or there is no money on the token to be used.

exception awsapilib.captcha.captchaexceptions.**UnsupportedTerminal**

Bases: Exception

The terminal executing under is not supported.

Module contents

captcha package.

Import all parts from captcha here

awsapilib.cloudformation package**Submodules****awsapilib.cloudformation.cloudformation module**

Main code for billing.

class awsapilib.cloudformation.cloudformation.**Cloudformation**(arn, region=None)

Bases: *LoggerMixin*

Models Control Tower by wrapping around service catalog.

property stacksets

Exposes the stacksets settings.

class awsapilib.cloudformation.cloudformation.**StackSet**(cloudformation_instance)

Bases: object

Models the stacksets settings and implements the interaction with them.

disable_organizations_trusted_access()

Disables organization trusted access.

Returns

True on success

enable_organizations_trusted_access()

Enables organization trusted access.

Returns

True on success

property organizations_trusted_access

Setting about the organizations trusted access.

awsapilib.cloudformation.cloudformationexceptions module

Custom exception code for cloudformation.

exception awsapilib.cloudformation.cloudformationexceptions.**ServerError**

Bases: Exception

The response was not successful.

Module contents

billing package.

Import all parts from billing here

awsapilib.console package

Submodules

awsapilib.console.console module

Main code for console.

class awsapilib.console.console.**AccountManager**(*email, password, region, mfa_serial=None, solver=<class 'awsapilib.captcha.captcha.Terminal'>*)

Bases: *BaseConsoleInterface*

Models basic communication with the server for account and password management.

property **account_id**

IAM.

property **iam**

IAM.

property **mfa**

Retrieves an MFA manager.

Returns

The mfa manager object

Return type

mfa_manager (*MfaManager*)

terminate_account()

Terminates the account matching the info provided.

Returns

True on success, False otherwise.

update_account_email(*new_account_email*)

Updates the name of an account to the new one provided.

Parameters

new_account_email – The new account name.

Returns

True on success.

Raises

ServerError, **UnableToUpdateAccount** – On Failure with the corresponding message from the backend service.

update_account_name(*new_account_name*)

Updates the email of an account to the new one provided.

Parameters

new_account_name – The new account email.

Returns

True on success.

Raises

ServerError, **UnableToUpdateAccount** – On Failure with the corresponding message from the backend service.

```
class awsapilib.console.console.BaseConsoleInterface(solver=<class  
                                                    'awsapilib.captcha.captcha.Terminal'>)
```

Bases: [*LoggerMixin*](#)

Manages accounts password filecycles and can provide a root console session.

get_mfa_type(*email*)

Gets the MFA type of the account.

Parameters

email – The email of the account to check for MFA settings.

Returns

The type of MFA set (only “SW” currently supported) None if no MFA is set.

```
class awsapilib.console.console.Captcha(url: str, token: str, obfuscation_token: str)
```

Bases: object

Models a Captcha.

obfuscation_token: str

token: str

url: str

```
class awsapilib.console.console.IamAccess(billing_session)
```

Bases: [*LoggerMixin*](#)

Models the iam access settings and implements the interaction with them.

property billing_console_access

Billing console access setting.

class awsapilib.console.console.MFA(*_data: dict*)

Bases: object

Models the MFA device.

property enabled_date

Timestamp of enabled day.

property id

Id.

property serial_number

The serial number of the device.

property user_name

The user name set on the device.

class awsapilib.console.console.MfaManager(*iam_session*)Bases: *LoggerMixin*

Models interaction with the api for mfa management.

create_virtual_device(*name='root-account-mfa-device'*)

Creates a virtual MFA device with the provided name.

Parameters**name** – The name of the virtual MFA device, defaults to “root-account-mfa-device”**Returns**

The secret seed of the virtual MFA device. This needs to be saved in a safe place!!

Return type

seed (str)

Raises*VirtualMFADeviceExists*, *UnableToCreateVirtualMFA*,
UnableToEnableVirtualMFA on respective failures. –**delete_virtual_device**(*serial_number*)

Deletes a virtual MFA with the provided serial number.

Parameters**serial_number** – The serial number of the virtual MFA device to delete.**Returns**

True on success

Raises*UnableToDisableVirtualMFA* on failure. –**get_virtual_device**()

Retrieves the virtual MFA device if set.

Returns

The set virtual MFA device if any else, None.

Return typemfa_device (*MFA*)

```
class awsapilib.console.console.Oidc(client_id: str, code_challenge: str, code_challenge_method: str,
                                     redirect_url: str)
```

Bases: object

Models an OIDC response.

client_id: str

code_challenge: str

code_challenge_method: str

redirect_url: str

```
class awsapilib.console.console.PasswordManager(solver=<class
                                              'awsapilib.captcha.captcha.Terminal'>)
```

Bases: [BaseConsoleInterface](#)

Models interaction for account password reset.

request_password_reset(email)

Requests a password reset for an account by it's email.

Parameters

email – The email of the account to request the password reset.

Returns

True on success, False otherwise.

Raises

UnableToRequestResetPassword if unsuccessful –

reset_password(reset_url, password)

Resets password of an aws account.

Parameters

- **reset_url** – The reset url provided by aws through the reset password workflow.
- **password** – The new password to set to the account.

Returns

True on success, False otherwise.

Raises

UnableToResetPassword on failure –

```
class awsapilib.console.console.RootAuthenticator(session, region)
```

Bases: [BaseAuthenticator](#)

Interacts with the console to retrieve console and billing page sessions.

get_billing_root_session(redirect_url, unfiltered_session=False)

Retrieves a billing session, filtered with specific cookies or not depending on the usage.

Parameters

- **redirect_url** (str) – The redirect url provided to initiate the authentication flow after the captcha.
- **unfiltered_session** (bool) – Returns a full session if unfiltered, or a filtered session with xsrf token if set to True. Defaults to False.

Returns

A valid session.

Return type

session (Session)

get_iam_root_session(*redirect_url*)

Retrieves an iam console session, filtered with specific cookies or not depending on the usage.

Parameters

redirect_url (*str*) – The redirect url provided to initiate the authentication flow after the captcha.

Returns

A valid session.

Return type

session (Session)

class awsapilib.console.console.**VirtualMFADevice**(*seed: str, serial: str*)

Bases: object

Models the active MFA device.

seed: str

serial: str

awsapilib.console.consoleexceptions module

Custom exception code for console.

exception awsapilib.console.consoleexceptions.**InvalidAuthentication**

Bases: Exception

The authentication did not succeed.

exception awsapilib.console.consoleexceptions.**NoMFAProvided**

Bases: Exception

The account is MFA provided but no MFA serial was provided.

exception awsapilib.console.consoleexceptions.**NotSolverInstance**

Bases: Exception

The object provided was not of Solver type.

exception awsapilib.console.consoleexceptions.**ServerError**

Bases: Exception

Unknown server error occurred.

exception awsapilib.console.consoleexceptions.**UnableToCreateVirtualMFA**

Bases: Exception

The attempt to create a virtual mfa failed.

exception awsapilib.console.consoleexceptions.**UnableToDisableVirtualMFA**

Bases: Exception

The attempt to disable a virtual mfa failed.

exception `awsapilib.console.consoleexceptions.UnableToEnableVirtualMFA`

Bases: `Exception`

The attempt to create a virtual mfa failed.

exception `awsapilib.console.consoleexceptions.UnableToGetVirtualMFA`

Bases: `Exception`

The attempt to list a virtual mfa failed.

exception `awsapilib.console.consoleexceptions.UnableToQueryMFA`

Bases: `Exception`

Unable to query the account MFA info.

exception `awsapilib.console.consoleexceptions.UnableToRequestResetPassword`

Bases: `Exception`

The request to reset password did not work.

exception `awsapilib.console.consoleexceptions.UnableToResetPassword`

Bases: `Exception`

The reset password request did not work.

exception `awsapilib.console.consoleexceptions.UnableToResolveAccount`

Bases: `Exception`

Unable to resolve the account type.

exception `awsapilib.console.consoleexceptions.UnableToUpdateAccount`

Bases: `Exception`

Unable to update the account info.

exception `awsapilib.console.consoleexceptions.UnsupportedMFA`

Bases: `Exception`

The MFA enabled is not supported.

exception `awsapilib.console.consoleexceptions.VirtualMFADeviceExists`

Bases: `Exception`

The device already exists.

Module contents

console package.

Import all parts from console here

awsapilib.controltower package

Subpackages

awsapilib.controltower.resources package

Submodules

awsapilib.controltower.resources.configuration module

configuration module.

Import all parts from configuration here

awsapilib.controltower.resources.resources module

resources module.

Import all parts from resources here

```
class awsapilib.controltower.resources.resources.AccountFactory(service_catalog_client, data)
```

Bases: object

Models the account factory data of service catalog.

```
class awsapilib.controltower.resources.resources.ControlTowerAccount(control_tower, data,  
                                                                    info_polling_interval=30)
```

Bases: *LoggerMixin*

Models the account data.

property **arn**

Arn.

attach_service_control_policy(*name*)

Attaches a Service Control Policy to the account.

Parameters

name (*str*) – The name of the SCP to attach

Returns

True on success, False otherwise.

Return type

result (bool)

property **created_time**

Created Time.

delete(*suspended_ou_name=None*)

Delete.

detach_service_control_policy(*name*)

Detaches a Service Control Policy from the account.

Parameters

name (*str*) – The name of the SCP to detach

Returns

True on success, False otherwise.

Return type

result (bool)

property email

Email.

property guardrail_compliance_status

Retrieves the guardrail compliancy status for the account.

Returns

COMPLIANT|NON COMPLIANT

Return type

status (str)

property has_available_update: bool

If the account is behind the landing zone version.

property id

Id.

property idempotency_token

Idempotency Token.

property landing_zone_version

Landing zone version.

property last_record_id

Last Record ID.

property name

Name.

property organizational_unit

Organizational Unit.

property owner

Owner.

property physical_id

Physical ID.

property provision_state

Provision state.

property provisioning_artifact_id

Provisioning artifact ID.

property service_catalog_id

Service Catalog ID.

property service_catalog_product_id

Service catalog product ID.

property service_catalog_status

Service catalog status.

property service_catalog_tags

Service catalog tags.

property service_catalog_type

Service catalog type.

property service_catalog_user_arn

Service catalog user arn.

property sso_user_email

SSO user email.

property sso_user_portal

SSO user portal.

property stack_arn

Stack Arn.

property status

Status.

update()

Updates the account in service catalog.

Returns

True if the call succeeded False otherwise

property user_arn_session

User arn session.

class awsapilib.controltower.resources.resources.**ControlTowerOU**(*control_tower, data*)Bases: *LoggerMixin*

Model the data of a Control Tower managed OU.

property child_ous

The list child OUs for this ou.

Returns

List of Child OUs

Return type

response (list)

property create_date

The date the ou was created in timestamp.

delete()

Deletes the ou.

Returns

True on success, False otherwise.

Return type

response (bool)

property id

OU ID.

property name

The name of the OU.

property parent_ou_id

The id of the parent OU.

property parent_ou_name

The name of the parent OU.

property status

The status of the OU.

property type

The type of the OU.

class awsapilib.controltower.resources.resources.**CoreAccount**(*control_tower, account_label, data*)

Bases: object

Models the core landing zone account data.

property core_resource_mappings

Core resource mappings.

property email

Email.

property id

Id.

property label

Account label.

property stack_set_arn

Stack set arn.

class awsapilib.controltower.resources.resources.**GuardRail**(*control_tower, data*)

Bases: [*LoggerMixin*](#)

Models the guard rail data.

property behavior

Behavior.

property category

Category.

property compliancy_status

Compliancy status.

property description

Description.

property display_name

DisplayName.

property name

Name.

property provider

Provider.

property regional_preference

Regional preference.

property type

Type.

class awsapilib.controltower.resources.resources.**OrganizationsOU**(*data*)

Bases: object

Model the data of an Organizations managed OU.

property arn

The arn of the OU.

property id

The id of the OU.

property name

The name of the OU.

property parent_ou_arn

The arn of the parent.

property parent_ou_id

The id of the parent.

property parent_ou_name

The name of the parent.

class awsapilib.controltower.resources.resources.**ResultOU**(*data*)

Bases: object

Model the data of an child OU described by the api.

property create_date

The timestamp of the creation.

property id

The id of the OU.

property name

The name of the OU.

property parent_ou_id

The id of the parent.

property status

The status of the OU.

class awsapilib.controltower.resources.resources.**ServiceControlPolicy**(*data*)

Bases: object

Models the account factory data of service catalog.

property arn

Arn.

property aws_managed

Aws Managed.

property description

Description.

property id

Id.

property name

Name.

property type

Type.

Module contents

configuration module.

Import all parts from configuration here

Submodules

awsapilib.controltower.controltower module

Main code for controltower.

class awsapilib.controltower.controltower.**ControlTower**(arn, settling_time=90, region=None)

Bases: *LoggerMixin*

Models Control Tower by wrapping around service catalog.

property accounts

The accounts under control tower.

Returns

A list of account objects under control tower's control.

Return type

accounts (*Account*)

property active_artifact_id: str

Contains the id of the active artifact.

Returns

str with the artifact id or an empty string

api_content_type = 'application/x-amz-json-1.1'

api_user_agent = 'aws-sdk-js/2.528.0 promise'

property baseline_update_available

Baseline update available.

property busy

Busy.

property catastrophic_drift

List of catastrophic drift.

core_account_types = ['PRIMARY', 'LOGGING', 'SECURITY']

property core_accounts

The core accounts of the landing zone.

Returns

A list of the primary, logging and security account.

Return type

core_accounts (list)

create_account(*account_name: str, account_email: str, organizational_unit: str, parent_hierarchy: list = None, product_name: str = None, sso_first_name: str = None, sso_last_name: str = None, sso_user_email: str = None, force_parent_hierarchy_creation=False*) → bool

Creates a Control Tower managed account.

Parameters

- **account_name** (*str*) – The name of the account.
- **account_email** (*str*) – The email of the account.
- **organizational_unit** (*str*) – The organizational unit that the account should be under.
- **parent_hierarchy** (*list*) – The hierarchy under where the OU needs to be placed. Defaults to Root.
- **product_name** (*str*) – The product name, if nothing is provided it uses the account name.
- **sso_first_name** (*str*) – The first name of the SSO user, defaults to “Control”
- **sso_last_name** (*str*) – The last name of the SSO user, defaults to “Tower”
- **sso_user_email** (*str*) – The email of the sso, if nothing is provided it uses the account email.
- **force_parent_hierarchy_creation** (*bool*) – Forces the creation of missing OUs in the provided hierarchy.

Returns

True on success, False otherwise.

Return type

result (bool)

Raises

- ***NonExistentOU*** – If the parent hierarchy provided does not exist and force is not provided as a flag.
- ***InvalidParentHierarchy*** – If the parent hierarchy provided is invalid and force is not provided as a flag.
- ***EmailInUse*** – If email provided is already used in AWS.

create_organizational_unit(*name: str, parent_hierarchy=None, force_create=False*) → bool

Creates a Control Tower managed organizational unit.

Parameters

- **name** (*str*) – The name of the OU to create.

- **parent_hierarchy** (*list*) – The list of the parent hierarchy path.
- **force_create** (*bool*) – Forces the creation of the hierarchy if parents are missing.

Returns

True if successful, False otherwise.

Return type

result (bool)

Raises

- **InvalidParentHierarchy** – If the hierarchy provided is longer than 5 levels.
- **NonExistentOU** – If there is an OU missing in the hierarchy and force_create is not set.

decommission() → bool

Decommissions a landing zone.

The api call does not seem to be enough and although the resources are decommissioned like with the proper process, control tower responds with a delete failed on the api, so it seems that aws needs to perform actions on their end for the decommissioning to be successful.

Returns

True if the process starts successfully, False otherwise.

Return type

response (bool)

delete_organizational_unit(*name: str, parent_hierarchy=None*) → bool

Deletes a Control Tower managed organizational unit.

Parameters

- **name** (*str*) – The name of the OU to delete.
- **parent_hierarchy** (*list*) – A list of names of the hierarchy for a parent starting with 'Root'

Returns

True if successful, False otherwise.

Return type

result (bool)

Raises

NonExistentOU – If an OU does not exist in the hierarchy.

deploy(*logging_account_email: str, security_account_email: str, logging_account_name: str = 'Log Archive', security_account_name: str = 'Audit', core_ou_name: str = 'Security', custom_ou_name: str = 'Sandbox', regions: Optional[list] = None, retries: int = 10, wait: int = 1*) → bool

Deploys control tower.

Returns

True on success, False on failure.

Return type

bool

property deploying_messages

Deploying messages.

property drift_messages

Drift messages.

property enabled_guard_rails

Enabled guard rails.

get_account_by_arn(*arn*)

Retrieves an account by arn.

Returns

An account object that matches the arn or None.

Return type

account (*Account*)

get_account_by_email(*email*)

Retrieves an account by email.

Returns

An account object that matches the email or None.

Return type

account (*Account*)

get_account_by_id(*id_*)

Retrieves an account by id.

Returns

An account object that matches the id or None.

Return type

account (*Account*)

get_account_by_name(*name*)

Retrieves an account by name.

Returns

An account object that matches the name or None.

Return type

account (*Account*)

get_accounts_with_available_updates()

Retrieves the accounts that have available updates from control tower.

Returns

A list of account objects under control tower's control with available updates.

Return type

accounts (*Account*)

get_available_accounts()

Retrieves the available accounts from control tower.

Returns

A list of available account objects under control tower's control.

Return type

accounts (*Account*)

static get_available_regions()

The regions that control tower can be active in.

Returns

A list of strings of the regions that control tower can be active in.

Return type

regions (list)

get_changing_accounts()

Retrieves the under change accounts from control tower.

Returns

A list of under change account objects under control tower's control.

Return type

accounts (*Account*)

get_erroring_accounts()

Retrieves the erroring accounts from control tower.

Returns

A list of erroring account objects under control tower's control.

Return type

accounts (*Account*)

get_organizational_unit_by_id(id_)

Gets a Control Tower managed Organizational Unit by id.

Parameters

id (*str*) – The id of the organizational unit to retrieve.

Returns

A OU object on success, None otherwise.

Return type

result (*ControlTowerOU*)

get_organizational_unit_by_name(name, parent_hierarchy=None)

Gets a Control Tower managed Organizational Unit by name.

Parameters

- **name** (*str*) – The name of the organizational unit to retrieve.
- **parent_hierarchy** (*list*) – A list of names of the hierarchy for a parent starting with 'Root'

Returns

A OU object on success, None otherwise.

Return type

result (*ControlTowerOU*)

Raises

NonExistentOU – If an OU does not exist in the hierarchy.

get_organizations_ou_by_arn(arn)

Gets an Organizations managed Organizational Unit by arn.

Parameters

arn (*str*) – The arn of the organizational unit to retrieve.

Returns

A OU object on success, None otherwise.

Return type

result (*OrganizationsOU*)

get_organizations_ou_by_id(id_)

Gets an Organizations managed Organizational Unit by id.

Parameters

id (*str*) – The id of the organizational unit to retrieve.

Returns

A OU object on success, None otherwise.

Return type

result (*OrganizationsOU*)

get_organizations_ou_by_name(name, parent_hierarchy=None)

Gets an Organizations managed Organizational Unit by name.

Parameters

- **name** (*str*) – The name of the organizational unit to retrieve.
- **parent_hierarchy** (*list*) – A list of names of the hierarchy for a parent starting with 'Root'

Returns

A OU object on success, None otherwise.

Return type

result (*OrganizationsOU*)

get_service_control_policy_by_name(name)

Retrieves a service control policy by name.

Parameters

name (*str*) – The name of the SCP to retrieve

Returns

The scp if a match is found else None.

Return type

scp (*ServiceControlPolicy*)

get_updated_accounts()

Retrieves the accounts that have no available updates from control tower.

Returns

A list of account objects under control tower's control with no available updates.

Return type

accounts (*Account*)

property governed_regions

Governed regions.

property guard_rails

Guard rails.

property guard_rails_violations

List guard rails violations.

property guardrail_update_available

Guardrail update available.

property is_deployed

The deployment status of control tower.

is_email_used(email)

Check email for availability to be used or if it is already in use.

property landing_zone_update_available

Landing Zone update available.

property landing_zone_version

Landing zone version.

property not_governed_regions

Not governed regions.

property organizational_units

The organizational units under control tower.

Returns

A list of organizational units objects under control tower's control.

Return type

organizational_units (OrganizationalUnit)

property organizations_ous

The organizational units under Organizations.

Returns

A list of organizational units objects under Organizations.

Return type

organizational_units (*OrganizationsOU*)

property percentage_complete

Percentage complete.

property region

Region.

property region_metadata_list

Region metadata list.

register_organizations_ou(name: str, parent_hierarchy=None, force: bool = False) → bool

Registers an Organizations OU under control tower.

Parameters

- **name** (*str*) – The name of the Organizations OU to register to Control Tower.
- **force** (*bool*) – Forces re-registering if the OU is already controlled by Control Tower

Returns

True if successful, False otherwise.

Return type

result (bool)

repair()

Repairs control tower.

Returns

True on success, False on failure.

Return type

bool

property root_ou

The root ou of control tower.

Returns

The root ou object.

Return type

root_ou (*ControlTowerOU*)

property service_control_policies

The service control policies under organization.

Returns

A list of SCPs under the organization.

Return type

service_control_policies (list)

property service_landing_zone_version

Service landing zone version.

property status

Status.

```
supported_targets = ['ListManagedOrganizationalUnits', 'ManageOrganizationalUnit',
'DeregisterOrganizationalUnit', 'ListManagedAccounts',
'DescribeManagedOrganizationalUnit', 'ListGuardrailsForTarget',
'GetAvailableUpdates', 'DescribeCoreService', 'GetAccountInfo',
'ListEnabledGuardrails', 'ListGuardrails', 'ListOrganizationalUnitsForParent',
'ListDriftDetails', 'GetLandingZoneStatus', 'SetupLandingZone', 'GetHomeRegion',
'ListGuardrailViolations', 'GetCatastrophicDrift', 'GetGuardrailComplianceStatus',
'DescribeAccountFactoryConfig', 'PerformPreLaunchChecks', 'DeleteLandingZone']
```

update()

Updates the control tower to the next available version.

Returns

True on success, False on failure.

Return type

bool

property user_landing_zone_version

User landing zone version.

validate_availability()

Validation decorator.

awsapilib.controltower.controltowerexceptions module

Custom exception code for controltower.

exception awsapilib.controltower.controltowerexceptions.**ControlTowerBusy**

Bases: Exception

The control tower is already executing some action.

exception awsapilib.controltower.controltowerexceptions.**ControlTowerNotDeployed**

Bases: Exception

The control tower is deployed at all.

exception awsapilib.controltower.controltowerexceptions.**EmailCheckFailed**

Bases: Exception

Checking of the email was not possible.

exception awsapilib.controltower.controltowerexceptions.**EmailInUse**

Bases: Exception

The email provided is already in use and cannot be used to deploy an account.

exception awsapilib.controltower.controltowerexceptions.**InvalidParentHierarchy**

Bases: Exception

The parent hierarchy provided is not valid.

exception awsapilib.controltower.controltowerexceptions.**NoActiveArtifactRetrieved**

Bases: Exception

Could not retrieve an active artifact.

exception awsapilib.controltower.controltowerexceptions.**NoServiceCatalogAccess**

Bases: Exception

There is no access to service catalog.

exception awsapilib.controltower.controltowerexceptions.**NoSuspendedOU**

Bases: Exception

The suspended ou has not been created.

exception awsapilib.controltower.controltowerexceptions.**NonExistentOU**

Bases: Exception

The OU name provided does not exist in Control Tower.

exception awsapilib.controltower.controltowerexceptions.**NonExistentSCP**

Bases: Exception

The SCP requested does not exist.

exception awsapilib.controltower.controltowerexceptions.**OUCreating**

Bases: Exception

The organizational unit is still under creation and cannot be used.

exception awsapilib.controltower.controltowerexceptions.**PreDeployValidationFailed**

Bases: Exception

The pre deployment validation failed.

exception `awsapilib.controltower.controltowerexceptions.RoleCreationFailure`

Bases: `Exception`

Unable to create the required roles for the deployment of control tower, manual clean up is required.

exception `awsapilib.controltower.controltowerexceptions.ServiceCallFailed`

Bases: `Exception`

The call to the service has failed.

exception `awsapilib.controltower.controltowerexceptions.UnavailableRegion`

Bases: `Exception`

The region or regions provided to control tower to deploy in are not available.

exception `awsapilib.controltower.controltowerexceptions.UnsupportedTarget`

Bases: `Exception`

The target call is not supported by the current implementation.

Module contents

controltower module.

Import all parts from controltower here

awsapilib.sso package

Subpackages

awsapilib.sso.entities package

Submodules

awsapilib.sso.entities.entities module

Main code for entities.

class `awsapilib.sso.entities.entities.Account(sso_instance, data)`

Bases: `Entity`

Models the Account object of AWS SSO.

property `arn`

The arn of the application.

Returns

The arn of the application

Return type

arn (str)

property `associated_profiles`

The associated profiles with the Account.

Returns

The profiles associated with the Account

Return type

associated_profiles (list)

property email

The name of the application.

Returns

The name of the application

Return type

email (str)

property id

The id of the application.

Returns

The id of the application

Return type

id (str)

property instance_id

The instance id of the Account.

Returns

The instance id of the account

Return type

instance_id (str)

property name

The name of the application.

Returns

The name of the application

Return type

name (str)

provision_saml_provider()

Creates the SAML provider.

Returns

The arn of the SAML provider

Return type

arn (str)

property status

The status of the application.

Returns

The status of the application

Return type

status (str)

property url

Url for the account.

Returns

The url of the account

Return type

url (str)

class awsapilib.sso.entities.entities.**Entity**(*sso_instance, data*)Bases: [LoggerMixin](#)

The core entity.

class awsapilib.sso.entities.entities.**Group**(*sso_instance, data*)Bases: [Entity](#)

Models the group object of AWS SSO.

property description

The description of the group.

Returns

The description of the group

Return type

description (str)

property id

The id of the group.

Returns

The id of the group

Return type

id (str)

property name

The name of the group.

Returns

The name of the group

Return type

name (str)

property users

The users in the group.

Returns

The users part of the group

Return type

users (list)

class awsapilib.sso.entities.entities.**PermissionSet**(*sso_instance, data*)Bases: [Entity](#)

Models the permission set object of SSO.

assign_custom_policy_to_permission_set(*policy_document*)

Assign Custom policy to a permission_set.

Parameters

- **permission_set_name** – The name of the permission_set .
- **policy_document** – The policy for the permission_set

Returns

True or False

Return type

Bool

property creation_date

The creation date of the permission set.

Returns

The creation date of the permission set

Return type

creation_date (str)

delete_custom_policy_from_permission_set()

Assign Custom policy to a permission_set.

Returns

True or False

Return type

Bool

property description

The description of the permission set.

Returns

The description of the permission set

Return type

description (str)

property id

The id of the permission set.

Returns

The id of the permission set

Return type

id (str)

property name

The name of the permission set.

Returns

The name of the permission set

Return type

name (str)

property permission_policy

The permission policy of the permission_set.

Returns

The permission policy of the permission_set

Return type

permission_policy (dict)

property provisioned_accounts

The provisioned accounts with the permission set.

Returns

Accounts provisioned with the permission set

Return type

list

property relay_state

The relay_state of the permission_set.

Returns

The relayState of the permission_set

Return type

relay_state (str)

property ttl

The ttl of the permission set.

Returns

The ttl of the permission set

Return type

ttl (str)

update(description=' ', relay_state="", ttl="")

The relayState of the permission_set.

Parameters

- **description** – Description for the permission set
- **relay_state** – The relay state for the permission set. <https://docs.aws.amazon.com/singlesignon/latest/userguide/howtopermrelaystate.html>
- **ttl** – session duration

Returns

True or False

Return type

bool

property url

Url of the permission set.

Returns

The url of the permission set

Return type

url (str)

class awsapilib.sso.entities.entities.**User**(sso_instance, data)

Bases: *Entity*

Models the user object of SSO.

property created_at

The date and time of the users's activation.

Returns

The datetime object of when the user was activated

Return type

created_at (datetime)

property display_name

The display name of the user.

Returns

The display name of the user

Return type

display_name (str)

property emails

The date and time of the users's last password change.

Returns

The datetime object of when the user last changed password

Return type

emails (datetime)

property first_name

The first name of the user.

Returns

The first name of the user

Return type

first_name (str)

property groups

The groups associated with the user.

Returns

The groups associated with the user

Return type

groups (list)

property id

The manager of the user.

Returns

The manager of the user

Return type

id (str)

property last_name

The last name of the user.

Returns

The last name of the user

Return type

last_name (str)

property name

The manager of the user.

Returns

The manager of the user

Return type

name (str)

property status

The status of the user.

Returns

The status of the user

Return type

status (str)

property updated_at

The date and time of the users's status change.

Returns

The datetime object of when the user had last changed status

Return type

updated_at (datetime)

property url

Url for the user.

Returns

The url for the user

Return type

url (str)

Module contents

entities package.

Import all parts from entities here

Submodules

awsapilib.sso.sso module

Main code for sso.

```
class awsapilib.sso.sso.Sso(arn, region=None)
```

Bases: *LoggerMixin*

Models AWS SSO.

```
API_CONTENT_ENCODING = 'amz-1.0'
```

```
API_CONTENT_TYPE = 'application/json; charset=UTF-8'
```

```
DEFAULT_AWS_REGION = 'eu-west-1'
```

property accounts

The aws accounts in sso.

Returns

The accounts configured in SSO

Return type

accounts (generator)

property api_url

The url of the api for sso.

Returns

The url of the api for sso.

Return type

api_url (str)

associate_group_to_account(*group_name*, *account_name*, *permission_set_name*)

Associates a group with an account with proper permissions.

Parameters

- **group_name** – The name of the group to be assigned.
- **account_name** – Name of the account to which the group will be assigned
- **permission_set_name** – the Permission Set the group will have on the account

Returns

True or False

Return type

bool

associate_user_to_account(*user_name*, *account_name*, *permission_set_name*)

Associates an user with an account with proper permissions.

Parameters

- **user_name** – The name of the user to be assigned.
- **account_name** – Name of the account to which the user will be assigned
- **permission_set_name** – the Permission Set the user will have on the account

Returns

True or False

Return type

bool

property aws_region

Aws Console Region.

Returns

The region of the console.

Return type

region (str)

create_permission_set(*name*, *description*=' ', *relay_state*=None, *ttl*='PT2H')

Create a permission_set with a aws defined policy or custom policy.

Parameters

- **name** – The name of the permission_set .
- **description** – Description for the permission set
- **relay_state** – The relay state for the permission set. <https://docs.aws.amazon.com/singlelogin/latest/userguide/howtopermrelaystate.html>
- **ttl** – session duration

Returns

Permission Set object

Return type

PermissionSet

delete_permission_set(name)

Delete a permission_set .

Parameters

name – The name of the permission_set .

Returns

Status of the deletion

Return type

Bool

property directory_id

The external/internal directory id configured with aws sso.

Returns

The id of directory configured in SSO

Return type

str

disassociate_group_from_account(group_name, account_name, permission_set_name)

Disassociates a group with an account with proper permissions.

Parameters

- **group_name** – The name of the group to be assigned.
- **account_name** – Name of the account to which the group will be assigned
- **permission_set_name** – the Permission Set the group will have on the account

Returns

True or False

Return type

bool

disassociate_user_from_account(user_name, account_name, permission_set_name)

Disassociates an user with an account with proper permissions.

Parameters

- **user_name** – The name of the user to be assigned.
- **account_name** – Name of the account to which the user will be assigned
- **permission_set_name** – the Permission Set the user will have on the account

Returns

True or False

Return type

bool

property endpoint_url

The url of the api endpoint for sso.

Returns

The url of the api endpoint for sso.

Return type

endpoint_url (str)

get_account_by_id(account_id)

The account configured in SSO.

Returns

The Account object

Return typeaccount (*Account*)**get_account_by_name(account_name)**

The account configured in SSO.

Returns

The Account object

Return typeaccount (*Account*)**get_api_payload(content_string, target, method='POST', params=None, path='/', content_type=None, content_encoding=None, x_amz_target="", region=None)**

Generates the payload for calling the AWS SSO APIs.

Returns

Returns a deepcopy object of the payload

Return type

payload (dict)

get_group_by_id(group_id)

The group configured in SSO.

Returns

The Group object

Return typegroup (*Group*)**get_group_by_name(group_name)**

The group configured in SSO.

Returns

The Group object

Return typegroup (*Group*)**get_permission_set_by_name(permission_set_name)**

The permission-set configured in SSO.

Returns

The PermissionSet object

Return type

permission_set (*PermissionSet*)

get_user_by_id(*user_id*)

The user configured in SSO.

Returns

The User object

Return type

user (*User*)

get_user_by_name(*user_name*)

The user configured in SSO.

Returns

The User object

Return type

user (*User*)

property groups

The groups configured in SSO.

Returns

The groups configured in SSO

Return type

groups (generator)

property permission_sets

The permission_sets configured in SSO.

Returns

The permission sets configured in SSO

Return type

permission_sets (generator)

property relay_state

The relay state of the SSO.

Returns

The relay state of sso.

Return type

relay_state (str)

property users

The users configured in SSO.

Returns

The users configured in SSO

Return type

users (generator)

awsapilib.sso.ssoexceptions module

Custom exception code for sso.

exception awsapilib.sso.ssoexceptions.NoAccount

Bases: Exception

The account does not exist.

exception awsapilib.sso.ssoexceptions.NoGroup

Bases: Exception

The group does not exist.

exception awsapilib.sso.ssoexceptions.NoPermissionSet

Bases: Exception

The permission set does not exist.

exception awsapilib.sso.ssoexceptions.NoProfileID

Bases: Exception

The permission set is not associated with the account.

exception awsapilib.sso.ssoexceptions.NoUser

Bases: Exception

The user does not exist.

exception awsapilib.sso.ssoexceptions.UnsupportedTarget

Bases: Exception

The target call is not supported by the current implementation.

Module contents

sso package.

Import all parts from sso here

9.1.2 Submodules

9.1.3 awsapilib.awsapilib module

Main code for awsapilib.

9.1.4 awsapilib.awsapilibexceptions module

Custom exception code for awsapilib.

9.1.5 Module contents

awsapilib package.

Import all parts from awsapilib here

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CHAPTER
ELEVEN

HISTORY

0.0.1 (26-04-2021)

- First code creation

0.1.0 (11-05-2021)

- Initial release

0.1.1 (17-05-2021)

- Filtering out failed accounts from checking their update status

0.1.2 (17-05-2021)

- Fixed a timing issue with getting the active service catalog product on account creation.

0.2.0 (18-05-2021)

- Exposed governed and non governed regions and a small fix with latest update changes.

0.2.1 (18-05-2021)

- Dynamically retrieving updatable information about control tower.

0.2.2 (19-05-2021)

- Added some blocking on actions to prevent race conditions.

0.2.3 (08-06-2021)

- Bumped dependencies.

0.2.4 (16-06-2021)

- Added new feature to provision instance_id for an account

0.3.0 (16-06-2021)

- Added new method to provision saml config in the account

0.4.0 (17-06-2021)

- Added provision_saml_provider to the public api

0.4.1 (19-08-2021)

- Add explicit error handling on bad response.

0.4.2 (01-09-2021)

- Added pagination on organizational OU retrieval.

0.5.0 (09-09-2021)

- Explicitly passing region to control tower instantiation.

0.5.1 (09-09-2021)

- Raising exception if csrf token retrieved has no value.

0.5.2 (09-09-2021)

- Fixed hardcoded url pointing to eu-west-1 making it possible to deploy to other home regions than Ireland.

0.6.0 (01-10-2021)

- Implemented control tower repair and bumped dependencies.

0.7.0 (14-10-2021)

- – Adding a force option to the register_ou function to force re-registering

0.8.0 (14-10-2021)

- – Adding a force option to the register_ou function to force re-registering

0.9.0 (18-10-2021)

- – Adding support to also show updated state when the landingzone gets a new configuration

0.10.0 (29-11-2021)

- Implemented cloudformation stack set organizations trusted access enabling and disabling.

0.10.1 (29-11-2021)

- Added missing dependencies.

1.0.0 (03-12-2021)

- Implemented account lifecycle and info update, MFA support and IAM billing console enablement.

1.1.0 (18-12-2021)

- Added support for nested OUs

2.0.0 (28-12-2021)

- Releasing support for 5 levels of nested OUs

2.0.1 (29-12-2021)

- Fixed a bug where on account creation the OU was not created unless there was a failure with the parent hierarchy.

2.0.2 (29-12-2021)

- Fixed a bug with the handling of the OU without hierarchies.

2.1.0 (30-12-2021)

- Implemented capability of retrieving account by email.

2.1.1 (22-02-2022)

- Updated 'get_changing_accounts' to use the search_provisioned_products with a filter which will fix the bug where only the first 100 provisioned products were checked for status "UNDER_CHAGE".

2.2.0 (26-04-2022)

- Fix for new console authentication flow courtesy of Soenke Ruempler <soenke+github@ruempler.eu>, author of the awesome superwerker!

2.3.0 (05-05-2022)

- Fix for IAM authentication flow.

2.3.1 (18-05-2022)

- Fix for cases where captcha is actually not required.

2.3.2 (23-05-2022)

- Another captcha fix for the root console curtesy of Rafael Zamana Kineippe <rafael@zamana.com.br>

3.0.0 (13-06-2022)

- awsapilib calling aws native apis rather than shadow apis

3.1.0 (17-06-2022)

- fix control tower deploy/setup

3.1.1 (17-08-2022)

- Bumped dependencies.

3.1.2 (27-09-2022)

- Fix for support for Control Tower update for versions over 2.6.

3.1.3 (03-03-2023)

- Bump and loosen dependencies.

INDICES AND TABLES

- `genindex`
- `modindex`
- `search`

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