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**better-boto**

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Better Boto aims to reduce the burden of using AWS Boto3. AWS Boto3 is a low level SDK for interacting with AWS Services and sometimes it feels too low level or too crud like.

Better Boto is a collection of helper functions to make using AWS Boto easier. For example, it added a `create_or_update` method to the AWS CloudFormation client. It also provides some helpers for dealing with pagination operations and some help using AWS Organizations. Check out the API for more info.



## 1.1 What is this?

With the following clients you can use them as context managers and they provide extra functionality for you. Each client is documented below:

## 1.2 Classes

**class** `betterboto.client.ClientContextManager` (*service\_name*, *\*\*kwargs*)

`ClientContextManager` allows you to use boto3 client as a python context manager. This allows you to perform the following:

```
with ClientContextManager('cloudformation') as cloudformation_client:
    cloudformation_client.create_stack(**args)
```

**class** `betterboto.client.CrossAccountClientContextManager` (*service\_name*, *role\_arn*,  
*role\_session\_name*,  
*\*\*kwargs*)

`CrossAccountClientContextManager` allows you to use boto3 client as a python context manager for another account. This allows you to perform the following:

```
with CrossAccountClientContextManager(
    'cloudformation',
    'arn:aws:iam::0123456789010:role/deployer',
    'deployment_account_session',
) as deployment_account_cloudformation:
    deployment_account_cloudformation.create_stack(**args)
```

**class** `betterboto.client.CrossMultipleAccountsClientContextManager` (*service\_name*,  
*assum-  
able\_details*,  
*\*\*kwargs*)

`CrossMultipleAccountsClientContextManager` allows you to use boto3 client as a python context manager for another account. This allows you to perform the following:

```
with CrossMultipleAccountsClientContextManager(
    'cloudformation',
    [
        ('arn:aws:iam::0123456789010:role/deployer', 'deployment_account_session
↪'),
        ('arn:aws:iam::097167856333:role/deployer', 'deployment_account_session
↪nested'),
    ],
    (continues on next page)
```

(continued from previous page)

```
    ],
) as deployment_account_cloudformation:
    deployment_account_cloudformation.create_stack(**args)
```

**class** betterboto.client.**MultiRegionClientContextManager**(*service\_name*, *regions*,  
\*\**kwargs*)

MultiRegionClientContextManager allows you to use boto3 client as a python context manager for multiple regions. This allows you to perform the following:

```
with MultiRegionClientContextManager('cloudformation', ['us-east-1', 'eu-west-1']):
    ↪ as cloudformation_clients:
        for region_name, cloudformation_client in cloudformation_clients.items():
            cloudformation_client.create_stack(**args)
```

If you want to deploy to multiple regions at the same time then you should use Python Threads



## **BUDGETS HELPERS**

### **2.1 What is this?**

The following methods are added to clients instantiated using Betterboto:

### **2.2 Methods**

`betterboto.budgets.describe_budgets_single_page(self, **kwargs)`

This will continue to call `describe_budgets` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `describe_budgets` does.

**Parameters**

- **self** – budgets client
- **kwargs** – these are passed onto the `describe_budgets` method call

**Returns** `budgets.describe_budgets.response`



## CLOUDFORMATION HELPERS

### 3.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 3.2 Methods

`betterboto.cloudformation.create_or_update` (*self*, *ShouldUseChangeSets=True*, *ShouldDeleteRollbackComplete=False*, *\*\*kwargs*)

For the given template and stack name, this method will create a stack if it doesn't already exist otherwise it will generate a changeset and then execute it. This method will wait for the operation to complete before returning and in the instance of an error it will print out the stack events to help you debug more easily.

#### Parameters

- **self** – cloudformation client
- **kwargs** – these are passed onto the `create_stack` and `create_change_set` method calls

**Returns** None

`betterboto.cloudformation.describe_stacks_single_page` (*self*, *\*\*kwargs*)

This will continue to call `describe_stacks` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `describe_stacks` does.

#### Parameters

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `describe_stacks` method call

**Returns** `servicecatalog_client.describe_stacks.response`

`betterboto.cloudformation.ensure_deleted` (*self*, *StackName*)

This will check if there is a stack with the given `StackName` in a state that can be deleted. If there is, it will delete it.

#### Parameters

- **self** – cloudformation client
- **StackName** – This is the name of the stack that should be deleted

**Returns** None

`betterboto.cloudformation.list_stacks_single_page(self, **kwargs)`

This will continue to call `list_stacks` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_stacks` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_stacks` method call

**Returns** `servicecatalog_client.list_stacks.response`

## CODEBUILD HELPERS

### 4.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 4.2 Methods

`betterboto.codebuild.start_build_and_wait_for_completion(self, **kwargs)`

This will start a build of an AWS CodeBuild Project and wait for it to complete. It will return the result of the build.

**Parameters**

- **self** – codebuild client
- **kwargs** – these are passed onto the start\_build method call

**Returns** `codebuild_client.batch_get_builds.response[0]`



## CODECOMMIT HELPERS

### 5.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 5.2 Methods

`betterboto.codecommit.list_branches_single_page` (*self*, *\*\*kwargs*)

This will continue to call `list_branches` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_branches` does.

**Parameters**

- **self** – codecommit client
- **kwargs** – these are passed onto the `list_branches` method call

**Returns** `codecommit_client.list_branches.response`





## GUARDDUTY HELPERS

### 6.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 6.2 Methods

`betterboto.guardduty.list_members_single_page(self, **kwargs)`

This will continue to call `list_members` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_members` does.

**Parameters**

- **self** – guardduty client
- **kwargs** – these are passed onto the `list_members` method call

**Returns** `guardduty_client.list_members.response`



## CLOUDWATCH LOGS HELPERS

### 7.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 7.2 Methods



## ORGANIZATIONS HELPERS

### 8.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 8.2 Methods

`betterboto.organizations.convert_path_to_ou(self, path)`

This method accepts a path and returns the ou. This raises an exception when converting / and you have more than one root

**Parameters**

- **self** – organizations client
- **path** – organizations path

**Returns** the ou of the path specified

`betterboto.organizations.list_accounts_single_page(self, **kwargs)`

This will continue to call `list_accounts` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_accounts` does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the `list_accounts` method call

**Returns** `organizations_client.list_accounts.response`

`betterboto.organizations.list_children_nested(self, **kwargs)`

This method will return a list of all children (either `ACCOUNT` or `ORGANIZATIONAL_UNIT`) for the given `ParentId`. It includes children, grandchildren lower levels of nesting.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the `list_children` method call

**Returns** list of children in the structure of `[{'Id': "0123456789010"}, {'Id': "1009876543210"}]`

`betterboto.organizations.list_children_single_page(self, **kwargs)`

This will continue to call `list_children` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_children` does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_children method call

**Returns** organizations\_client.list\_children.response

```
betterboto.organizations.list_delegated_administrators_single_page(self,
                                                                    **kwargs)
```

This will continue to call list\_delegated\_administrators until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_delegated\_administrators does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_delegated\_administrators method call

**Returns** organizations\_client.list\_delegated\_administrators.response

```
betterboto.organizations.list_delegated_services_for_account_single_page(self,
                                                                           **kwargs)
```

This will continue to call list\_delegated\_services\_for\_account until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_delegated\_services\_for\_account does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_delegated\_services\_for\_account method call

**Returns** organizations\_client.list\_delegated\_services\_for\_account.response

```
betterboto.organizations.list_organizational_units_for_parent_single_page(self,
                                                                           **kwargs)
```

This will continue to call list\_organizational\_units\_for\_parent until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_organizational\_units\_for\_parent does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_organizational\_units\_for\_parent method call

**Returns** organizations\_client.list\_organizational\_units\_for\_parent.response

```
betterboto.organizations.list_parents_single_page(self, **kwargs)
```

This will continue to call list\_parents until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_parents does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_parents method call

**Returns** organizations\_client.list\_parents.response

```
betterboto.organizations.list_policies_for_target_single_page(self, **kwargs)
```

This will continue to call list\_policies\_for\_target until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_policies\_for\_target does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_policies\_for\_target method call

**Returns** organizations\_client.list\_policies\_for\_target.response

`betterboto.organizations.list_policies_single_page(self, **kwargs)`

This will continue to call list\_policies until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_policies does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_policies method call

**Returns** organizations\_client.list\_policies.response

`betterboto.organizations.list_roots_single_page(self, **kwargs)`

This will continue to call list\_roots until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_roots does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_roots method call

**Returns** organizations\_client.list\_roots.response

`betterboto.organizations.list_targets_for_policy_single_page(self, **kwargs)`

This will continue to call list\_targets\_for\_policy until there are no more pages left to retrieve. It will return the aggregated response in the same structure as list\_targets\_for\_policy does.

**Parameters**

- **self** – organizations client
- **kwargs** – these are passed onto the list\_targets\_for\_policy method call

**Returns** organizations\_client.list\_targets\_for\_policy.response





## SERVICE CATALOG HELPERS

### 9.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 9.2 Methods

```
betterboto.servicecatalog.describe_provisioned_product_plan_single_page(self,  
                                                                           **kwargs)
```

This will continue to call `describe_provisioned_product_plan` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `describe_provisioned_product_plan` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `describe_provisioned_product_plan` method call

**Returns** `servicecatalog_client.describe_provisioned_product_plan.response`

```
betterboto.servicecatalog.list_accepted_portfolio_shares_single_page(self,  
                                                                           **kwargs)
```

This will continue to call `list_accepted_portfolio_shares` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_accepted_portfolio_shares` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_accepted_portfolio_shares` method call

**Returns** `servicecatalog_client.list_accepted_portfolio_shares.response`

```
betterboto.servicecatalog.list_launch_paths_single_page(self, **kwargs)
```

This will continue to call `list_launch_paths` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_launch_paths` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_launch_paths` method call

**Returns** `servicecatalog_client.list_launch_paths.response`

`betterboto.servicecatalog.list_portfolio_access_single_page(self, **kwargs)`

This will continue to call `list_portfolio_access` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_portfolio_access` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_portfolio_access` method call

**Returns** `servicecatalog_client.list_portfolio_access.response`

`betterboto.servicecatalog.list_portfolios_for_product_single_page(self, **kwargs)`

This will continue to call `list_portfolios_for_product` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_portfolios_for_product` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_portfolios_for_product` method call

**Returns** `servicecatalog_client.list_portfolios_for_product.response`

`betterboto.servicecatalog.list_portfolios_single_page(self, **kwargs)`

This will continue to call `list_portfolios` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_portfolios` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_portfolios` method call

**Returns** `servicecatalog_client.list_portfolios.response`

`betterboto.servicecatalog.list_principals_for_portfolio_single_page(self, **kwargs)`

This will continue to call `list_principals_for_portfolio` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_principals_for_portfolio` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_principals_for_portfolio` method call

**Returns** `servicecatalog_client.list_principals_for_portfolio.response`

`betterboto.servicecatalog.list_provisioned_product_plans_single_page(self, **kwargs)`

This will continue to call `list_provisioned_product_plans` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_provisioned_product_plans` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the `list_provisioned_product_plans` method call

**Returns** `servicecatalog_client.list_provisioned_product_plans.response`

`betterboto.servicecatalog.list_provisioning_artifacts_single_page(self, **kwargs)`

This will continue to call `list_provisioning_artifacts` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `list_provisioning_artifacts` does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the list\_provisioning\_artifacts method call

**Returns** servicecatalog\_client.list\_provisioning\_artifacts.response

betterboto.servicecatalog.**scan\_provisioned\_products\_single\_page**(self,   
 *\*\*kwargs*)

This will continue to call scan\_provisioned\_products until there are no more pages left to retrieve. It will return the aggregated response in the same structure as scan\_provisioned\_products does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the scan\_provisioned\_products method call

**Returns** servicecatalog\_client.scan\_provisioned\_products.response

betterboto.servicecatalog.**search\_products\_as\_admin\_single\_page**(self, *\*\*kwargs*)

This will continue to call search\_products\_as\_admin until there are no more pages left to retrieve. It will return the aggregated response in the same structure as search\_products\_as\_admin does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the search\_products\_as\_admin method call

**Returns** servicecatalog\_client.search\_products\_as\_admin.response

betterboto.servicecatalog.**search\_provisioned\_products\_single\_page**(self,   
 *\*\*kwargs*)

This will continue to call search\_provisioned\_products until there are no more pages left to retrieve. It will return the aggregated response in the same structure as search\_provisioned\_products does.

**Parameters**

- **self** – servicecatalog client
- **kwargs** – these are passed onto the search\_provisioned\_products method call

**Returns** servicecatalog\_client.search\_provisioned\_products.response



## SSM HELPERS

### 10.1 What is this?

The following methods are added to clients instantiated using Betterboto:

### 10.2 Methods

**exception** `betterboto.ssm.ParameterVersionNotFoundException`

`betterboto.ssm.get_parameter_history_single_page(self, **kwargs)`

This will continue to call `get_parameter_history_single_page` until there are no more pages left to retrieve. It will return the aggregated response in the same structure as `get_parameter_history_single_page` does.

**Parameters**

- **self** – ssm client
- **kwargs** – these are passed onto the `get_parameter_history_single_page` method call

**Returns** `ssm_client.get_parameter_history_single_page.response`

`betterboto.ssm.put_parameter_and_wait(self, Name, **kwargs)`

This will call `put_parameter` and ensure it has been successfully put by checking it

**Parameters**

- **self** – ssm client
- **Name** – The fully qualified name of the parameter that you want to add to the system
- **kwargs** – These args are passed through to `ssm.put_parameter`

**Returns** `ssm.get_parameter.response`



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