S3 Versioning of ActiveScale

Versioning saves the historical features in your objects for data safety and security reasons. When multiple users are working on one specific project, accidental overwrite and deletion can be made to an object which could produce unwanted results to the project. Enabling versioning on a bucket will prevent unwanted overwrites or deletions as users will be able to recover their data by grabbing previous versions of the object.

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Note:

To control your capacity consumption, look at the article on how to set up _Object Lifecycle Management_ available on our Developer Community Repository.

How to Enable Versioning:

1. Install & Configure the AWS CLI with credentials. You will need your access and secret keys to do this. An example of what your terminal should look like is shown below.

```
C17PMR7BG8WN:~ bbashaw$ aws configure
AWS Access Key ID [None]: AK0FXL7WBAA5ZISNSJUQ
AWS Secret Access Key [None]: TvcWyT/HNjRi76oRzm7T1/j7RnPm0MdkJz1s6yS2
Default region name [None]:
Default output format [None]:
C17PMR7BG8WN:~ bbashaw$
```

2. Have the AWS CLI call the AS3 API directly.
Note: To simplify this process, setting up aliases will help with management and organization of code. To make an alias, follow the format of `alias <aliasname>='<path>'`.

```
alias myaws='/usr/local/bin/aws --endpoint-url http://90.0.0.11'
alias mys3='myaws s3api'
```

3. Select a bucket that you would like to enable versioning by changing the status of the bucket by using the PUT command with the bucket path, s3api, bucket's name and the extension of "`--versioning-configuration Status=Enabled`". Listing out all the status of your buckets, you should see that only the buckets you enabled versioning show a status of "Enabled".

```
mys3 put-bucket-versioning --bucket versioning-enabled --versioning-configuration Status=Enabled
```

A comparison with another bucket that does not have versioning enabled on it is shown below.

```
mys3 get-bucket-versioning --bucket no-versioning
mys3 get-bucket-versioning --bucket versioning-enabled
{
    "Status": "Enabled"
}
```

4. With the bucket that has versioning enabled, we can test out the feature by using the "PUT" command to add objects into our buckets.

```
> mys3 put-object --bucket versioning-enabled --key ActiveScale_X100_System_Support_Guide.pdf --body ActiveScale_X100_System_Support_Guide.pdf
{
    "VersionId": "ILCIwyTKKHv3MwFfSGyabdIcROrPDjhJmVisZ4X0x6mcIAxG",
    "ETag": "\"c53d077b16acd79da55637abe356ebed\""
}
```

5. List out the objects and you can see that the "VersionId" has a string. If your bucket has disabled versioning which will return "null".

```
> mys3 list-object-versions --bucket versioning-enabled
{
    "Versions": [
        {
            "LastModified": "2017-09-05T22:12:23.000Z",
            "VersionId": "ILCIwyTKKHv3MwFfSGyabdIcROrPDjhJmVisZ4X0x6mcIAxG",
            "ETag": "\"c53d077b16acd79da55637abe356ebed\"",
            "StorageClass": "STANDARD",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": true,
            "Size": 25878486
        }
    ]
}
```

6. Repeating that process and overwriting the bucket with a different file, we can see that the file size has change as well as the string from the "VersionId". Previous versions of "VersionId" can also be seen showing from the bottom of the bucket information with the latest version being on top and the bottom entry being the oldest.

```
> mys3 put-object --bucket versioning-enabled --key ActiveScale_X100_System_Support_Guide.pdf --body ActiveScale_X100_Installation_Guide-2.pdf
{
    "VersionId": "OgnSDTHmFQgnQdTbEjDrhbs6Qkrks3pziTNPvxDnLbF23_XL",
    "ETag": "\"0b81cac866562125befe0b814b186acd\""
}

> mys3 list-object-versions --bucket versioning-enabled
{
    "Versions": [
        {
            "LastModified": "2017-09-05T22:14:18.000Z",
            "VersionId": "OgnSDTHmFQgnQdTbEjDrhbs6Qkrks3pziTNPvxDnLbF23_XL",
            "ETag": "\"0b81cac866562125befe0b814b186acd\"",
            "StorageClass": "STANDARD",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": true,
            "Size": 2082470
        },
        {
            "LastModified": "2017-09-05T22:12:23.000Z",
            "VersionId": "ILCIwyTKKHv3MwFfSGyabdIcROrPDjhJmVisZ4X0x6mcIAxG",
            "ETag": "\"c53d077b16acd79da55637abe356ebed\"",
            "StorageClass": "STANDARD",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": false,
            "Size": 25878486
        }
    ]
}
```

7. To test out deleted objects, versioning will just cover the objects in that bucket so that it looks as if the bucket is empty but the object is still there. Deleting objects in a bucket that has versioning enabled will return a "DeleteMarker" showing as the latest version of the object.

```
> mys3 list-object-versions --bucket versioning-enabled
{
    "DeleteMarkers": [
        {
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": true,
            "VersionId": "IbUUnPGmapJ0i1_1AqLGszWRBspwcYNC2ZbXLjj_wxq65Eil",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "LastModified": "2017-09-06T14:15:20.000Z"
        }
    ],
    "Versions": [
        {
            "LastModified": "2017-09-05T22:25:34.000Z",
            "VersionId": "plYH8g_TwOvTRMuCocJKYbS0SsVazNAFIsWeK44A5HuqBXrH",
            "ETag": "\"e45f45b6bf45eb907b8610c102596017\"",
            "StorageClass": "STANDARD",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": false,
            "Size": 3588671
        },
        {
            "LastModified": "2017-09-05T22:12:23.000Z",
            "VersionId": "ILCIwyTKKHv3MwFfSGyabdIcROrPDjhJmVisZ4X0x6mcIAxG",
            "ETag": "\"c53d077b16acd79da55637abe356ebed\"",
            "StorageClass": "STANDARD",
            "Key": "ActiveScale_X100_System_Support_Guide.pdf",
            "Owner": {
                "DisplayName": "bbashaw",
                "ID": "8059a0652d1fb1df09d646585f"
            },
            "IsLatest": false,
            "Size": 25878486
        }
    ]
}
```

How to Go Back to Previous Version:

1. To go back and switch to older versions, switch to CyberDuck to highlight how one can interact with other versions.