



Manage S3 bucket lifecycle management rules

ONTAP 9.15.1 REST API reference

NetApp
September 11, 2024

Table of Contents

- Manage S3 bucket lifecycle management rules 1
 - Protocols S3 services svm.uuid buckets s3_bucket.uuid rules endpoint overview 1
- Retrieve S3 lifecycle rules for a bucket 4
- Create the S3 bucket lifecycle rule configuration 14

Manage S3 bucket lifecycle management rules

Protocols S3 services svm.uuid buckets s3_bucket.uuid
rules endpoint overview

Overview

An S3 bucket lifecycle management rule is a list of objects. Each rule defines a set of actions to be performed on the object within the bucket.

Adding a lifecycle management rule on a S3 bucket under an SVM

```

# The API:
/api/protocols/s3/services/{svm.uuid}/buckets/{uuid}/rules

# The call:
curl -iku admin:<password> -X POST "https://<mgmt-
ip>/api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules?return_timeout=0&return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"name\":
\"rule1\", \"expiration\" : { \"object_age_days\" : \"1000\" },
\"abort_incomplete_multipart_upload\" : { \"after_initiation_days\" : 200
} , \"object_filter\": { \"prefix\" : \"obj1*/\" , \"size_greater_than\"
: \"1000\" } }"

# The response:
HTTP/1.1 202 Accepted
Date: Fri, 30 Novemeber 2022 11:22:14 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules?name=bucket-4
Content-Length: 353
Content-Type: application/json
{
  "job": {
    "uuid": "2e880171-7e16-11e9-bfdc-0050568ea123",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/2e880171-7e16-11e9-bfdc-0050568ea123"
      }
    }
  }
}

```

Updating a lifecycle management rule on a S3 bucket under an SVM

```

# The call:
curl -iku admin:<password> -X PATCH "https://<mgmt-
ip>/api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules/rule1?return_timeout=0&return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{ \"expiration\"
: { \"object_age_days\" : \"3000\" },
\"abort_incomplete_multipart_upload\" : { \"after_initiation_days\" :
\"5000\" } }"

# The response:
HTTP/1.1 202 Accepted
Date: Fri, 30 Novemeber 2022 11:22:14 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules?name=bucket-4
Content-Length: 353
Content-Type: application/json
{
  "job": {
    "uuid": "2e880171-7e16-11e9-bfdc-0050568ea124",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/2e880171-7e16-11e9-bfdc-0050568ea124"
      }
    }
  }
}

```

Deleting a lifecycle management rule on a S3 bucket under an SVM

```

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/s3/services/259b4e78-2893-
67ea-9785-890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules/rule1" -H "accept: application/json"

```

To delete an action within a rule, pass null inside the action-object.

```

# The call:
curl -iku admin:<password> -X PATCH "https://<mgmt-
ip>/api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules/rule1?return_timeout=0&return_records=true" -H "accept:
application/json" -H "Content-Type: application/json" -d "{\"expiration\":
: null }"

# The response:
HTTP/1.1 202 Accepted
Date: Fri, 30 Novemeber 2022 11:22:14 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/protocols/s3/services/259b4e78-2893-67ea-9785-
890456bbbec4/buckets/259b4e46-2893-67ea-9145-
909456bbbec4/rules?name=bucket-4
Content-Length: 353
Content-Type: application/json
{
  "job": {
    "uuid": "2e880171-7e16-11e9-bfdc-0050568ea124",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/2e880171-7e16-11e9-bfdc-0050568ea124"
      }
    }
  }
}

```

Retrieve S3 lifecycle rules for a bucket

GET /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules

Introduced In: 9.13

Retrieves all S3 Lifecycle rules associated with a bucket. Note that in order to retrieve S3 bucket rule parametes, the 'fields' option should be set to '*'.

Related ONTAP commands

- `vserver object-store-server bucket lifecycle-management-rule show`

Learn more

- [DOC /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules](#)

Parameters

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name • Introduced in: 9.14
non_current_version_expiration.new_non_current_versions	integer	query	False	Filter by non_current_version_expiration.new_non_current_versions
non_current_version_expiration.non_current_days	integer	query	False	Filter by non_current_version_expiration.non_current_days
uuid	string	query	False	Filter by uuid • Introduced in: 9.14
bucket_name	string	query	False	Filter by bucket_name • Introduced in: 9.14 • maxLength: 63 • minLength: 3
enabled	boolean	query	False	Filter by enabled
abort_incomplete_multipart_upload.after_initiation_days	integer	query	False	Filter by abort_incomplete_multipart_upload.after_initiation_days
name	string	query	False	Filter by name • maxLength: 256 • minLength: 0
expiration.object_age_days	integer	query	False	Filter by expiration.object_age_days

Name	Type	In	Required	Description
expiration.expired_object_delete_marker	boolean	query	False	Filter by expiration.expired_object_delete_marker
expiration.object_expiry_date	string	query	False	Filter by expiration.object_expiry_date
object_filter.size_greater_than	integer	query	False	Filter by object_filter.size_greater_than
object_filter.prefix	string	query	False	Filter by object_filter.prefix
object_filter.size_less_than	integer	query	False	Filter by object_filter.size_less_than
object_filter.tags	string	query	False	Filter by object_filter.tags
s3_bucket.uuid	string	path	True	The unique identifier of the bucket.
svm.uuid	string	path	True	UUID of the SVM to which this object belongs. <ul style="list-style-type: none"> Introduced in: 9.14
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> Default value: 1

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	collection_links	
num_records	integer	Number of records
records	array[s3_bucket_lifecycle_rule]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "abort_incomplete_multipart_upload": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      },
      "bucket_name": "bucket1",
      "expiration": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      },
      "object_age_days": 100,
      "object_expiry_date": "2039-09-22 20:00:00 -0400"
    },
    "name": "string",
    "non_current_version_expiration": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    },
    "object_filter": {
      "_links": {
```

```

    "self": {
      "href": "/api/resourcelink"
    }
  },
  "prefix": "/logs",
  "size_greater_than": 10240,
  "size_less_than": 10485760,
  "tags": [
    "project1=projA",
    "project2=projB"
  ]
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "414b29a1-3b26-11e9-bd58-0050568ea055"
}
]
}

```

Error

Status: Default, Error

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

collection_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

abort_incomplete_multipart_upload

Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.

Name	Type	Description
_links	_links	
after_initiation_days	integer	Number of days of initiation after which uploads can be aborted.

expiration

Specifies a way to perform expiration action on filtered objects within a bucket.

Name	Type	Description
_links	_links	
expired_object_delete_marker	boolean	Cleanup object delete markers.
object_age_days	integer	Number of days since creation after which objects can be deleted. This cannot be used along with object_expiry_date.
object_expiry_date	string	Specific date from when objects can expire. This cannot be used with object_age_days.

non_current_version_expiration

Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

Name	Type	Description
_links	_links	
new_non_current_versions	integer	Number of latest non-current versions to be retained.
non_current_days	integer	Number of days after which non-current versions can be deleted.

object_filter

Specifies a way to filter objects within a bucket.

Name	Type	Description
_links	_links	
prefix	string	A prefix that is matched against object-names within a bucket.
size_greater_than	integer	Size of the object greater than specified for which the corresponding lifecycle rule is to be applied.
size_less_than	integer	Size of the object smaller than specified for which the corresponding lifecycle rule is to be applied.
tags	array[string]	An array of key-value paired tags of the form <tag>or <tag=value>.</tag>

svm

Specifies the name of the SVM where this bucket exists.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

s3_bucket_lifecycle_rule

Information about the lifecycle management rule of a bucket.

Name	Type	Description
_links	_links	
abort_incomplete_multipart_upload	abort_incomplete_multipart_upload	Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.
bucket_name	string	Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".
enabled	boolean	Specifies whether or not the associated rule is enabled.
expiration	expiration	Specifies a way to perform expiration action on filtered objects within a bucket.
name	string	Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.
non_current_version_expiration	non_current_version_expiration	Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.
object_filter	object_filter	Specifies a way to filter objects within a bucket.
svm	svm	Specifies the name of the SVM where this bucket exists.

Name	Type	Description
uuid	string	Specifies the unique identifier of the bucket.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Create the S3 bucket lifecycle rule configuration

POST /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules

Introduced In: 9.13

Creates the S3 bucket lifecycle rule configuration.

Required properties

- `name` - Lifecycle Management rule to be created.
- `actions` - Lifecycle Management actions associated with the rule.

Recommended optional properties

- `enabled` - Lifecycle Management rule is enabled or not.
- `object_filter.prefix` - Lifecycle Management rule filter prefix.
- `object_filter.tags` - Lifecycle Management rule filter tags.
- `object_filter.size_greater_than` - Lifecycle Management rule filter minimum object size.

- `object_filter.size_less_than` - Lifecycle Management rule filter maximum object size.
- `object_age_days` - Number of days since creation after which objects can be deleted.
- `object_expiry_date` - Specific date from when objects can expire.
- `expired_object_delete_marker` - Cleanup object delete markers.
- `new_non_current_versions` - Number of latest non-current versions to be retained.
- `non_current_days` - Number of days after which non-current versions can be deleted.
- `after_initiation_days` - Number of days of initiation after which uploads can be aborted.

Related ONTAP commands

- `vserver object-store-server bucket lifecycle-management-rule create`

Learn more

- [DOC /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules](#)

Parameters

Name	Type	In	Required	Description
<code>s3_bucket.uuid</code>	string	path	True	Unique identifier of a bucket.

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"> • Default value:
svm.uuid	string	path	True	<p>UUID of the SVM to which this object belongs.</p> <ul style="list-style-type: none"> • Introduced in: 9.14

Request Body

Name	Type	Description
<code>_links</code>	<code>_links</code>	
<code>abort_incomplete_multipart_upload</code>	<code>abort_incomplete_multipart_upload</code>	Specifies a way to perform <code>abort_incomplete_multipart_upload</code> action on filtered objects within a bucket. It cannot be specified with tags.
<code>bucket_name</code>	string	Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".
<code>enabled</code>	boolean	Specifies whether or not the associated rule is enabled.
<code>expiration</code>	<code>expiration</code>	Specifies a way to perform expiration action on filtered objects within a bucket.
<code>name</code>	string	Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.
<code>non_current_version_expiration</code>	<code>non_current_version_expiration</code>	Specifies a way to perform <code>non_current_version_expiration</code> action on filtered objects within a bucket.
<code>object_filter</code>	<code>object_filter</code>	Specifies a way to filter objects within a bucket.
<code>svm</code>	<code>svm</code>	Specifies the name of the SVM where this bucket exists.
<code>uuid</code>	string	Specifies the unique identifier of the bucket.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "abort_incomplete_multipart_upload": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "bucket_name": "bucket1",
  "expiration": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "object_age_days": 100,
  "object_expiry_date": "2039-09-22 20:00:00 -0400",
  "name": "string",
  "non_current_version_expiration": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "object_filter": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "prefix": "/logs",
  "size_greater_than": 10240,
  "size_less_than": 10485760,
  "tags": [
    "project1=projA",
    "project2=projB"
  ]
}
```

```

},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "414b29a1-3b26-11e9-bd58-0050568ea055"
}

```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

```

{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}

```

Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

Error code	Message
92405861	"The specified SVM UUID or bucket UUID does not exist.";
92406111	"Lifecycle Management rule "rule1" for bucket "testbuck1" in SVM "vs0" is invalid because of the number of tags specified. The maximum number of tags supported is four.";
92406113	"Lifecycle Management rule for bucket in Vserver is invalid because there is a mismatch in one of the filter-field. Filters must be the same for a particular rule identifier.";
92406114	"The Expiration action requires specifying either object_expiry_date, object_age_days or expired_object_delete_marker.";
92406115	"The NonCurrentVersionExpiration action requires either new_non_current_versions or non_current_days.";
92406116	"The AbortIncompleteMultipartUpload action requires after_initiation_days.";
92406117	"The "Expiration" action cannot have both an expiry date and an age.";
92406118	"Using Lifecycle Management rules requires an effective cluster version of 9.13.1 .";
92406120	"The "AbortIncompleteMultipartUpload" action cannot be specified with tags.";
92406121	""expired_object_delete_marker" cannot be specified with "tags" ."
92406122	""expired_object_delete_marker" cannot be specified with "object_age_days" or "object_expiry_date" .";
92406123	"Expiration is supported on object store volumes only, bucket "testbuck-nas" on SVM "vs0" is not an object store volume.";

Error code	Message
92406126	"Lifecycle Management rule "rule1" for bucket "testbuck1" in SVM "vs0" is invalid because specified tags contain one or more invalid characters. Valid characters for a tag are 0-9, A-Z, a-z, "+", "-", "=", ".", "_", ":", "/", "@", and " ". Each "=" character present in a tag key or value must be prefixed with the "" escape character.";
92406127	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" is invalid because specified tag "key" length is greater than the maximum allowed length: 128."; //end row //start row
92406128 //end row //start row	"Lifecycle Management rule "rule1" for bucket "testbuck1" in SVM "vs0" has tags with duplicate keys. Verify that each tag has a unique key and then try the operation again."; //end row //start row
92406129 //end row //start row	"Lifecycle Management rule "rule1" for bucket "testbuck1" in SVM "vs0" has a prefix that is too long. The maximum length of the prefix is 1024 characters."; //end row //start row
92406130 //end row //start row	"Lifecycle Management rule "rule1" for bucket "testbuck1" in SVM "vs0" is invalid because the minimum object size of 10485760 is larger than or equal to the maximum object size of 10240."; //end row //start row
92406131 //end row //start row	"Lifecycle Management rule "testcheck2" for bucket "testbuck1" in SVM "vs0" cannot be created because "non_current_days" must be specified along with "new_non_current_versions"."; //end row //start row
92406132 //end row //start row	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "object_age_days" to be greater than zero."; //end row //start row
92406132 //end row //start row	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "new_non_current_versions" to be greater than zero."; //end row //start row
92406132 //end row //start row	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "after_initiation_days" to be greater than zero."; //end row //start row
92406133 //end row //start row	"Lifecycle Management rule for bucket in Vserver is invalid. The object_expiry_date must be later than January 1, 1970."; //end row //start row
92406134 //end row //start row	"Cannot exceed the max limit of 1000 Lifecycle Management rules per bucket."; //end row //start row

Error code	Message
92406135 //end row //start row	"MetroCluster is configured on cluster. Object Expiration is not supported in a MetroCluster configuration."; //end row //start row
92406136 //end row //start row	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" is invalid. The "object_expiry_date" must be at midnight GMT."; //end row //start row
92406139 //end row //start row	"Lifecycle Management rule for bucket in Vserver with action is a stale entry. Contact technical support for assistance."; //end row //start row
92406141 //end row //start row	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" with action "Expiration" cannot have "expired_object_delete_marker" disabled. To disable "expired_object_delete_marker", run the "vserver object-store-server bucket lifecycle-management-rule delete" command."; //end row //start row
92406143 //end row //start row	"As part of Bucket Lifecycle, cannot create fabriclink relationship on bucket "<bucket name="">" in SVM "<SVM name="">". Reason : <error>."; //end row //start row
92406144 //end row //start row	"The "AbortIncompleteMultipartUpload" action cannot be specified with object size."; //end row //start row
92406150 //end row //start row	""expired_object_delete_marker" cannot be specified with "size_less_than"."; //end row //start row
92406148 //end row //start row	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" cannot have "new_non_current_versions" more than 100."; //end row //start row
92406149 //end row //start row	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" requires an action to be specified. Retry the operation after adding an action."; //end row

|Name |Type |Description

|error |[returned_error a](#)

```
.Example error [%collapsible%closed] ==== [source,json,subs=+macros] { "error": { "arguments": [ { "code": "string", "message": "string" } ], "code": "4", "message": "entry doesn't exist", "target": "uuid" } } ====
== Definitions
[.api-def-first-level] .See Definitions [%collapsible%closed] ==== [#href] [.api-collapsible-fifth-title] href
[cols=3*,options=header]
```

|Name |Type |Description

|href |string a|

[#_links] [.api-collapsible-fifth-title] _links

[cols=3*,options=header]

|Name |Type |Description

|self |[href](#) a|

[#abort_incomplete_multipart_upload] [.api-collapsible-fifth-title] abort_incomplete_multipart_upload

Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|after_initiation_days |integer a|Number of days of initiation after which uploads can be aborted.

[#expiration] [.api-collapsible-fifth-title] expiration

Specifies a way to perform expiration action on filtered objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|expired_object_delete_marker |boolean a|Cleanup object delete markers.

|object_age_days |integer a|Number of days since creation after which objects can be deleted. This cannot be used along with object_expiry_date.

|object_expiry_date |string a|Specific date from when objects can expire. This cannot be used with object_age_days.

[#non_current_version_expiration] [.api-collapsible-fifth-title] non_current_version_expiration

Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|new_non_current_versions |integer a|Number of latest non-current versions to be retained.

|non_current_days |integer a|Number of days after which non-current versions can be deleted.

[#object_filter] [.api-collapsible-fifth-title] object_filter

Specifies a way to filter objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|prefix |string a|A prefix that is matched against object-names within a bucket.

|size_greater_than |integer a|Size of the object greater than specified for which the corresponding lifecycle rule is to be applied.

|size_less_than |integer a|Size of the object smaller than specified for which the corresponding lifecycle rule is to be applied.

|tags |array[string] a|An array of key-value paired tags of the form <tag>or <tag=value>.</tag>

[#svm] [.api-collapsible-fifth-title] svm

Specifies the name of the SVM where this bucket exists.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|name |string a|The name of the SVM. This field cannot be specified in a PATCH method.

|uuid |string a|The unique identifier of the SVM. This field cannot be specified in a PATCH method.

[#s3_bucket_lifecycle_rule] [.api-collapsible-fifth-title] s3_bucket_lifecycle_rule

Information about the lifecycle management rule of a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|abort_incomplete_multipart_upload |[abort_incomplete_multipart_upload](#) a|Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.

|bucket_name |string a|Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".

|enabled |boolean a|Specifies whether or not the associated rule is enabled.

|expiration |[expiration](#) a|Specifies a way to perform expiration action on filtered objects within a bucket.

|name |string a|Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.

|non_current_version_expiration |[non_current_version_expiration](#) a|Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

|object_filter |[object_filter](#) a|Specifies a way to filter objects within a bucket.

|svm |[svm](#) a|Specifies the name of the SVM where this bucket exists.

|uuid |string a|Specifies the unique identifier of the bucket.

```
[#job_link] [.api-collapsible-fifth-title] job_link
```

```
[cols=3*,options=header]
```

Name	Type	Description
------	------	-------------

_links	_links	a
--------	------------------------	---

uuid	string a	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.
------	----------	---

```
[#error_arguments] [.api-collapsible-fifth-title] error_arguments
```

```
[cols=3*,options=header]
```

Name	Type	Description
------	------	-------------

code	string a	Argument code
------	----------	---------------

message	string a	Message argument
---------	----------	------------------

```
[#returned_error] [.api-collapsible-fifth-title] returned_error
```

```
[cols=3*,options=header]
```

Name	Type	Description
------	------	-------------

arguments	array[error_arguments]	a Message arguments
-----------	--	---------------------

code	string a	Error code
------	----------	------------

message	string a	Error message
---------	----------	---------------

target	string a	The target parameter that caused the error.
--------	----------	---

====

= Delete an S3 bucket lifecycle rule

```
DELETE /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules/{name}
```

Introduced In: 9.13

Deletes the S3 bucket lifecycle rule configuration.

== Related ONTAP commands

```
* vserver object-store-server bucket lifecycle-management-rule delete
```

== Learn more

* [DOC /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules](#)

== Parameters

[cols=5*,options=header]

Name	Type	In	Required	Description
------	------	----	----------	-------------

s3_bucket.uuid	string	path	True	a The unique identifier of the bucket.
----------------	--------	------	------	--

name	string	path	True	a The unique identifier of the bucket lifecycle_management rule.
------	--------	------	------	--

svm.uuid	string	path	True	a UUID of the SVM to which this object belongs.
----------	--------	------	------	---

- Introduced in: 9.14

== Response

```
` Status: 200, Ok `
```

== Error

```
` Status: Default `
```

ONTAP Error Response Codes [cols=2*,options=header]

Error code	Message
------------	---------

92405861	"The specified SVM UUID or bucket UUID does not exist.";
----------	--

92406139	"Lifecycle Management rule for bucket in Vserver with action is a stale entry. Contact technical support for assistance.";
----------	--

[cols=3*,options=header]

Name	Type	Description
------	------	-------------

error	returned_error	a
-------	--------------------------------	---

```
.Example error [%collapsible%closed] ===== [source,json,subs=+macros] { "error": { "arguments": [ { "code": "string", "message": "string" } ], "code": "4", "message": "entry doesn't exist", "target": "uuid" } } =====
```

== Definitions

[.api-def-first-level] .See Definitions [%collapsible%closed] ===== [#error_arguments] [.api-collapsible-fifth-title] error_arguments

[cols=3*,options=header]

Name	Type	Description
------	------	-------------

code	string a	Argument code
------	----------	---------------

message	string a	Message argument
---------	----------	------------------

```
[#returned_error] [.api-collapsible-fifth-title] returned_error
```

[cols=3*,options=header]

Name	Type	Description
------	------	-------------

arguments	array[error_arguments] a	Message arguments
-----------	--------------------------	-------------------

code	string a	Error code
------	----------	------------

message	string a	Error message
---------	----------	---------------

target	string a	The target parameter that caused the error.
--------	----------	---

=====

= Retrieve all S3 lifecycle rules for a bucket

```
GET /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules/{name}
```

Introduced In: 9.13

Retrieves all S3 Lifecycle rules associated with a bucket. Note that in order to retrieve S3 bucket rule parameters, the 'fields' option should be set to '*'.

== Related ONTAP commands

* **vserver object-store-server bucket lifecycle-management-rule show**

== Learn more

* [DOC /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules](#)

== Parameters

[cols=5,options=header]

|Name |Type |In |Required |Description

|s3_bucket.uuid |string |path |True a|The unique identifier of the bucket.

|name |string |path |True a|The name of the lifecycle management rule to be applied on the bucket.

|svm.uuid |string |path |True a|UUID of the SVM to which this object belongs.

- Introduced in: 9.14

|fields |array|string] |query |False a|Specify the fields to return.

```
== Response
```

```
` Status: 200, Ok `
```

```
[cols=3*,options=header]
```

|Name |Type |Description

|_links |_links a|

|abort_incomplete_multipart_upload |[abort_incomplete_multipart_upload](#) a|Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.

|bucket_name |string a|Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".

|enabled |boolean a|Specifies whether or not the associated rule is enabled.

|expiration |[expiration](#) a|Specifies a way to perform expiration action on filtered objects within a bucket.

|name |string a|Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.

|non_current_version_expiration |[non_current_version_expiration](#) a|Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

|object_filter |[object_filter](#) a|Specifies a way to filter objects within a bucket.

|svm |[svm](#) a|Specifies the name of the SVM where this bucket exists.

|uuid |string a|Specifies the unique identifier of the bucket.

```
.Example response [%collapsible%closed] ===== [source,json,subs=+macros] { "_links": { "self": { "href":
"/api/resourcelink" } }, "abort_incomplete_multipart_upload": { "_links": { "self": { "href": "/api/resourcelink" } } },
"bucket_name": "bucket1", "expiration": { "_links": { "self": { "href": "/api/resourcelink" } } }, "object_age_days":
100, "object_expiry_date": "2039-09-22 20:00:00 -0400" }, "name": "string", "non_current_version_expiration":
{ "_links": { "self": { "href": "/api/resourcelink" } } }, "object_filter": { "_links": { "self": { "href": "/api/resourcelink" }
}, "prefix": "/logs", "size_greater_than": 10240, "size_less_than": 10485760, "tags": [ "project1=projA",
"project2=projB" ] }, "svm": { "_links": { "self": { "href": "/api/resourcelink" } } }, "name": "svm1", "uuid":
"02c9e252-41be-11e9-81d5-00a0986138f7" }, "uuid": "414b29a1-3b26-11e9-bd58-0050568ea055" } =====
```

== Error

```
` Status: Default, Error `
```

[cols=3*,options=header]

|Name |Type |Description

|error |[returned_error](#) a|

```
.Example error [%collapsible%closed] ===== [source,json,subs=+macros] { "error": { "arguments": [ { "code":
"string", "message": "string" } ], "code": "4", "message": "entry doesn't exist", "target": "uuid" } } =====
```

== Definitions

[.api-def-first-level] .See Definitions [%collapsible%closed] ===== [[#href](#)] [.api-collapsible-fifth-title] href

[cols=3*,options=header]

|Name |Type |Description

|[href](#) |string a|

[[#_links](#)] [.api-collapsible-fifth-title] [_links](#)

[cols=3*,options=header]

|Name |Type |Description

|self |[href](#) a|

[[#abort_incomplete_multipart_upload](#)] [.api-collapsible-fifth-title] [abort_incomplete_multipart_upload](#)

Specifies a way to perform `abort_incomplete_multipart_upload` action on filtered objects within a bucket. It cannot be specified with tags.

[cols=3*,options=header]

|Name |Type |Description

|[_links](#) |[_links](#) a|

|[after_initiation_days](#) |integer a|Number of days of initiation after which uploads can be aborted.

[#expiration] [.api-collapsible-fifth-title] expiration

Specifies a way to perform expiration action on filtered objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|expired_object_delete_marker |boolean a|Cleanup object delete markers.

|object_age_days |integer a|Number of days since creation after which objects can be deleted. This cannot be used along with object_expiry_date.

|object_expiry_date |string a|Specific date from when objects can expire. This cannot be used with object_age_days.

[#non_current_version_expiration] [.api-collapsible-fifth-title] non_current_version_expiration

Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|new_non_current_versions |integer a|Number of latest non-current versions to be retained.

|non_current_days |integer a|Number of days after which non-current versions can be deleted.

[#object_filter] [.api-collapsible-fifth-title] object_filter

Specifies a way to filter objects within a bucket.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|prefix |string a|A prefix that is matched against object-names within a bucket.

|size_greater_than |integer a|Size of the object greater than specified for which the corresponding lifecycle rule is to be applied.

|size_less_than |integer a|Size of the object smaller than specified for which the corresponding lifecycle rule is to be applied.

|tags |array[string] a|An array of key-value paired tags of the form <tag>or <tag=value>.</tag>

[#svm] [.api-collapsible-fifth-title] svm

Specifies the name of the SVM where this bucket exists.

[cols=3*,options=header]

|Name |Type |Description

|_links |[_links](#) a|

|name |string a|The name of the SVM. This field cannot be specified in a PATCH method.

|uuid |string a|The unique identifier of the SVM. This field cannot be specified in a PATCH method.

[#error_arguments] [.api-collapsible-fifth-title] error_arguments

[cols=3*,options=header]

|Name |Type |Description

|code |string a|Argument code

|message |string a|Message argument

[#returned_error] [.api-collapsible-fifth-title] returned_error

[cols=3*,options=header]

|Name |Type |Description

|arguments |array[[error_arguments](#)] a|Message arguments

|code |string a|Error code

|message |string a|Error message

|target |string a|The target parameter that caused the error.

====

= Update the S3 bucket lifecycle rule configuration

PATCH /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules/{name}

Introduced In: 9.13

Updates the S3 bucket lifecycle rule configuration.

== Important notes

* The following fields can be modified for a bucket: * `actions` - Lifecycle Management actions associated with the rule. * `enabled` - Lifecycle Management rule is enabled or not.. * `object_age_days` - Number of days since creation after which objects can be deleted. * `object_expiry_date` - Specific date from when objects can expire. * `expired_object_delete_marker` - Cleanup object delete markers. * `new_non_current_versions` - Number of latest non-current versions to be retained. * `non_current_days` - Number of days after which non-current versions can be deleted. * `after_initiation_days` - Number of days of initiation after which uploads can be aborted.

== Related ONTAP commands

* `vserver object-store-server bucket lifecycle-management-rule modify`

== Learn more

* [DOC /protocols/s3/services/{svm.uuid}/buckets/{s3_bucket.uuid}/rules](#)

== Parameters

[cols=5*,options=header]

Name	Type	In	Required	Description
------	------	----	----------	-------------

s3_bucket.uuid	string	path	True	a The unique identifier of the bucket.
----------------	--------	------	------	--

name	string	path	True	a The name of the lifecycle management rule to be applied on the bucket.
------	--------	------	------	--

return_timeout	integer	query	False	a The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.
----------------	---------	-------	-------	--

- Default value: 1
- Max value: 120
- Min value: 0

svm.uuid	string	path	True	a UUID of the SVM to which this object belongs.
----------	--------	------	------	---

- Introduced in: 9.14

== Request Body

[cols=3*,options=header]

Name	Type	Description
------	------	-------------

_links	_links	a
------------------------	------------------------	---

abort_incomplete_multipart_upload	abort_incomplete_multipart_upload	a Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.
---	---	--

bucket_name	string a Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".
-----------------------------	---

enabled	boolean a Specifies whether or not the associated rule is enabled.
-------------------------	--

expiration	expiration	a Specifies a way to perform expiration action on filtered objects within a bucket.
----------------------------	----------------------------	---

name	string a Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.
----------------------	--

non_current_version_expiration	non_current_version_expiration	a Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.
--	--	---

object_filter	object_filter	a Specifies a way to filter objects within a bucket.
-------------------------------	-------------------------------	--

svm	svm	a Specifies the name of the SVM where this bucket exists.
---------------------	---------------------	---

uuid	string a Specifies the unique identifier of the bucket.
----------------------	---

```
.Example request [%collapsible%closed] ===== [source,json,subs=+macros] { "_links": { "self": { "href":  
"/api/resourcelink" } }, "abort_incomplete_multipart_upload": { "_links": { "self": { "href": "/api/resourcelink" } } },  
"bucket_name": "bucket1", "expiration": { "_links": { "self": { "href": "/api/resourcelink" } } }, "object_age_days":  
100, "object_expiry_date": "2039-09-22 20:00:00 -0400", "name": "string", "non_current_version_expiration":  
{ "_links": { "self": { "href": "/api/resourcelink" } } }, "object_filter": { "_links": { "self": { "href": "/api/resourcelink" }  
}, "prefix": "/logs", "size_greater_than": 10240, "size_less_than": 10485760, "tags": [ "project1=projA",  
"project2=projB" ] }, "svm": { "_links": { "self": { "href": "/api/resourcelink" } }, "name": "svm1", "uuid":  
"02c9e252-41be-11e9-81d5-00a0986138f7" }, "uuid": "414b29a1-3b26-11e9-bd58-0050568ea055" } =====
```

== Response

```
` Status: 200, Ok `
```

[cols=3*,options=header]

Name	Type	Description
------	------	-------------

_links	collection_links	a
------------------------	----------------------------------	---

num_records	integer a Number of records
-----------------------------	-----------------------------

records	array[s3_bucket_lifecycle_rule]	a
-------------------------	---	---

```
.Example response [%collapsible%closed] ===== [source,json,subs=+macros] { "_links": { "next": { "href":
"/api/resourcelink" }, "self": { "href": "/api/resourcelink" } }, "num_records": 1, "records": [ { "_links": { "self": {
"href": "/api/resourcelink" } }, "abort_incomplete_multipart_upload": { "_links": { "self": { "href":
"/api/resourcelink" } } }, "bucket_name": "bucket1", "expiration": { "_links": { "self": { "href": "/api/resourcelink" }
}, "object_age_days": 100, "object_expiry_date": "2039-09-22 20:00:00 -0400" }, "name": "string",
"non_current_version_expiration": { "_links": { "self": { "href": "/api/resourcelink" } } }, "object_filter": { "_links": {
"self": { "href": "/api/resourcelink" } }, "prefix": "/logs", "size_greater_than": 10240, "size_less_than": 10485760,
"tags": [ "project1=projA", "project2=projB" ] }, "svm": { "_links": { "self": { "href": "/api/resourcelink" } }, "name":
"svm1", "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7" }, "uuid": "414b29a1-3b26-11e9-bd58-
0050568ea055" } ] } =====
```

== Response

```
` Status: 202, Accepted `
```

== Error

```
` Status: Default `
```

ONTAP Error Response Codes [cols=2*,options=header]

Error code	Message
92405861	"The specified SVM UUID or bucket UUID does not exist.";
92406114	"The Expiration action requires specifying either object_expiry_date, object_age_days or expired_object_delete_marker.";
92406115	"The NonCurrentVersionExpiration action requires either new_non_current_versions or non_current_days.";
92406116	"The AbortIncompleteMultipartUpload action requires after_initiation_days.";
92406117	"The "Expiration" action cannot have both an expiry date and an age.";
92406118	"Using Lifecycle Management rules requires an effective cluster version of 9.13.1 .";
92406122	"expired_object_delete_marker" cannot be specified with "object_age_days" or "object_expiry_date.";
92406131	"Lifecycle Management rule "testcheck2" for bucket "testbuck1" in SVM "vs0" cannot be created because "non_current_days" must be specified along with "new_non_current_versions.";
92406132	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "object_age_days" to be greater than zero.";
92406132	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "new_non_current_versions" to be greater than zero.";
92406132	"Lifecycle Management rule "<rule>" for bucket "<bucket>" in SVM "<SVM>" requires "after_initiation_days" to be greater than zero.";
92406133	"Lifecycle Management rule for bucket in Vserver is invalid. The object_expiry_date must be later than January 1, 1970.";
92406135	"MetroCluster is configured on cluster. Object Expiration is not supported in a MetroCluster configuration.";
92406136	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" is invalid. The "object_expiry_date" must be at midnight GMT.";
92406139	"Lifecycle Management rule for bucket in Vserver with action is a stale entry. Contact technical support for assistance.";
92406142	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" with action "Expiration" cannot have "expired_object_delete_marker" disabled. To disable "expired_object_delete_marker", run the "vserver object-store-server bucket lifecycle-management-rule delete" command.";
92406146	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" already exists. Delete the rule and then try the operation again.";
92406148	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" cannot have "new_non_current_versions" more than 100.";
92406149	"Lifecycle Management rule "rule1" for bucket "buck1" in SVM "vs0" requires an action to be specified. Retry the operation after adding an action.";

Name	Type	Description
error	returned_error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

abort_incomplete_multipart_upload

Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.

Name	Type	Description
_links	_links	
after_initiation_days	integer	Number of days of initiation after which uploads can be aborted.

expiration

Specifies a way to perform expiration action on filtered objects within a bucket.

Name	Type	Description
_links	_links	
expired_object_delete_marker	boolean	Cleanup object delete markers.
object_age_days	integer	Number of days since creation after which objects can be deleted. This cannot be used along with object_expiry_date.
object_expiry_date	string	Specific date from when objects can expire. This cannot be used with object_age_days.

non_current_version_expiration

Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.

Name	Type	Description
_links	_links	

Name	Type	Description
new_non_current_versions	integer	Number of latest non-current versions to be retained.
non_current_days	integer	Number of days after which non-current versions can be deleted.

object_filter

Specifies a way to filter objects within a bucket.

Name	Type	Description
_links	_links	
prefix	string	A prefix that is matched against object-names within a bucket.
size_greater_than	integer	Size of the object greater than specified for which the corresponding lifecycle rule is to be applied.
size_less_than	integer	Size of the object smaller than specified for which the corresponding lifecycle rule is to be applied.
tags	array[string]	An array of key-value paired tags of the form <tag>or <tag=value>.</tag>

svm

Specifies the name of the SVM where this bucket exists.

Name	Type	Description
_links	_links	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

s3_bucket_lifecycle_rule

Information about the lifecycle management rule of a bucket.

Name	Type	Description
_links	_links	
abort_incomplete_multipart_upload	abort_incomplete_multipart_upload	Specifies a way to perform abort_incomplete_multipart_upload action on filtered objects within a bucket. It cannot be specified with tags.
bucket_name	string	Specifies the name of the bucket. Bucket name is a string that can only contain the following combination of ASCII-range alphanumeric characters 0-9, a-z, ".", and "-".
enabled	boolean	Specifies whether or not the associated rule is enabled.
expiration	expiration	Specifies a way to perform expiration action on filtered objects within a bucket.
name	string	Bucket lifecycle management rule identifier. The length of the name can range from 0 to 256 characters.
non_current_version_expiration	non_current_version_expiration	Specifies a way to perform non_current_version_expiration action on filtered objects within a bucket.
object_filter	object_filter	Specifies a way to filter objects within a bucket.
svm	svm	Specifies the name of the SVM where this bucket exists.
uuid	string	Specifies the unique identifier of the bucket.

collection_links

Name	Type	Description
next	href	

Name	Type	Description
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Copyright information

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.