

FlashBlade Object Store S3 REST API

Version 2.3

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Chapter 1

Introduction

This guide describes how to access objects in the Pure Storage FlashBlade object store using the FlashBlade Object Store S3 REST API. Credentialed users can manipulate buckets and objects from a remote host using these REST API requests.

This guide describes the AWS S3 API requests, responses, and parameters supported by Pure Storage. Links contained in this document to AWS documentation are for informational purposes only. Additional parameters shown in the AWS documentation that are not listed here are not supported by Pure Storage.

This guide is divided into two sections: Overview and Resources. The Overview section describes high-level concepts while the Resources section contains a comprehensive list of resources and endpoints.

Chapter 2

REST API Overview

The REST API provides simple interfaces using HTTP requests to interact with buckets and objects on a FlashBlade object store.

What is REST?

REpresentational State Transfer (REST) uses HTTP/HTTPS requests to interact with resources on FlashBlade. REST is an architectural style that describes the following constraints:

- 1 Uniform interface: Individual resources are identified in requests using URIs resource identifiers. For example:

```
bucket
bucket/object
```

Table 2.1 Clients manipulate resources through request methods such as:

Method	Description	Example
DELETE	Delete a resource	DELETE bucket /resource
GET	List resources	GET bucket /object
HEAD	Lists resources in the HTTP header	HEAD bucket /object
POST	Create a resource	POST bucket /object
PUT	Modify a resource	PUT bucket /object

- 2 Requests can include additional parameters, either in the URL or as JSON post data. For example, the location parameter is included in the following request to list all bucket locations:

```
GET /?location HTTP/1.1
Host: bucket.s3.amazonaws.com
Date: Tue, 05 Dec 2017 11:35:04 +0000
Authorization: signatureValue
```

- Responses return a response code and data (represented in JSON). For example, the following GET bucket location request returns a response code of 200 (OK) and the location of the bucket in the XML payload of the response:

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: 151

<?xml version="1.0" encoding="UTF-8"
standalone="yes"?><LocationConstraint
xmlns="http://s3.amazonaws.com/doc/2006-03-01/">on-
prem</LocationConstraint>
```

- Stateless: The necessary state to handle a request is contained in the request itself.
- Cacheable: The responses must implicitly or explicitly define themselves as cacheable.
- Client-server: The uniform interface creates separation between client and server. Clients can be more portable, and servers do not need to know anything about user interface or state.
- Layered system: A client cannot tell if it is connected directly to the server; intermediary servers can be used to improve scalability or enforce Security policies.

FlashBlade Object Store S3 REST API

This API provides simple interfaces for data path actions on buckets and objects in object stores on the FlashBlade.

Authentication

AWS Signature v2, Signature v4, and chunked transfer payloads are supported. Refer to AWS [Signature v2](#) and [Signature v4](#) documentation for details.

Restrictions

Anonymous requests to create buckets are not supported. You must have a valid access key ID to authenticate requests in order to create a bucket.

Supported Protocols

The Flash Blade object store REST API supports both HTTP (preferred) and HTTPS protocols.

Pre-signed URLs

Pre-signed URLs allow you to grant limited access to objects identified in the URLs.

By default, all objects and buckets are private. Pre-signed URLs are useful to allow others the ability to upload a specific object to your bucket without requiring them to have AWS security credentials or permissions.

Object owners can optionally share objects with others by creating a pre-signed URL, using their own security credentials, to allow time-limited permission to download the objects.

Pure Storage currently supports pre-signed URLs with the PUT object and GET object operations.

For complete information about using pre-signed URLs refer to the [Amazon Simple Storage Service Developer Guide](#).

SDK Best Practice

If using an SDK, it is recommended to use operations that directly copy objects as-is, such as boto3's `client.copy_object`, rather than copy helpers such as awscli's `s3 cp` command and boto3's `client.copy` function. The former options will take advantage of FlashBlade's S3 Fast Copy feature, which was introduced in Purity//FB 3.0.

Response Codes

Each REST API request returns a response code. Successful requests return the response code **200 OK**. Scripts must be prepared to handle responses with codes other than **200 OK**.

Table 2.2 Response Codes

Name	Code	Description
Access Denied	403	Access denied.
AccountProblem	403	There is a problem with your AWS account that prevents the operation from completing successfully.
AmbiguousGrantByEmailAddress	400	The provided email address is associated with more than one account.

Table 2.2 Response Codes (continued)

Name	Code	Description
BadDigest	400	The Content-MD5 you specified did not match what we received.
Bucket AlreadyExists	409	The requested bucket name is not available. The bucket namespace is shared by all users of the system. Please select a different name and try again.
Bucket NotEmpty	409	The bucket you tried to delete is not empty.
CredentialsNotSupported	400	This request does not support credentials.
CrossLocationLoggingProhibited	403	Cross-location logging is not allowed. Buckets in one geographic location cannot log information to a bucket in another location.
EntityTooSmall	400	Your proposed upload is smaller than the minimum allowed object size.
EntityTooLarge	400	Your proposed upload exceeds the maximum allowed object size.
EntityToken	400	The provided token has expired.
InternalError	500	We encountered an internal error. Please try again.
InvalidAccessKeyId	403	The access key Id you provided does not exist in our records.
InvalidAddressingHeader	N/A	You must specify the Anonymous role.
InvalidArgument	400	Invalid argument.
InvalidBucketName	400	The specified bucket is not valid.
InvalidBucketState	409	The request is not valid with the current state of the bucket.
InvalidDigest	400	The Content-MD5 you specified is invalid.
InvalidEncryptionAlgorithmError	400	The encryption request is invalid. The valid value is AES256.
InvalidLocaionConstraint	400	The specified location restraint is invalid.
InvalidObject State	403	The operation is invalid for the current state of the object.

Table 2.2 Response Codes (continued)

Name	Code	Description
InvalidPart	400	One or more of the specified parts could not be found. The part might not have been uploaded, or the specified entity tag might not have matched the part's entity tag.
InvalidPartOrder	400	The list of parts was not in ascending order. Parts list must be specified in order by part number.
InvalidPayer	403	All access to this object has been disabled.
InvalidPolicyDocument	400	The content of the form does not meet the conditions specified in the policy document.
InvalidRange	416	The requested range cannot be satisfied.
InvalidRequest	400	The request is invalid.
InvalidSecurity	403	The provided security credentials are not valid.
InvalidSOAPRequest	400	The SOAP request body is invalid.
InvalidStorageClass	400	The specified storage class is invalid.
InvalidTargetBucketForLogging	400	The target bucket for logging does not exist, is not owned by you, or does not have the appropriate grants for the log-delivery group.
InvalidToken	400	The provided token is malformed or otherwise invalid.
InvalidURI	400	Could not parse the specified URI.
KeyTooLong	400	Your key is too long.
MalformedACLError	400	The provided XML was not well-formed or did not validate against our published schema.
MalformedPOSTRequest	400	The body of your POST request is not well-formed multipart/form-data.
MalformedXML	400	The XML you provided was not well-formed or did not validate against our published schema.
MaxMessageLengthExceeded	400	Your request was too big.
MaxPostPreDataLengthExceededError	400	Your POST request fields preceding the upload file were too large.

Table 2.2 Response Codes (continued)

Name	Code	Description
MetadataTooLarge	400	Your metadata headers exceed the maximum allowed metadata size.
MethodNotAllowed	405	The specified method is not allowed against this resource.
MissingAttachment	N/A	A SOAP attachment was expected, but none were returned.
MissingContentLength	411	You must provide the Content-Length HTTP header.
MissingRequestBodyError	400	An empty XML document was sent as a request.
MissingSecurityElement	400	The SOAP 1.1 request is missing a security element.
MissingSecurityHeader	400	Your request is missing a required header.
NoLoggingStatusForKey	400	There is no such thing as a logging status subresource for a key.
NoSuchBucket	404	The specified bucket does not exist.
NoSuchKey	404	The specified key does not exist.
NoSuchLifecycleConfiguration	404	The lifecycle configuration does not exist.
NoSuchUpload	404	The specified multipart upload does not exist. The upload ID might be invalid, or the multipart upload might have been aborted or completed.
NoSuchVersion	404	The version ID specified in the request does not match an existing version.
NotImplemented	501	A header you provided implies functionality that is not implemented.
NotSignedUp	403	Your account is not signed up for the Amazon S3 service. You must sign up before you can use Amazon S3. Sign up at https://aws.amazon.com/s3 .
NoSuchBucketPolicy	404	The specified bucket does not have a bucket policy.
OperationAborted	409	A conflicting conditional operation is currently in progress against this resource. Try again.
PermanentRedirect	301	The bucket you are attempting to access must be addressed using the specified endpoint. Send all future requests to this endpoint.
PreconditionFailed	412	At least one of the preconditions you specified did not hold.

Table 2.2 Response Codes (continued)

Name	Code	Description
Redirect	307	Temporary redirect.
RestoreAlreadyInProgress	409	Object restore is already in progress.
RequestIsNotMultiPartContent	400	Bucket POST must be of the enclosure-type multipart/form-data.
RequestTimeout	400	Your socket connection to the server was not read from or written to within the timeout period.
RequestTimeTooSkewed	403	The difference between the request time and the server's time is too large.
RequestTorrentOfBucketError	400	Requesting the torrent file of a bucket is not permitted.
ServiceUnavailable	503	Reduce your request rate.
SignatureDoesNotMatch	403	The request signature we calculated does not match the signature you provided. Check your secret access key and signing method.
SlowDown	503	Reduce your request rate
TemporaryRedirect	307	You are being redirected to the bucket while DNS updates.
TokenRefreshRequired	400	The provided token must be refreshed.
TooManyBuckets	400	You have attempted to create more buckets than allowed.
UnexpectedContent	400	This request does not support content.
UnresolvableGrantByEmailAddress	400	The email address you provided does not match any account on record.
UserKeyMustBeSpecified	400	The bucket POST must contain the specified field name. If it is specified, check the order of the fields.

Chapter 3

Amazon S3 REST API Compatibility

Supported Bucket and Object Operations

Bucket Operations	Object Operations
DeleteBucket	DeleteObject
ListBucket (Version 1)	GetObject
ListObjectV2 (Version 2)	HeadObject
GetBucketLocation	DeleteMultipleObjects
ListBucket Object Versions	PutObject
PutBucket	PutObject Copy
ListMultipartUploads	AbortMultipartUpload
HeadBucket	InitiateMultipartUpload
ListBucket Versioning	ListParts
PutBucketVersioning	UploadPart
GetBucketLifecycle	UploadPartCopy
PutBucketLifecycle	CompleteMultipartUpload
DeleteBucketLifecycle	PostObject

Bucket Operations

Create, view, and manage buckets in FlashBlade object stores.

Common Request Headers

Most bucket and object operations use the following common request and response headers. See [AWS common request headers](#) for comprehensive information about the following request headers.

Name	Required	Description
Authorization	Yes	Authorization string.
Content-Encoding	No	The applied content encodings to the object.
Content-Length	No	The size of the object in bytes.
Content-Type	No	The standard MIME type describing the format of the object data.
Content-MD5	No	The Base64-encoded 128-bit MD5 digest of the message body without the headers.
Date	No	The current date and time per the requester.
Expect	No	When the request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers.
Host	No	For path-style, the value will be data_vip of the FlashBlade. For virtual-style addressing, the value will be bucketname.s3.amazonaws.com.
x-amz-content-sha256	No	The hash of the request payload when using signature version 4 for request authentication.
x-amz-date	No	The current date and time per the requester.

Common Response Headers

All bucket and object operations use the following common response headers. See [AWS common response headers](#) for comprehensive information about the following response headers.

Name	Description
Content-Length	The size of the object in bytes.
Content-Type	The MIME type of the content.
Date	The S3 response date and time.

Name	Description
ETag	The entity tag (hash) of the object.
x-amz-version-id	The object version.

CreateBucket

Request: PUT {bucket}

Creates an empty bucket from an object store. Object Lock and versioning can optionally be enabled at creation.

Parameters

Refer to [AWS CreateBucket API](#) for comprehensive information about the parameters below.

Request Parameters

Parameter	Type	Description
Bucket	String	The name of the bucket to create. Required: Yes
Body	String	Region where the bucket needs to be created. Required: Optional
x-amz-bucket-object-lock-enabled	Boolean	HTTP header to enable S3 Object Lock on a bucket. After enabling Object Lock on a bucket, contact your storage administrator if you wish to enable SafeMode retention lock on the bucket. Valid Values: True False Required: No

Parameter	Type	Description
x-pure-bucket-versioning	String	A custom Pure header to allow unversioned buckets to be used with Object Lock. Specifying this header with x-amz-bucket-object-lock-enabled creates an unversioned bucket with Object Lock and Freeze Locked Objects enabled. Valid Values: None Enabled If this header is set, x-amz-bucket-object-lock-enabled is required to be set. Set to None in order to enable Freeze Locked Objects. Required: No

Response Elements

Parameter	Description
x-amz-bucket-object-lock-enabled	Indicates whether Object Lock is enabled on a bucket.
x-pure-bucket-versioning	Indicates whether versioning is enabled on a bucket.

DeleteBucket

Request: DELETE {bucket}

Removes an empty bucket from an object store.

Only empty buckets can be deleted. Use the GET Bucket request to check the contents of a bucket, and if necessary, delete its objects one-by-one prior to deleting the bucket.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Elements

This operation does not use request elements.

Response Elements

This operation does not return response elements.

ListBuckets (List Objects) Version 1

 **Note:** It is recommended to use ListObjectV2.

Request: GET {bucket}

Lists all objects in the specified bucket (maximum 1,000 objects in a single call), or, if no bucket is specified, lists all buckets in the object store. It is recommended to use Version 2.

Parameters

Refer to [AWS GET Bucket version 1 API](#) for comprehensive information about each parameter below.

Parameter	Type	Description
delimiter	String	The character used to group keys. Required: No
encoding-type	String	Encoding type used by Amazon S3 to encode object keys in the response.
Marker	String	The key to start with when listing objects in a bucket. Required: No
max-keys	String	The maximum number of keys returned in the response body. Required: No
prefix	String	The specified prefix to which responses are limited. Required: No

Request Parameters

Refer to [AWS GET Bucket version 1 API](#) for comprehensive information about each request parameter below.

Request Element	Type	Description
Contents	XML metadata	The metadata about each object returned.
CommonPrefixes	String	All keys rolled up in a common prefix
Delimiter	String	Rolls keys containing the same string between the prefix and delimiter into a single result element.
Encoding-Type	String	Encoding type used by Amazon S3 to encode object key names in the XML response.
ETag	String	The entity tag of the object.
IsTruncated	Boolean	Specifies whether (true or false) all results were returned.
Key	String	The object's key.
LastModified	Date	The date and time the object was last modified.
Marker	String	Where in the bucket that listing begins.
MaxKeys	String	The maximum number of keys returned in the response body.
Name	String	The bucket name.
NextMarker	String	The key name used as a marker in subsequent requests for the next set of objects.
Prefix	String	Keys that begin with the indicated prefix.
Size	String	The object's size in bytes.
StorageClass	String	The storage class.

Response Elements

Refer to [AWS GET Bucket version 1 API](#) for comprehensive information about each response element below.

Response Element	Type	Description
ChecksumAlgorithm	String	The algorithm that was used to create a checksum of the object. Valid Value: CRC32 CRC32C SHA1 SHA256

ListObjectsV2

Request: GET {bucket}

Lists all objects in the specified bucket (maximum 1,000 objects in a single call), or, if no bucket is specified, lists all buckets in the object store.

Parameters

Refer to [AWS GET Bucket version 2 API](#) for comprehensive information about each parameter below.

Parameter	Type	Description
continuation-token	String	Included in the response if sent with the request.
delimiter	String	The character used to group keys. Required: No
encoding-type	String	Encoding type used by Amazon S3 to encode object keys in the response.
max-keys	String	The maximum number of keys returned in the response body. Required: No
prefix	String	The specified prefix to which responses are limited. Required: No
start-after	String	Returns key names after a specific object key in your key space. Required: No

Response Elements

Refer to [AWS GET Bucket version 2 API](#) for comprehensive information about each response element below.

Response Element	Type	Description
ChecksumAlgorithm	String	The algorithm that was used to create a checksum of the object. Valid Value: CRC32 CRC32C SHA1 SHA256
Contents	XML metadata	The metadata about each object returned.
CommonPrefixes	String	All keys rolled up in a common prefix
ContinuationToken	String	Included in the response if sent with the request.
Delimiter	String	Rolls keys containing the same string between the prefix and delimiter into a single result element.
Encoding-Type	String	Encoding type used by Amazon S3 to encode object key names in the XML response.
ETag	String	The entity tag of the object.
IsTruncated	Boolean	Specifies whether (true or false) all results were returned.
Key	String	The object's key.
KeyCount	String	The number of keys included in the response.
LastModified	Date	The date and time the object was last modified.
MaxKeys	String	The maximum number of keys returned in the response body.
Name	String	The bucket name.
NextContinuationToken	String	Returned with a continuation token if the response is truncated.
Prefix	String	Keys that begin with the indicated prefix.
Size	String	The object's size in bytes.
StartAfter	String	Included in the response if sent with the request.
StorageClass	String	The storage class.

GetBucketLocation

Request: GET {bucket}?location

Lists the bucket's region.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Elements

This operation does not use request elements.

Response Elements

Refer to [AWS GET Bucket location API](#) for comprehensive information about the response element below.

Response Element	Type	Description
LocationConstraint	String	The region where the bucket resides. This implementation returns on-prem.

GetBucketCors

Request: Get {bucket} CORS

Displays the Cross-Origin Resource Sharing (CORS) configuration information set of the bucket.

Parameters

Refer to [AWS GetBucketCORS API](#) for comprehensive information about the parameters below.

Request Parameters

Request Parameters	Type	Description
Bucket	String	The name of the bucket to which you want to display the CORS configuration. Required: Yes
x-amz-expected-bucket-owner	String	The account ID of the expected bucket owner. If the bucket is owned by a different account, the request fails with the HTTP status code: 403 Forbidden (access denied).

Response Elements

The following data is returned in XML format by the service.

Response Element	Description
CORSConfiguration	The root level tag for the CORSConfiguration parameters.
CORSRule	A set of origins and methods (cross-origin access that you want to allow). Up to 100 rules can be added to the configuration.

GetBucketPolicy

Request: Get {bucket} Policy

Displays the policy of a specified bucket.

Parameters

Refer to [AWS GetBucketPolicy API](#) for comprehensive information about the parameters below.

Request Parameters

Request Parameters	Type	Description
Bucket	String	The name of the bucket to which you want to display the policy configuration. Required: Yes

Request Parameters	Type	Description
x-amz-expected-bucket-owner	String	The account ID of the expected bucket owner. If the bucket is owned by a different account, the request fails with the HTTP status code: 403 Forbidden (access denied).

Response Elements

If successful, returns an HTTP 200 response.

GetBucketPolicyStatus

Request: Get {bucket} Policy Status

Displays the policy status of a specified bucket.

Parameters

Refer to [AWS GetBucketPolicyStatus API](#) for comprehensive information about the parameters below.

Request Parameters

Request Parameters	Type	Description
Bucket	String	The name of the bucket to which you want to display the policy status. Required: Yes
x-amz-expected-bucket-owner	String	The account ID of the expected bucket owner. If the bucket is owned by a different account, the request fails with the HTTP status code: 403 Forbidden (access denied).

Response Elements

The following data is returned in XML format by the service.

Request Parameters	Description
PolicyStatus	The root level tag for the policy status. Required: Yes
IsPublic	The policy status for the bucket. TRUE indicates the bucket is public. FALSE indicates the bucket is not public.

GetPublicAccessBlock

Request: Get PublicAccessBlock

Displays the PublicAccessBlock configuration.

Parameters

Refer to [AWS GetPublicAccessBlock API](#) for comprehensive information about the parameters below.

Request Parameters

Request Parameters	Type	Description
x-amz-account-id	String	The account ID for the AWS account of the PublicAccessBlock. Required: Yes

Response Elements

The following data is returned in XML format by the service.

Request Parameters	Description
PublicAccessBlockConfiguration	The root level tag for the PublicAccessBlockConfiguration parameters. Required: Yes

Request Parameters	Description
BlockPublicAcls	Specifies whether Amazon S3 blocks public access control lists (ACLs) for buckets in this account. TRUE setting will cause these effects: - PutBucketAcl and PutObjectAcl calls will fail if the specified ACL is public. - PUT Object calls will fail if the request includes a public ACL. - PUT Bucket calls will fail if the request includes a public ACL.
BlockPublicPolicy	Specifies whether Amazon S3 should block public bucket policies for buckets in this account. Setting this to TRUE causes Amazon S3 to reject calls to PUT Bucket Policy if the specified bucket policy allows public access.
IgnorePublicAcls	Specifies whether Amazon S3 should ignore public ACLs for buckets in this account. Setting this to TRUE causes Amazon S3 to ignore all public ACLs on buckets in this account and any objects that they contain.
RestrictPublicBuckets	Specifies whether Amazon S3 should restrict public bucket policies for buckets in this account. Setting this to TRUE restricts access to buckets with public policies to only AWS service principals and authorized users within this account.

GetObjectLockConfiguration

Request: GET {bucket}?object-lock

Displays the Object Lock configuration and SafeMode retention lock status of a bucket.

Refer to [AWS GET ObjectLockConfiguration](#) for comprehensive information about the parameters below.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Parameters

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes

Response Elements

Parameter	Description
x-amz-bucket-object-lock-enabled	If not Object Lock is Enabled, this header will have a value of Enabled. If Object Lock is not Enabled, the response body will contain <code>ObjectLockConfigurationNotFoundError</code> .
x-pure-bucket-versioning	Indicates whether versioning is enabled.
x-pure-freeze-locked-objects	Indicates whether Freeze Locked Objects is enabled.
x-pure-bucket-retention-lock	Indicates the SafeMode retention lock status. If it is set to UNLOCKED, then the FlashBlade administrator is able to destroy and eradicate the bucket even if it contains objects locked in compliance mode. If this is set to RATCHETED, then the FlashBlade administrator is restricted from bypassing locks in Compliance mode or reducing bucket level retention settings when Compliance mode is used, and S3 users are blocked from calling <code>PutObjectLockConfiguration</code> .
x-pure-manual-eradication-enabled	Indicates whether manual eradication is enabled. If enabled, FlashBlade administrators are currently allowed to destroy and eradicate the bucket.

PutObjectLockConfiguration

Request: PUT {bucket}?object-lock

Places an Object Lock configuration on a bucket. The rule specified in the Object Lock configuration will be applied by default to every new object placed in the specified bucket.

Refer to [AWS PUTObjectLockConfiguration API](#) for comprehensive information about the parameters below.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Parameters

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes
Body	XML	Specifies object lock rules to be applied to newer objects added to the bucket. Accepts the data in XML format. Required: Yes

Response Elements

This operation does not return response elements.

ListMultipartUploads

Request: GET {bucket}?uploads

Lists all in-progress multipart uploads.

Parameters

Refer to [AWS List multipart uploads API](#) for comprehensive information about each parameter below.

Parameter	Type	Description
delimiter	String	The character used to group keys. Required: No
encoding-type	String	Encoding type used by Amazon S3 to encode object keys in the response.

Parameter	Type	Description
key-marker	String	The key from which the multipart upload should begin. Required: No
max-uploads	String	The maximum number of multipart uploads returned in the response body. Required: No
prefix	String	The specified prefix to which responses are limited. Required: No
upload-id-marker	String	Used with the key-marker parameter to specify which listing begins the multipart upload. Required: No

Response Elements

Refer to [AWS List multipart Uploads API](#) for comprehensive information about each response element below.

Response Element	Type	Description
Bucket	XML metadata	The bucket name to which the multipart upload was initiated.
CommonPrefixes	String	If a delimiter was specified, the distinct key prefix containing the delimiter.
CommonPrefixes.Prefix	String	The substring of the key if the prefix parameter is not used.
Delimiter	String	The specified delimiter in the request.
Encoding-Type	String	Encoding type used by Amazon S3 to encode object key names in the XML response.
IsTruncated	Boolean	Specifies whether (true or false) the returned list of multipart uploads is truncated.
Key	Integer	The key of the object.
KeyMarker	String	The key at or after which the listing began.

Response Element	Type	Description
ListMultipartUploadsResult	Container	The response container.
ListMultipartUploadsResult.Prefix	String	The specified prefix when a prefix is provided in the request.
NextKeyMarker	String	The value to be used for the key marker request when a list is truncated.
NextUploadIdMarker	String	The value that should be used for the upload-id-marker when a list is truncated.
StorageClass	String	The storage class.
Upload	Container	The container for elements related to a particular multipart upload.
UploadId	Integer	The multipart upload ID.
UploadIdMarker	String	The upload ID after which listing began.

ListBucket Object Versions

Request: GET {bucket}?versions

Lists all metadata about the all versions of objects in the bucket.

Parameters

Refer to [AWS GET Bucket object versions API](#) for comprehensive information about each parameter below.

Parameter	Type	Description
delimiter	String	The character used to group keys. Required: No
encoding-type	String	Encoding type used by Amazon S3 to encode object keys in the response.
key-marker	String	The key in the bucket from which you wish to begin listing. Required: No

Parameter	Type	Description
max-keys	String	The maximum number of keys returned in the response body. Required: No
prefix	String	The specified prefix to which responses are mited. Required: No
version-id-marker	String	The object version from which you wish to begin listing. Required: No

Response Elements

Refer to [AWS GET bucket object versions API](#) for comprehensive information about each response element below.

Response Element	Type	Description
DeleteMarker	Container	The container for an object that is a delete marker.
Encoding-Type	String	Encoding type used by Amazon S3 to encode object key names in the XML response.
ETag	String	The entity tag of the object.
IsLatest	Boolean	Specifies whether (true or false) the object is the current version of the object.
IsTruncated	Boolean	Specifies whether (true or false) Amazon S3 returned all results satisfying the search criteria.
Key	String	The key of the object.
KeyMarker	String	The last key returned in a truncated response.
LastModified	Date	The date and time the object was last modified.
ListVersionsResult	Container	The container for the result.
MaxKeys	String	The maximum number of objects to return.
Name	String	The bucket owner's name.

Response Element	Type	Description
NextKeyMarker	Sstring	The first key not returned that satisfies the search criteria.
NextVersionIdMarker	String	The first object version not returned that satisfies the search criteria.
Prefix	String	Selects objects starting with the value as supplied by the prefix parameter.
Size	String	The object size in bytes.
StorageClass	String	Always STANDARD.
Version	Container	The version information container.
VersionId	String	The version ID of an object.
VersionIdMarker	String	The last version of the key returned in a truncated response.

HeadBucket

Request: HEAD {bucket}

Determines if the bucket exists and if you have access permission.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Elements

This operation does not use request elements.

Response Elements

Refer to https://docs.aws.amazon.com/AmazonS3/latest/API/API_HeadBucket.html for comprehensive information about the response elements.

Response Element	Description
x-pure-safemode-retention-period	The duration the object is protected, indicated in days or years.
x-pure-safemode-retention-lock	Indicates whether the object is protected. Valid Values: <code>Unlocked</code> <code>Ratcheted</code>

PutBucket

Request: PUT {bucket}

Creates a new, empty bucket that is owned by the user issuing the request.

Parameters

This operation does not use request parameters.

Request Headers

Request Header	Type	Description
x-amz-acl	String	Sets the ACL of the bucket being created using the specified canned ACL. This header cannot be blank. Valid Value: <code>private</code> .

Request Elements

This operation does not use request elements.

Response Elements

This operation does not return response elements.

PutBucketLifecycleConfiguration

Request: PUT {bucket}?lifecycle

Creates a new lifecycle configuration for the bucket, or replaces an existing bucket lifecycle configuration.

Refer to [AWS PUT BucketLifecycleConfiguration API](#) for comprehensive information about the parameters below.

Parameters

This operation does not use request parameters.

Request Headers

The following request header is supported.

Request Header	Required	Description
Content-MD5	Yes	The Base64-encoded 128-bit MD5 digest of the message body or message payload without the headers.
Host	No	For path-style, the value will be data_vip of the FlashBlade. For virtual-style addressing, the value will be bucketname.s3.amazonaws.com.

Request Parameters

Refer to [AWS PUT Bucket lifecycle API](#) for comprehensive information about the request parameters below.

Request Element	Type	Description
LifecycleConfiguration	Container	Container for lifecycle rules. 1000 rules can be added. Required: Yes
NoncurrentDays	Positive integer	Specifies when noncurrent object versions expire. Required: Yes

Request Element	Type	Description
NoncurrentVersionExpiration	Container	Specifies when noncurrent object versions expire. Upon expiration, S3 permanently deletes the noncurrent object versions. Required: Yes, if no action is present in the Rule.
Prefix	String	The object key prefix that identifies one or more objects to which the rule applies. A maximum of one prefix is allowed in a lifecycle rule filter. The maximum length allowed is 1024. Required: No
Rule	Container	The lifecycle rule container. It may contain up to 1000 rules. Required: Yes
Status	String	Can be enabled or disabled. If enabled, the rule is executed as scheduled. If disabled, the rule is ignored. Required: Yes
x-amz-sdk-checksum-algorithm	String	Indicates the algorithm used to create the checksum for the object when you use the SDK. Valid Values: CRC32 CRC32C SHA1 SHA256 Required: No

Response Headers

This operation uses only response headers that are common to most responses.

Response Elements

This operation does not return response elements.

DeleteBucketLifecycle

Request: DELETE {bucket}?lifecycle

Deletes the lifecycle configuration from a bucket.

Parameters

This operation does not use request parameters.

Request Headers

This operation uses only request headers that are common to most requests.

Response Headers

This operation uses only response headers that are common to most responses.

Response Elements

This operation does not return response elements.

GetBucketLifecycleConfiguration

Request: PUT {bucket}?lifecycle

Returns the lifecycle configuration information set on a bucket.

Parameters

This operation does not use request parameters.

Request Headers

This operation uses only request headers that are common to most requests.

Response Headers

This operation uses only response headers that are common to most responses.

Response Elements

Refer to [AWS PUT Bucket lifecycle API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
LifecycleConfiguration	Container	Container for lifecycle rules. 1000 rules can be added.
NoncurrentDays	Positive integer	Specifies when noncurrent object versions expire.
NoncurrentVersionExpiration	Container	Specifies when noncurrent object versions expire. Upon expiration, S3 permanently deletes the noncurrent object versions.
Prefix	String	The object key prefix that identifies one or more objects to which the rule applies. A maximum of one prefix is allowed in a lifecycle rule filter. The maximum length allowed is 1024.
Rule	Container	The lifecycle rule container. It may contain up to 1000 rules.
Status	String	Can be enabled or disabled. If enabled, the rule is executed as scheduled. If disabled, the rule is ignored.

PutBucketVersioning

Request: PUT {bucket}?versioning

This operation sets a versioning state for a bucket. The version state can be set as `Enabled` or `Suspended`.

Parameters

This operation does not use request parameters.

Request Headers

This operation does not use any request-specific headers.

Request Elements

Refer to [AWS PUT Bucket versioning API](#) for comprehensive information about the request elements below.

Request Element	Type	Description
Status	Enum	Sets the buckets versioning state. Valid Values: <code>Suspended</code> <code>Enabled</code>
VersioningConfiguration	Container	Container for setting the versioning state.
x-amz-sdk-checksum-algorithm	String	Indicates the algorithm used to create the checksum for the object when you use the SDK. Valid Values: <code>CRC32</code> <code>CRC32C</code> <code>SHA1</code> <code>SHA256</code> Required: No

Response Headers

This operation uses only response headers that are common to most responses.

Response Elements

This operation does not return response elements.

ListBucket Versioning

Request: GET {bucket}?versioning

This operation gets the versioning state of a specified bucket. Each bucket version state can be `Enabled` or `Suspended`. If versioning has never been set on the bucket, the versioning state is `NONE` and `VersioningConfiguration` element is not returned in the response.

Request Parameters

This operation does not use request parameters.

Request Headers

This operation does not use any request-specific headers.

Request Elements

This operation does not use request elements.

Response Elements

Refer to [AWS GET bucket versioning API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
Status	Enum	The versioning state of the bucket. Valid Values: Suspended Enabled
VersioningConfiguration	Container	Container for the Status response element.

Object Operations

Create, view, and manage objects. In order to perform object operations, the bucket must already exist.

PostObject

Request: POST {bucket}

Adds an object to a specified bucket, using the `multipart/form-data` encoding.

Using POST with `x-www-form-urlencoded` bodies will be rejected with a 405 Method Not Allowed message.

AWS Signature Versions 2 and 4 are supported. Refer to [AWS Signature Version 2](#) and [AWS Signature Version 4](#) for comprehensive information about Signature Versions.

Request Parameters

This implementation of the operation does not use request parameters.

Form Fields

Refer to [AWS POST Object API](#) for comprehensive information about the form fields below.

Parameter	Type	Description
AWSAccessKeyID	String	The bucket owner can grant access to an anonymous user with the AWS access key ID. Required: Yes (V2)
acl	String	Specifies an Amazon S3 access control list. If an invalid access control list is specified, an error is generated. Required: No
Content-Type, Content-Encoding	String	The REST-specific headers. Required: No
file	File or text content	The file or text content. Required: Yes
key	String	The name of the uploaded key. Required: Yes
policy	String	The security policy permissions in the request. Required: Yes
success_action_redirect , success_action_redirect, redirect	String	The URL to which the client is redirected upon successful upload. Required: No  Note: The redirect field name is deprecated.
success_action_status	String	The status code returned when the upload succeeds. Required: No
x-amz-meta-*	String	The user-defined metadata for the current object. It should follow with a key value pair. Multiple pairs are allowed. Example: • x-amz-meta-key1: value1 • x-amz-meta-key2: value2 Required: No

Parameter	Type	Description
x-amz-object-lock-mode	No	Specifies the object lock mode to apply to the object. Valid Values: COMPLIANCE GOVERNANCE
x-amz-object-retain-until-date	No	Specifies the date and time when the object lock expires. ISO 8601 Format: YYYY-MM-DDTHH:MM:SS.sZ
x-amz-object-lock-legal-hold	No	Specifies whether to apply a temporary hold to an object. Valid Values: ON OFF
x-amz-bypass-governance-retention	No	When Object Lock with Freeze Locked Objects is enabled on an unversioned bucket, overwrite is blocked for locked objects. An S3 user with <code>s3:BypassGovernanceRetention</code> permission can specify this header to allow overwrite of an object locked in Governance mode.

Response Headers

Refer to [AWS POST Object API](#) for comprehensive information about the response headers below.

Response Header	Type	Description
success_action_redirect , redirect	String	The URL to which the client is redirected on successful upload.
x-amz-version-id	String	The version of the object.

Response Elements

Refer to [AWS POST Object API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
Bucket	String	The name of the bucket the object is stored in.
ETag	String	The entity tag.
Key	String	The object key name.
Location	String	The URI of the object.

DeleteObject

Request: DELETE {bucket}/{object}

Removes the specified object from the specified bucket and deletes the object in the background. Deletes only a single object along with its attached custom metadata.

Parameters

Parameter	Type	Description
<code>versionId</code>	String	Version ID used to reference a specific version of a project.

Request Headers

This operation does not use any request-specific request headers.

Request Elements

This operation does not use request elements.

Response Headers

This table describes supported response headers for `DELETE object` requests.

Request Element	Description
<code>x-amz-version-id</code>	The version of the delete marker created as a result of the DELETE operation. See AWS Delete Object API for comprehensive information about this response header.

Response Elements

This operation does not return response elements.

GetObject

Request: GET {bucket}/{object}

Retrieves the specified object from the specified bucket.

Parameters

Refer to [AWS GET Object API](#) for comprehensive information about the parameters below.

Parameter	Type	Description
response-content-encoding	String	Sets the Content-Encoding header of the response.
response-content-type	String	Sets the Content-Type header of the response.
versionId	String	Gets the version of the object specified by the given version ID.

Request Headers

This table describes supported request headers for GET object requests. See [AWS GET Object API](#) for comprehensive information about each request header below.

Request Header	Description
Range	Downloads the specified range of an object's bytes. Required: No
If-Match	Checks the entity tag (ETag) value before returning the object. Required: No
Host	For path-style, the value will be data_vip of the FlashBlade. For virtual-style addressing, the value will be bucketname.s3.amazonaws.com. Required: No
If-Modified-Since	Returns the object if it has been modified since the specified time. Required: No

Request Header	Description
If-None-Match	Checks the ETag value before returning the object. Required: No
If-Unmodified-Since	Returns the object if it has not been modified since the specified time. Required: No
x-amz-checksum-mode	Enable this to receive the checksum response. Valid Values: ENABLED Required: No
x-amz-checksum-sha256	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 256-bit SHA-256 digest of the object. Required: No
x-amz-checksum-crc32	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32 checksum of the object. Required: No
x-amz-checksum-crc32c	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32C checksum of the object. Required: No
x-amz-checksum-sha1	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 160-bit SHA-1 digest of the object. Required: No

Request Elements

This operation does not use request elements.

Response Headers

This table describes supported response headers for `GET` object requests.

Request Element	Description
Content-Range	The portion of the object returned in the response.

Request Element	Description
Last-Modified	The last modified date of the object.
x-amz-version-id	The version of the object. See AWS GET Object API for information about this response header.
x-amz-meta-*	The value/values for each custom metadata key. Example: • x-amz-meta-key1: val1-1,val1-2,val1-3 • x-amz-meta-key2: val2
x-amz-object-lock-mode	The Object Lock mode currently in place for this object. Valid Values: GOVERNANCE COMPLIANCE
x-amz-object-lock-retain-until-date	The date and time when this object's Object Lock will expire.
x-amz-object-lock-legal-hold	Indicates whether this object has an active legal hold. This field is only returned if you have permission to view an object's legal hold status. Valid Value: ON OFF

Response Elements

This operation does not return response elements.

CopyObject

Request: PUT {bucket}/{object}

Creates a copy of an object already stored in Amazon S3.

Users must have read permissions on the source object and write permissions on the target object. The target bucket must also be the corresponding normal bucket of the virtual bucket. The source and target object name must be the same. Lastly, to resolve replication conflicts with SafeMode, the user also needs to have a policy with **s3:ResolveSafemodeConflicts** permissions on the target object resource.

⚠ Important! The object-replication-conflict feature using CopyObject will not be replicated to other buckets. The overwrite has to be done at all involved sites manually.

Use the **HeadBucket** request to find the virtual bucket in conflict then list all the object versions with the **list_object_versions** request before resolving using the **CopyObject** request.

Parameters

Refer to [AWS PUT CopyObject API](#) for comprehensive information about the parameters below.

Parameter	Type	Description
None	n/a	n/a

Request Headers

This table describes supported request headers for `COPY object` requests. See [AWS PUT CopyObject API](#) for comprehensive information about each request header below.

Request Header	Description
<code>x-amz-sdk-checksum-algorithm</code>	Indicates the algorithm used to create the checksum for the object when you use the SDK. Valid Values: CRC32 CRC32C SHA1 SHA256 Required: No
<code>x-pure-resolve-safemode-conflicts</code>	Bypasses SafeMode retention during bi-directional replication conflicts. Required: Yes

Request Parameters

Request Parameter	Type	Description
<code>Bucket</code>	String	The name of the destination bucket.
<code>CopySource</code>	String	The grouping of Bucket, Key, and VersionID information.
<code>Key</code>	String	The key of the destination object.

Response Headers

There are no response headers.

Request Headers	Description
None	n/a

Response Elements

This table describes the response elements for `COPY object` output.

Request Element	Description
ETag	The version ID of the latest object version.
LastModified	Creation date of the object.
content-length	Size of the body in bytes.
content-type	A standard MIME type describing the format of the contents.
date	Date and time of the copy.
x-amz-copy-source-version-id	Version of the copied object in the destination bucket.
x-amz-version-id	Version ID of the newly created copy of the object.

GetObjectLegalHold

Request: GET {object}?legal-hold&versionId

Retrieves an object's temporary hold status. A temporary hold does not have an expiration period and, until removed, prevents an object from being overwritten or deleted. A response of `ON` indicates a temporary hold is placed on the object.

Parameters

Refer to [AWS GET ObjectLegalHold API](#) for comprehensive information about the parameters below.

Parameter	Type	Description
None	n/a	n/a

Request Parameters

Refer to [AWS GET ObjectLegalHold API](#) for comprehensive information about the request parameters below.

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes
Key	String	The key name of the object. Required: Yes
VersionID	String	The version ID of the object. Required: Yes

Response Elements

Refer to [AWS GET ObjectLegalHold API](#) for comprehensive information about the response elements below.

Parameter	Description
Status	Indicates the temporary hold status of an object.

GetObjectRetention

Request: GET {bucket}/{object}?retention&versionID

Retrieves the object retention status of an object.

Parameters

Refer to [AWS GET ObjectRetention API](#) for comprehensive information about the request parameters below.

Parameter	Type	Description
None	n/a	n/a

Request Parameters

Refer to [AWS GET ObjectRetention API](#) for comprehensive information about the request parameters below.

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes
Key	String	The key name for the object whose settings you wish to retrieve. Required: Yes
VersionID	String	The version ID of the object whose retentions you wish to retrieve. Required: Yes

Response Elements

Refer to [AWS GET ObjectRetention API](#) for comprehensive information about the response elements below.

Element	Description
Mode	The retention mode of the object: Governance or Compliance.
RetainUntilDate	The date the object lock expires.

HeadObject

Request: HEAD {bucket}/{object}

Returns metadata for the object without returning the object itself.

Parameters

Parameter	Type	Description
If-Match	String	Return the object only if its entity tag (ETag) is the same as the one specified, otherwise return a 412 (precondition failed).

Parameter	Type	Description
If-Modified-Since	String	Return the object only if it has been modified since the specified time, otherwise return a 304 (not modified).
If-None-Match	String	Return the object only if its entity tag (ETag) is different from the one specified, otherwise return a 304 (not modified).
If-Unmodified-Since	String	Return the object only if it has not been modified since the specified time, otherwise return a 412 (precondition failed).
versionId	String	VersionId used to reference a specific version of the object.
x-amz-checksum-mode	String	Enable this to receive the checksum response. Valid Values: ENABLED

Request Headers

This operation does not use any request-specific request headers.

Response Headers

This table describes supported response headers for `HEAD` object requests.

Response Header	Description
Content-Length	The size of the object in bytes. See AWS common response headers for comprehensive information about this response header.
Last-Modified	The last modified date of the object.
x-amz-delete-marker	Specifies whether the object retrieved was (true) or was not (false) a Delete Marker. If false, this response header does not appear in the response.
x-amz-version-id	The version of the object. See AWS Object API for comprehensive information about this response header.

Response Header	Description
x-amz-meta-*	The value/values for each custom metadata key. Example: - x-amz-meta-key1: val1-1,val1-2,val1-3 - x-amz-meta-key2: val2
x-amz-object-lock-mode	The Object Lock mode that is in effect for this object. This header is only returned if the requester has the <code>s3:GetObjectRetention</code> permission. Valid Value: GOVERNANCE COMPLIANCE
x-amz-object-lock-retain-until-date	The date and time when the Object Lock retention period expires. This header is only returned if the requester has the <code>s3:GetObjectRetention</code> permission.
x-amz-object-lock-legal-hold	Specifies whether a legal hold is in effect for this object. This header is only returned if the requester has the <code>s3:GetObjectLegalHold</code> permission. This header is not returned if the specified version of this object has never had a legal hold applied. Valid Values: ON OFF

Response Elements

This operation does not return response elements.

DeleteMultipleObjects

Request: POST {bucket}?delete

Removes multiple objects maximum of from the specified bucket 1000 objects can be deleted in a single call. This request has an XML document in the message body. Refer to [Request Elements in AWS delete multiple objects API](#) for comprehensive information.

Parameters

Parameter	Type	Description
delete	String	Specifies a delete operation.

Request Headers

See [AWS common request headers](#) for comprehensive information about the following request headers.

Request Header	Required	Description
Authorization	No	Authorization string.
Content-Length	Yes	The size of the object in bytes.
Content-Type	No	The standard MIME type describing format of the object data.
Content-MD5	Yes	The Base64-encoded 128-bit MD5 digest of the message without the headers.
Date	No	The current date and time per the requester.
Expect	No	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers.
Host	No	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code> .
x-amz-content-sha256	No	The hash of the request payload when using signature version 4 for request authentication.
x-amz-date	No	The current date and time per the requester.

Request Elements

Refer to [AWS delete multiple objects API](#) for comprehensive information about the request elements below.

Request Element	Type	Description
Delete	Container	The container for the request. Required: Yes
Quiet	Boolean	The element to enable quiet mode for the request. Required: No

Request Element	Type	Description
Object	Container	The container element that describes the object delete request. Required: Yes
Key	String	The key name of the object to delete. Required: No
VersionId	String	The version ID for the object to delete. Required: No

Response Headers

See [AWS common response headers](#) for comprehensive information about each response header below.

Response Header	Description
Content-Length	The size of the object in bytes.
Content-Type	The MIME type of the content.
Date	The S3 response date and time.
ETag	The entity tag (hash) of the object.
x-amz-version-id	The object version.

Response Elements

Refer to [AWS delete multiple objects API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
Code	String	The status code for the result of the failed delete.
DefaultResult	Container	The response container.
Deleted	Container	The container element.

Response Element	Type	Description
DeleteMarker	Boolean	Indicates whether (true or false) the request accessed a delete marker.
DeleteMarkerVersionId	String	The version of ID of the accessed delete marker.
Error	String	The container for a failed delete operation.
Key	String	The key name for object that Amazon S3 attempted to delete.
Message	String	The error description.
VersionId	String	The version ID for the versioned object.

PutObject

Request: PUT {bucket}/{object}

Adds an object to a bucket.

Refer to [AWS PUT Object API](#) for comprehensive information about the parameters below.

No Partial Objects

A success response means the object was added in its entirety. Partial objects are not added.

MD5 Checks

When a request includes the MD5 header, the API returns an error if the received object's calculated MD5 value does not match the provided MD5 value. An ETag is returned with the object's MD5 value after the PUT.

Support for User-defined Metadata

The user can perform a PUT operation with one or more headers in the form of `x-amz-meta-*` header, specifying the user-defined metadata of this object. The file size limit of the user-defined metadata is 2KB. Metadata size is calculated by taking the sum of the number of bytes of each key and value with the UTF-8 encoding.

Sending Request Headers

Use the 100-continue HTTP status code to send request headers before sending the request body. You can avoid sending the request body if request is rejected based on the headers (for instance, because of an authentication failure or redirect).

No Support for Object Locking

When multiple PUT requests are received for the same object, the last request “wins” -- the content from other previous requests is overwritten. Object locking is not provided through the API.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Headers

This table describes supported `PUT object` request headers. Unless otherwise specified, see [AWS PUT Object API](#) for comprehensive information about each request header below.

Request Header	Description
Authorization	Authorization string. See AWS common request headers for comprehensive information about this request header. Required: Yes
Content-Length	The size of the object in bytes. Required: Yes
Content-MD5	The Base64-encoded 128-bit MD5 digest of the message without the headers. Required: No
Content-Type	The MIME type describing the format of the contents. Required: No

Request Header	Description
Expect	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers. Required: No
Host	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code>. See AWS common request headers for comprehensive information about this request header. Required: No
Metadata	The user-defined metadata that the user wants to include in the object. Required: No
x-amz-acl	Sets the ACL of the object using the specified canned ACL. This header cannot be blank. Valid Values: <code>private</code> Required: No
x-amz-checksum-mode	Enable this to receive the checksum response. Valid Values: <code>ENABLED</code> Required: No
x-amz-checksum-sha256	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 256-bit SHA-256 digest of the object. Required: No
x-amz-checksum-crc32	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32 checksum of the object. Required: No
x-amz-checksum-crc32c	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32C checksum of the object. Required: No

Request Header	Description
x-amz-checksum-sha1	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 160-bit SHA-1 digest of the object. Required: No
x-amz-meta-*	The user-defined metadata for the current object. It should follow with a key value pair. Multiple pairs are allowed. Example: • x-amz-meta-key1: value1-1 • x-amz-meta-key1: value1-2 • x-amz-meta-key2: value2 Required: No
x-amz-object-lock-mode	Specifies the object lock mode to apply to the object. Valid Values: COMPLIANCE GOVERNANCE Required: No
x-amz-object-lock-retain-until-date	Specifies the date and time when the object lock expires. ISO 8601 Format: YYYY-MM-DDTHH:MM:SS.sZ Required: No
x-amz-object-lock-legal-hold	Specifies whether to apply a temporary hold to an object. Valid Values: ON OFF Required: No
x-amz-bypass-governance-retention	When Object Lock with Freeze Locked Objects is enabled on an unversioned bucket, overwrite is blocked for locked objects. An S3 user with <code>s3:BypassGovernanceRetention</code> permission can specify this header to allow overwrite of an object locked in Governance mode. Required: No
x-amz-sdk-checksum-algorithm	Indicates the algorithm used to create the checksum for the object when you use the SDK. Valid Values: CRC32 CRC32C SHA1 SHA256 Required: No

Request Elements

This operation does not use request elements.

Response Headers

This table describes supported response headers for `PUT object` requests. See [AWS PUT Object API](#) for comprehensive information about each response header below.

Response Header	Description
ETag	The entity tag (hash) of the object.
x-amz-version-id	The version of the object.

Response Elements

This operation does not return response elements.

PutObjectCopy

Request: PUT Object - Copy {bucket}/{object}

Retrieves and creates a copy of the specified object to the specified bucket.

Requirements

- The source bucket must be valid.
- READ access to the source object.

Support for User-defined Metadata

When performing a Copy operation for an object, there are two options for user-defined metadata attached to this object.

COPY(default option): directly copy the the user-defined metadata from the original source object.

REPLACE: user provides a new user-defined metadata in the request, and replace metadata only when copying the original source object.

"MetadataDirective" specifies whether the user wants to perform a "COPY" or "REPLACE".

No Support for Storage Classes

The current release does not support storage classes.

No Support for User-defined Metadata

The current release does not support user-defined metadata.

No Support for Object Tags

The current release does not support object tagging.

No Support for Websites

The current release does not support buckets configured as websites.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Headers

This table describes supported request headers for PUT Object – Copy requests. See [AWS PUT Object - Copy API](#) for comprehensive information about each request header below.

Request Header	Required	Description
Host	No	For path-style, the value will be data_vip of the FlashBlade. For virtual-style addressing, the value will be bucketname.s3.amazonaws.com.
x-amz-copy-source	Yes	The name of the source bucket and key name of the source object, separated by a slash (/).
x-amz-copy-source-if-match	No	Copies the object if its entity tag matches the specified tag.

Request Header	Required	Description
x-amz-copy-source-if-none-match	No	Copies the object if its entity tag does not match the specified tag.
x-amz-copy-source-if-unmodified-since	No	Copies the object if it has not been modified since the specified time.
x-amz-copy-source-if-modified-since	No	Copies the object if it has been modified since the specified time.
x-amz-acl	Yes	Sets the ACL to be applied to the object using the specified canned ACL. This header cannot be blank. Valid Value: <code>private</code> .
x-amz-metadata-directive	No	The user-defined metadata directive used when the user wants to put-copy the current object. Its value could be REPLACE or COPY. If not provided, then default value is COPY.
x-amz-meta-*	No	The user-defined metadata for the current object. It should follow with a key value pair. Multiple pairs are allowed. Example: • x-amz-meta-key1: value1-1 • x-amz-meta-key1: value1-2 • x-amz-meta-key2: value2

Request Elements

This operation does not use request elements.

Response Headers

This table describes supported response headers for PUT Object - Copy requests. See [AWS PUT Object - Copy API](#) for comprehensive information about each response header below.

Response Header	Description
x-amz-source-version-id	The version of the source object.
x-amz-version-id	The version of the object.

Response Header	Description
x-amz-bypass-governance-retention	When Object Lock with Freeze Locked Objects is enabled on an unversioned bucket, overwrite is blocked for locked objects. An S3 user with <code>s3:BypassGovernanceRetention</code> permission can specify this header to allow overwrite of an object locked in Governance mode. Required: No

Response Elements

Refer to [AWS PUT Object - Copy API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
CopyObjectResult	Container	The container for all response elements.
ETag	String	The entity tag (hash) of the new object.
LastModified	String	The date the object was last modified.

Multipart Object Operations

Create, view, and manage the upload of large objects in smaller parts. In order to perform multipart object operations, the bucket must already exist.

PutObjectLegalHold

Request: PUT {bucket}/{object}?legal-hold&versionID

Applies or removes a temporary hold on an object. A temporary hold does not have an expiration and, until removed, it prevents an object from being overwritten or deleted. A response of `ON` indicates a temporary hold is placed on the object. Note that FlashBlade does not currently support object level audit logging of S3 operations such as `PutObjectLegalHold`.

Refer to [AWS PUT ObjectLegalHold API](#) for comprehensive information about the parameters below.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Parameters

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes
Key	String	The key name for the object that you wish to place a temporary hold on. Required: Yes
VersionID	String	The version ID of the object that you wish to place a temporary hold on. Required: No
LegalHold Status	String	Specifies whether to apply a temporary hold on an object. Accepts the data in XML format. Valid Values: ON OFF Required: Yes

Response Elements

Parameter	Description
x-amz-version-id	The version ID of the bucket.

PutObjectRetention

Request: PUT {bucket}/{object}?retention&versionID

Sets the Object Retention mode of an object.

Refer to [AWS PUT ObjectRetention API](#) for comprehensive information about the parameters below.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Elements

Parameter	Type	Description
Bucket	String	The bucket name. Required: Yes
Key	String	The key name for the object that you wish to place a retention configuration. Required: Yes
VersionID	String	The version ID of the object that you wish to place a retention configuration. Required: No
x-amz-bypass-governance-retention	Boolean	Indicates whether this action should bypass Governance-mode restrictions. Required: No
x-amz-sdk-checksum-algorithm	String	Indicates the algorithm used to create the checksum for the object when you use the SDK. Valid Values: CRC32 CRC32C SHA1 SHA256 Required: No
RetentionMode	String	Sets the retention mode to compliance or governance. Accepts the data in XML format. Valid Values: COMPLIANCE GOVERNANCE Required: Yes
timestamp	String	The date on which this Object Lock Retention will expire. ISO 8601 Format: YYYY-MM-DDTHH:MM:SS.sZ Required: Yes

Response Elements

Parameter	Description
x-amz-version-id	The version ID of the latest object version.

AbortMultipartUpload

Request: DELETE {bucket}/{object}?uploadId={uploadID}

Aborts a multipart upload.

Parameters

Parameter	Type	Description
uploadID	String	The ID of the multipart upload.

Request Headers

See [AWS common request headers](#) for comprehensive information about the following request headers.

Request Header	Required	Description
Authorization	Yes	Authorization string.
Content-Length	No	The size of the object in bytes.
Content-Type	No	The standard MIME type describing format of the object data.
Content-MD5	No	The Base64-encoded 128-bit MD5 digest of the message without the headers.
Date	No	The current date and time per the requester.
Expect	No	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers.

Request Header	Required	Description
Host	No	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code> .
x-amz-content-sha256	No	The hash of the request payload when using signature version 4 for request authentication.
x-amz-date	No	The current date and time per the requester.

Request Elements

This operation does not use request elements.

Response Headers

See [AWS common response headers](#) for comprehensive information about the following response headers.

Response Header	Description
Content-Length	The size of the object in bytes.
Content-Type	The MIME type of the content.
Date	The S3 response date and time.
ETag	The entity tag (hash) of the object.
x-amz-version-id	The object version.

Response Elements

This operation does not return response elements.

ListParts

Request: GET {bucket}/{object}?uploadID={uploadID}

Lists the parts that have been uploaded for a specific multipart upload. This request includes an XML document in the message body of the response. Refer to [Response Elements in AWS list parts API](#) for comprehensive information.

Parameters

Parameter	Type	Description
max-parts	String	Sets the maximum number of parts to return in the response. Default: 1000
part-number-marker	String	Specifies the part after which listing should begin. Only parts with higher part numbers will be listed.
uploadID	String	The ID of the multipart upload.

Request Headers

See [AWS common request headers](#) for comprehensive information about the following request headers.

Request Header	Required	Description
Authorization	Yes	Authorization string.
Content-Length	Yes	The size of the object in bytes.
Content-Type	No	The standard MIME type describing format of the object data.
Content-MD5	No	The Base64-encoded 128-bit MD5 digest of the message without the headers.
Date	No	The current date and time per the requester.
Expect	No	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers.

Request Header	Required	Description
Host	No	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code> .
x-amz-content-sha256	No	The hash of the request payload when using signature version 4 for request authentication.
x-amz-date	No	The current date and time per the requester.

Request Elements

This operation does not use request elements.

Response Headers

See [AWS common response headers](#) for comprehensive information about each response header below.

Response Header	Description
Date	The S3 response date and time.

Response Elements

Refer to [AWS list parts API](#) for comprehensive information about the response elements below.

Response Element	Type	Description
Bucket	String	The bucket name to which the upload was initiated.
Encoding-Type	String	The encoding type used by S3 to encode object key names.
ETag	String	The returned entity tag when the part was uploaded.
IsTruncated	Boolean	Indicates whether a returned list is truncated.
Key	String	The object key.
LastModified	Date	The date and time the part was uploaded.

Response Element	Type	Description
ListPartResult	Container	The response container.
MaxParts	Integer	The maximum number of parts allowed in the response.
NextPartNumberMarker	Integer	The last part in the list and value to use for the part-number-marker request parameter in a subsequent request, when a list is truncated.
Part	String	The container for elements related to a specific part.
PartNumber	Integer	The part number.
PartNumberMarker	Integer	The part number after which listing begins.
Size	Integer	The size of the uploaded part.
StorageClass	String	The storage class used to store the uploaded object.
UploadID	String	The upload ID.

InitiateMultipartUpload

Request: POST {bucket}/{object}?uploads

Initiates a multipart upload and returns an upload ID.

Support for User-defined Metadata

The user can perform a PUT operation for an object with a "Metadata" header, specifying the user-defined metadata of this object.

Parameters

Parameter	Type	Description
None	n/a	n/a

Request Headers

See [AWS Initiate Multipart Upload API](#) for comprehensive information about the following request headers.

Request Header	Required	Description
Content-Encoding	No	The applied content encodings to the object.
Host	No	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code> .
x-amz-meta-*	No	The user-defined metadata for the current object. It should follow with a key value pair. Multiple pairs are allowed. Example: • x-amz-meta-key1: value1-1 • x-amz-meta-key1: value1-2 • x-amz-meta-key2: value2
x-amz-object-lock-mode	No	Specifies the object lock mode to apply to the object. Valid Values: COMPLIANCE GOVERNANCE
x-amz-object-lock-retain-until-date	No	Specifies the date and time when the object lock expires. ISO 8601 Format: YYYY-MM-DDTHH:MM:SS.sZ
x-amz-object-lock-legal-hold	No	Specifies whether to apply a temporary hold to an object. Valid Values: ON OFF

Request Elements

This operation does not use request elements.

Response Headers

This operation does not use any response-specific response headers.

Response Elements

See [AWS Initiate Multipart Upload API](#) for comprehensive information about the following response elements.

Response Element	Type	Description
InitiateMultipartUploadResult	Container	The response container.
Bucket	String	The bucket name to which the upload was initiated.
Key	String	The object key.
UploadId	String	The ID of the initiated upload.

CompleteMultipartUpload

Request: POST {bucket}/{object}?uploadID={uploadID}

Completes a multipart upload by assembling previously uploaded parts.

Parameters

Parameter	Type	Description
uploadID	String	The ID of the multipart upload.

Request Headers

See [AWS common request headers](#) for comprehensive information about the following request headers.

Request Header	Description
Authorization	Authorization string. Required: Yes
Content-Length	The size of the object in bytes. Required: Yes

Request Header	Description
Content-Type	The standard MIME type describing format of the object data. Required: No
Content-MD5	The Base64-encoded 128-bit MD5 digest of the message without the headers. Required: No
Date	The current date and time per the requester. Required: No
Expect	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers. Required: No
Host	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code>. Required: No
x-amz-checksum-mode	Enable this to receive the checksum response. Valid Values: <code>ENABLED</code> Required: No
x-amz-checksum-sha256	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 256-bit SHA-256 digest of the object. Required: No
x-amz-checksum-crc32	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32 checksum of the object. Required: No
x-amz-checksum-crc32c	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32C checksum of the object. Required: No
x-amz-checksum-sha1	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 160-bit SHA-1 digest of the object. Required: No

Request Header	Description
x-amz-content-sha256	The hash of the request payload when using signature version 4 for request authentication. Required: No
x-amz-date	The current date and time per the requester. Required: No
x-amz-bypass-governance-retention	When Object Lock with Freeze Locked Objects is enabled on an unversioned bucket, overwrite is blocked for locked objects. An S3 user with <code>s3:BypassGovernanceRetention</code> permission can specify this header to allow overwrite of an object locked in Governance mode. Required: No

Request Elements

Refer to [AWS complete multipart upload API](#) for comprehensive information about the request elements below.

Request Element	Type	Description
CompleteMultipartUpload	Container	The container for the request. Required: Yes
Part	Container	The element container related to a previously uploaded part. Required: Yes
PartNumber	Integer	The part number. Required: Yes
ETag	String	The returned entity tag (hash) when the part was uploaded. Required: Yes
x-amz-bypass-governance-retention	String	When Object Lock with Freeze Locked Objects is enabled on an unversioned bucket, overwrite is blocked for locked objects. An S3 user with <code>s3:BypassGovernanceRetention</code> permission can specify this header to allow overwrite of an object locked in Governance mode. Required: No

Response Headers

See [AWS Complete Multipart Upload API](#) for comprehensive information about the following response headers.

Response Header	Description
x-amz-version-id	The version ID of the newly created object. Complete multipart upload.

Response Elements

See [AWS Complete Multipart Upload API](#) for comprehensive information about the following response elements.

Response Element	Type	Description
ChecksumSHA256	String	The base64-encoded, 256-bit SHA-256 digest of the object. This will only be present if it was uploaded with the object.
ChecksumCRC32	String	The base64-encoded, 32-bit CRC32 checksum of the object. This will only be present if it was uploaded with the object.
ChecksumCRC32C	String	The base64-encoded, 32-bit CRC32C checksum of the object. This will only be present if it was uploaded with the object.
ChecksumSHA1	String	The base64-encoded, 160-bit SHA-1 digest of the object. This will only be present if it was uploaded with the object.
CompleteMultipartUploadResult	Container	The response container.
Bucket	String	The bucket name that contains the newly created object.
ETag	String	The entity tag that identifies the newly created object's data.
Key	String	The object key.
Location	URI	The URI of the newly created object.

UploadPart

Request: PUT {bucket}/{object}?uploadID={uploadID}&part={partnumber}

Uploads a part in a multipart upload. A multipart upload must first be initiated before uploading any part.

Parameters

Parameter	Type	Description
partnumber	String	The part number of the multipart upload.
uploadID	Integer	The ID of the multipart upload.

Request Headers

Unless otherwise specified, see [AWS Upload Part API](#) for comprehensive information about each request header below.

Request Header	Description
Authorization	Authorization string. See AWS common request headers for comprehensive information about this request header. Required: Yes
Content-Length	The size of the object in bytes. Required: Yes
Content-MD5	The Base64-encoded 128-bit MD5 digest of the message without the headers. Required: No
Content-Type	The MIME type describing the format of the contents. See AWS common request headers for comprehensive information about this request header. Required: No

Request Header	Description
Date	The current date and time per the requester. See AWS common request headers for comprehensive information about this request header. Required: No
Expect	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers. Required: No
x-amz-checksum-mode	Enable this to receive the checksum response. Valid Values: <code>ENABLED</code> Required: No
x-amz-checksum-sha256	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 256-bit SHA-256 digest of the object. Required: No
x-amz-checksum-crc32	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32 checksum of the object. Required: No
x-amz-checksum-crc32c	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 32-bit CRC32C checksum of the object. Required: No
x-amz-checksum-sha1	Checks data integrity from when it was sent to when it was received. This request header specifies the base64-encoded, 160-bit SHA-1 digest of the object. Required: No
Host	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code>. See AWS common request headers for comprehensive information about this request header. Required: No

Request Header	Description
x-amz-content-sha256	The hash of the request payload when using signature version 4 for request authentication. See AWS common request headers for comprehensive information about this request header. Required: No
x-amz-copy-source-if-match:{etag}	Perform a copy if the source object entity tag (ETag) matches the specified value. Required: No
x-amz-copy-source-if-none-match:{etag}	Perform a copy if the source object ag differs from the specified value. Required: No
x-amz-copy-source-if-modified-since:{timestamp}	Perform a copy if the source object is modified after the specified time. Required: No
x-amz-copy-source-if-unmodified-since:{timestamp}	Perform a copy if the source object is not modified after the specified time. Required: No
x-amz-date	The current date and time per the requester. See AWS common request headers for comprehensive information about this request header. Required: No

Request Elements

This operation does not use request elements.

Response Headers

Unless otherwise specified, see [AWS Upload Part API](#) for comprehensive information about the following response headers.

Response Header	Description
Content-Length	The size of the object in bytes. See AWS common response headers for comprehensive information about this response header.

Response Header	Description
Content-Type	The MIME type of the content. See AWS common response headers for comprehensive information about this response header.
Date	The S3 response date and time. See AWS common response headers for comprehensive information about this response header.
ETag	The entity tag (hash) of the object. See AWS common response headers for comprehensive information about this response header.
x-amz-version-id	The object version. See AWS common response headers for comprehensive information about this response header.

Response Elements

This operation does not return response elements.

UploadPartCopy

Request: PUT {bucket}/{object}?uploadID={uploadID}&part={partnumber}

Uploads a part in a multipart upload by copying data from an existing object.

Parameters

Parameter	Type	Description
partnumberpartnumber	String	The part number of the multipart upload.
uploadIDuploadID	Integer	The ID of the multipart upload.

Request Headers

Unless otherwise specified, see [AWS Upload Part - Copy API](#) for comprehensive information about each request header below.

Request Header	Required	Description
Authorization	Yes	Authorization string. See AWS common request headers for comprehensive information about this request header.
Content-Length	Yes	The size of the object in bytes. See AWS common request headers for comprehensive information about this request header.
Content-MD5	No	The Base64-encoded 128-bit MD5 digest of the message without the headers. See AWS common request headers for comprehensive information about this request header.
Content-Type	No	The MIME type describing the format of the contents. See AWS common request headers for comprehensive information about this request header.
Date	No	The current date and time per the requester. See AWS common request headers for comprehensive information about this request header.
Expect	No	The request uses 100-continue, the API waits for an acknowledgement before sending the request body. The request body is not sent if the request is rejected based on the headers. See AWS common request headers for comprehensive information about this request header.
Host	No	For path-style, the value will be <code>data_vip</code> of the FlashBlade. For virtual-style addressing, the value will be <code>bucketname.s3.amazonaws.com</code> . See AWS common request headers for comprehensive information about this request header.
x-amz-copy-source	Yes	The name of the source bucket and the source object key name.
x-amz-copy-source-range	No	The range of bytes to copy from the source bucket.
x-amz-content-sha256	No	The hash of the request payload when using signature version 4 for request authentication. See AWS common request headers for comprehensive information about this request header.

Request Header	Required	Description
x-amz-date	No	The current date and time per the requester. See AWS common request headers for comprehensive information about this request header.

Request Elements

This operation does not use request elements.

Response Headers

Unless otherwise specified, see [AWS Upload Part - Copy API](#) for comprehensive information about each request header below.

Response Header	Description
Content-Length	The size of the object in bytes. See AWS common response headers for comprehensive information about this response header.
Content-Type	The MIME type of the content. See AWS common response headers for comprehensive information about this response header.
Date	The S3 response date and time. See AWS common response headers for comprehensive information about this response header.
ETag	The entity tag (hash) of the object. See AWS common response headers for comprehensive information about this response header.
x-amz-copy-source-version-id	The version of the source object that was copied.
x-amz-version-id	The object version. See AWS common response headers for comprehensive information about this response header.

Response Elements

See [AWS Upload Part – Copy API](#) for comprehensive information about the following response elements.

Response Element	Type	Description
ChecksumSHA256	String	The base64-encoded, 256-bit SHA-256 digest of the object. This will only be present if it was uploaded with the object.
ChecksumCRC32	String	The base64-encoded, 32-bit CRC32 checksum of the object. This will only be present if it was uploaded with the object.
ChecksumCRC32C	String	The base64-encoded, 32-bit CRC32C checksum of the object. This will only be present if it was uploaded with the object.
ChecksumSHA1	String	The base64-encoded, 160-bit SHA-1 digest of the object. This will only be present if it was uploaded with the object.
CopyPartResult	Container	The response container.
ETag	String	The entity tag (hash) of the new part.
LastModified	String	The date that the part was last modified.



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