



# **Volume API methods**

## **Element Software**

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# Volume API methods

## CancelClone

You can use the `CancelClone` method to stop an ongoing volume clone or volume copy process. When you cancel a group clone operation, the system completes and removes the operation's associated `asynchHandle`.

### Parameter

This method has the following input parameter:

| Name    | Description                                | Type    | Default value | Required |
|---------|--------------------------------------------|---------|---------------|----------|
| cloneID | The cloneID for the ongoing clone process. | integer | None          | Yes      |

### Return values

This method has no return values.

### Request example

Requests for this method are similar to the following example:

```
{
  "method": "CancelClone",
  "params": {
    "cloneID" : 5,
  },
  "id" : 1
}
```

### Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result" : {}
}
```



## New since version

9.6

# CancelGroupClone

You can use the `CancelGroupClone` method to stop an ongoing clone process occurring on a group of volumes. When you cancel a group clone operation, the system completes and removes the operation's associated `asyncHandle`.

## Parameter

This method has the following input parameter:

| Name         | Description                                | Type    | Default value | Required |
|--------------|--------------------------------------------|---------|---------------|----------|
| groupCloneID | The cloneID for the ongoing clone process. | integer | None          | Yes      |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CancelGroupClone",
  "params": {
    "cloneID" : 5,
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result" : {}
}
```

## New since version

9.6

# CloneMultipleVolumes

You can use the `CloneMultipleVolumes` method to create a clone of a group of specified volumes. You can assign a consistent set of characteristics to a group of multiple volumes when they are cloned together.

Before using the `groupSnapshotID` parameter to clone the volumes in a group snapshot, you must first create the group snapshot using the [CreateGroupSnapshot](#) API method or the web UI. Using `groupSnapshotID` is optional when cloning multiple volumes.

## Parameters

This method has the following input parameters:

| Name                                     | Description                                                                                                                                                                  | Type    | Default value | Required |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| <code>access</code>                      | New default access method for the new volumes if not overridden by information passed in the volume's array.                                                                 | string  | None          | No       |
| <code>enableSnapMirrorReplication</code> | Determines whether the volume can be used for replication with SnapMirror endpoints. Possible values: <ul style="list-style-type: none"><li>• true</li><li>• false</li></ul> | boolean | false         | No       |
| <code>groupSnapshotID</code>             | ID of the group snapshot to use as a basis for the clone.                                                                                                                    | integer | None          | No       |
| <code>newAccountID</code>                | New account ID for the volumes if not overridden by information passed in the volumes array.                                                                                 | integer | None          | No       |

| Name    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Type              | Default value | Required       |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|----------------|
| volumes | <p>Collection of members that you specify for the new volumes. Members:</p> <ul style="list-style-type: none"> <li>• volumeID: (Required)</li> <li>• access: (Optional) Can be one of readOnly, readWrite, locked, or replicationTarget .</li> <li>• attributes: (Optional) List of name-value pairs in JSON object format.</li> <li>• name: (Optional) New name for the clone.</li> <li>• newAccountID: (Optional) Account ID for the new volumes.</li> <li>• newSize: (Optional) Total size of the volume, in bytes. Size is rounded up to the nearest megabyte.</li> </ul> <p>If optional members are not specified, the values are inherited from the source volumes.</p> | JSON object array | None          | Yes (volumeID) |

## Return values

This method has the following return values:

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

|              |                                                                |                   |
|--------------|----------------------------------------------------------------|-------------------|
| asyncHandle  | A value returned from an asynchronous method call.             | integer           |
| groupCloneID | Unique ID of the new group clone.                              | integer           |
| members      | List of volumeIDs for the source and destination volume pairs. | JSON object array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CloneMultipleVolumes",
  "params": {
    "volumes": [
      {
        "volumeID": 5
        "name": "foxhill",
        "access": "readOnly"
      },
      {
        "volumeID": 18
      },
      {
        "volumeID": 20
      }
    ]
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "asyncHandle": 12,
    "groupCloneID": 4,
    "members": [
      {
        "srcVolumeID": 5,
        "volumeID": 29
      },
      {
        "srcVolumeID": 18,
        "volumeID": 30
      },
      {
        "srcVolumeID": 20,
        "volumeID": 31
      }
    ]
  }
}
```

## New since version

9.6

## CloneVolume

You can use the `CloneVolume` method to create a copy of a volume. This method is asynchronous and might take a variable amount of time to complete.

The cloning process begins immediately when you make the `CloneVolume` request and is representative of the state of the volume when the API method is issued. You can use the [GetAsyncResult](#) method to determine when the cloning process is complete and the new volume is available for connections. You can use [ListSyncJobs](#) to see the progress of creating the clone. The initial attributes and quality of service settings for the volume are inherited from the volume being cloned. You can change these settings with [ModifyVolume](#).



Cloned volumes do not inherit volume access group membership from the source volume.

## Parameters

This method has the following input parameters:

| Name       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Type        | Default value | Required |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------|
| access     | <p>Access allowed for the new volume. If a value is not specified, the access value does not change.<br/>Possible values:</p> <ul style="list-style-type: none"> <li>• <code>readOnly</code>:<br/>(Optional) Only read operations are allowed.</li> <li>• <code>readWrite</code>:<br/>(Optional) Reads and writes are allowed.</li> <li>• <code>locked</code>:<br/>(Optional) No reads or writes are allowed. If not specified, the access value of the volume being cloned is used.</li> <li>• <code>replicationTarget</code>:<br/>(Optional) Identify a volume as the target volume for a paired set of volumes. If the volume is not paired, the access status is locked.</li> </ul> | string      | None          | No       |
| attributes | List of name-value pairs in JSON object format.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | JSON object | None          | No       |

| Name                        | Description                                                                                                                                                                                           | Type    | Default value                             | Required |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------|----------|
| enable512e                  | Specifies whether the new volume should use 512-byte sector emulation. If unspecified, the setting of the volume being cloned is used.                                                                | boolean | Setting of original volume                | No       |
| enableSnapMirrorReplication | Determines whether the volume can be used for replication with SnapMirror endpoints. Possible values: <ul style="list-style-type: none"> <li>• true</li> <li>• false</li> </ul>                       | boolean | false                                     | No       |
| name                        | Name of the new cloned volume; must be 1 to 64 characters in length.                                                                                                                                  | string  | None                                      | Yes      |
| newAccountID                | AccountID for the owner of the new volume. If unspecified, the accountID of the owner of the volume being cloned is used.                                                                             | integer | AccountID of the owner of original volume | No       |
| newSize                     | New size of the volume, in bytes. Might be greater or less than the size of the volume being cloned. If not specified, the volume size is not changed. Size is rounded up to the nearest 1MB in size. | integer | None                                      | No       |

| Name       | Description                                                                                                          | Type    | Default value | Required |
|------------|----------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| snapshotID | ID of the snapshot that is used as the source of the clone. If no ID is provided, the current active volume is used. | integer | None          | No       |
| volumeID   | VolumeID for the volume to be cloned.                                                                                | integer | None          | Yes      |

## Return values

This method has the following return values:

| Name        | Description                                                     | Type                   |
|-------------|-----------------------------------------------------------------|------------------------|
| asyncHandle | The handle value used to obtain the operation result.           | integer                |
| cloneID     | The cloneID for the newly cloned volume.                        | integer                |
| curve       | The QoS curve values applied to the clone.                      | JSON object            |
| volume      | An object containing information about the newly cloned volume. | <a href="#">volume</a> |
| volumeID    | VolumeID for the newly cloned volume.                           | integer                |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CloneVolume",
  "params": {
    "volumeID" : 5,
    "name" : "mysqldata-snapshot1",
    "access" : "readOnly"
  },
  "id" : 1
}
```



## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "asyncHandle": 42,
    "cloneID": 37,
    "volume": {
      "access": "readOnly",
      "accountID": 1,
      "attributes": {},
      "blockSize": 4096,
      "createTime": "2016-03-31T22:26:03Z",
      "deleteTime": "",
      "enable512e": true,
      "iqn": "iqn.2010-01.com.solidfire:jyay.mysqldata-snapshot1.680",
      "name": "mysqldata-snapshot1",
      "purgeTime": "",
      "qos": {
        "burstIOPS": 100,
        "burstTime": 60,
        "curve": {
          "4096": 100,
          "8192": 160,
          "16384": 270,
          "32768": 500,
          "65536": 1000,
          "131072": 1950,
          "262144": 3900,
          "524288": 7600,
          "1048576": 15000
        },
        "maxIOPS": 100,
        "minIOPS": 50
      },
      "scsiEUIDeviceID": "6a7961790000002a8f47acc0100000000",
      "scsiNAADeviceID": "6f47acc1000000006a7961790000002a8",
      "sliceCount": 0,
      "status": "init",
      "totalSize": 1000341504,
      "virtualVolumeID": null,
      "volumeAccessGroups": [],
      "volumeID": 680,
      "volumePairs": []
    }
  }
}
```

```

    },
    "volumeID": 680
  }
}

```

## New since version

9.6

## Find more information

- [GetAsyncResult](#)
- [ListSyncJobs](#)
- [ModifyVolume](#)

# CopyVolume

You can use the `CopyVolume` method to overwrite the data contents of an existing volume with the data contents of another volume (or snapshot). Attributes of the destination volume such as IQN, QoS settings, size, account, and volume access group membership are not changed. The destination volume must already exist and must be the same size as the source volume.

It is best if clients unmount the destination volume before the operation begins. If the destination volume is modified during the operation, the changes are lost. This operation can take a variable amount of time to complete. You can use the [GetAsyncResult](#) method to determine when the process has finished, and [ListSyncJobs](#) to see the progress of the copy.

## Parameters

This method has the following input parameter:

| Name        | Description                                                                                                          | Type    | Default value | Required |
|-------------|----------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| dstVolumeID | VolumeID of the volume to overwrite.                                                                                 | integer | None          | Yes      |
| volumeID    | VolumeID of the volume to be read from.                                                                              | integer | None          | Yes      |
| snapshotID  | ID of the snapshot that is used as the source of the clone. If no ID is provided, the current active volume is used. | integer | None          | No       |

## Return values

This method has the following return values:

| Name        | Description                                       | Type    |
|-------------|---------------------------------------------------|---------|
| asyncHandle | Handle value used to obtain the operation result. | integer |
| cloneID     | CloneID for the newly cloned volume.              | integer |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CopyVolume",
  "params": {
    "volumeID" : 3,
    "dstVolumeID" : 2
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "asyncHandle": 9,
    "cloneID": 5
  }
}
```

## New since version

9.6

## Find more information

- [GetAsyncResult](#)
- [ListSyncJobs](#)

# CreateQoSPolicy

You can use the `CreateQoSPolicy` method to create a `QoSPolicy` object that you can later apply to a volume upon creation or modification. A QoS policy has a unique ID, a name, and QoS settings.

## Parameters

This method has the following input parameters:

| Name | Description                                                         | Type                | Default value | Required |
|------|---------------------------------------------------------------------|---------------------|---------------|----------|
| name | The name of the QoS policy; for example, gold, platinum, or silver. | string              | None          | Yes      |
| qos  | The QoS settings that this policy represents.                       | <a href="#">QoS</a> | None          | Yes      |

## Return value

This method has the following return value:

| Name      | Description                                      | Type                      |
|-----------|--------------------------------------------------|---------------------------|
| qosPolicy | The newly created <code>QoSPolicy</code> object. | <a href="#">QoSPolicy</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "id": 68,
  "method": "CreateQoSPolicy",
  "params": {
    "name": "bronze",
    "qos": {
      "minIOPS": 50,
      "maxIOPS": 15000,
      "burstIOPS": 15000
    }
  }
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 68,
  "result": {
    "qosPolicy": {
      "name": "bronze",
      "qos": {
        "burstIOPS": 15000,
        "burstTime": 60,
        "curve": {
          "4096": 100,
          "8192": 160,
          "16384": 270,
          "32768": 500,
          "65536": 1000,
          "131072": 1950,
          "262144": 3900,
          "524288": 7600,
          "1048576": 15000
        },
        "maxIOPS": 15000,
        "minIOPS": 50
      },
      "qosPolicyID": 2,
      "volumeIDs": []
    }
  }
}
```

## New since version

10.0

## CreateVolume

You can use the `CreateVolume` method to create a new, empty volume on the cluster. As soon as the volume is created, the volume is available for connection via iSCSI.

Volumes created without specified QoS values use the default values. You can view default values for a volume by using the `GetDefaultQoS` method.

## Parameters

This method has the following input parameters:

| Name                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Type    | Default value | Required |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| access                 | The access mode for the volume. If this parameter is included, the only supported value is <code>snapMirrorTarget</code> .                                                                                                                                                                                                                                                                                                                                                                                                        | string  | None          | No       |
| accountID              | The ID of the account that owns this volume.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | integer | None          | Yes      |
| associateWithQoSPolicy | <p>Associate the volume with the specified QoS policy. Possible values:</p> <ul style="list-style-type: none"><li>• <code>true</code>: Associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter.</li><li>• <code>false</code>: Do not associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter. When false, any existing policy association is removed, regardless of whether you specify a QoS policy in the <code>QoSPolicy</code> parameter.</li></ul> | boolean | true          | No       |

| Name                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type        | Default value | Required |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------|
| attributes               | List of name-value pairs in JSON object format. The total attribute size must be less than 1000B, or 1KB, including JSON formatting characters.                                                                                                                                                                                                                                                                                                                                                                                                                          | JSON object | None          | No       |
| dontMoveforIopsRebalance | <p>Prevent a volume from moving when load balancing with actual IOPS. This setting is available beginning with Element 12.8 and is only effective when <a href="#">VolumeLoadBalanceOnActualIOPS</a> is enabled. Possible values:</p> <ul style="list-style-type: none"> <li>• true: Volume does not load balance based on actual IOPS.</li> <li>• false: Volume does load balance based on actual IOPS.</li> </ul> <p><b>Note:</b> Balancing for high availability (node failure) takes precedence over VolumeLoadBalanceOnActualIOPS and dontMoveforIopsRebalance.</p> | boolean     | false         | No       |

| Name                        | Description                                                                                                                                                                                                                                                                                                                         | Type    | Default value | Required |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| enable512e                  | <p>Enable 512-byte sector emulation. Possible values:</p> <ul style="list-style-type: none"> <li>• true: The volume provides 512-byte sector emulation.</li> <li>• false: 512e emulation is not enabled.</li> </ul>                                                                                                                 | boolean | None          | Yes      |
| enableSnapMirrorReplication | <p>Determines whether the volume can be used for replication with SnapMirror endpoints. Possible values:</p> <ul style="list-style-type: none"> <li>• true</li> <li>• false</li> </ul>                                                                                                                                              | boolean | false         | No       |
| fifoSize                    | <p>Specifies the maximum number of First-In-First-Out (FIFO) snapshots supported by the volume. Note that FIFO and non-FIFO snapshots both use the same pool of available snapshot slots on a volume. Use this option to limit FIFO snapshot consumption of the available snapshot slots. If omitted, the value defaults to 24.</p> | integer | 24            | No       |



| Name        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type       | Default value | Required |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|----------|
| minFifoSize | Specifies the minimum number of First-In-First-Out (FIFO) snapshot slots reserved by the volume. This guarantees that if you are using both FIFO snapshots and non-FIFO snapshots on a volume that the non-FIFO snapshots do not unintentionally consume too many FIFO slots. It also ensures that at least this many FIFO snapshots are always available. Since FIFO and non-FIFO snapshots share the same pool, the minFifoSize reduces the total number of possible non-FIFO snapshots by the same amount. If omitted, the value defaults to 0. | integer    | 0             | No       |
| name        | Name of the volume access group (may be user-specified). Not required to be unique, but recommended. Must be 1 to 64 characters in length.                                                                                                                                                                                                                                                                                                                                                                                                         | string     | None          | Yes      |
| qos         | The initial quality of service settings for this volume. Default values are used if none are specified. Possible values: <ul style="list-style-type: none"> <li>• minIOPS</li> <li>• maxIOPS</li> <li>• burstIOPS</li> </ul>                                                                                                                                                                                                                                                                                                                       | QoS object | None          | No       |

| Name        | Description                                                                                                                                                    | Type    | Default value | Required |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| qosPolicyID | The ID for the policy whose QoS settings should be applied to the specified volumes. This parameter is mutually exclusive with the <code>qos</code> parameter. | integer | None          | No       |
| totalSize   | Total size of the volume, in bytes. Size is rounded up to the nearest megabyte.                                                                                | integer | None          | Yes      |

## Return values

This method has the following return values:

| Name     | Description                                                                                                                                                                                                                       | Type                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| volume   | Object containing information about the newly created volume.                                                                                                                                                                     | <a href="#">volume</a> |
| volumeID | The volumeID for the newly created volume.                                                                                                                                                                                        | integer                |
| curve    | The curve is a set of key-value pairs. The keys are the I/O sizes in bytes. The values represent the cost of performing an IOP at a specific I/O size. The curve is calculated relative to a 4096 byte operation set at 100 IOPS. | JSON object            |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CreateVolume",
  "params": {
    "name": "testit",
    "accountID": 22,
    "dontMoveForIopsRebalance": true,
    "totalSize": 100000000000,
    "enable512e": false,
    "attributes": {},
    "qos": {
      "minIOPS": 500,
      "maxIOPS": 27000,
      "burstIOPS": 27000,
      "burstTime": 60
    }
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "curve": {
      "1048576": 15000,
      "131072": 1950,
      "16384": 270,
      "262144": 3900,
      "32768": 500,
      "4096": 100,
      "524288": 7600,
      "65536": 1000,
      "8192": 160
    },
    "volume": {
      "access": "readWrite",
      "accountID": 22,
      "attributes": {},
      "blockSize": 4096,
      "createTime": "2024-04-02T13:03:02Z",
      "currentProtectionScheme": "doubleHelix",
      "deleteTime": "",

```

```

    "dontMoveForIopsRebalance": true,
    "enable512e": false,
    "enableSnapMirrorReplication": false,
    "fifoSize": 24,
    "iqn": "iqn.2010-01.com.solidfire:mysqldata.677",
    "lastAccessTime": null,
    "lastAccessTimeIO": null,
    "minFifoSize": 0,
    "name": "testit",
    "previousProtectionScheme": null,
    "purgeTime": "",
    "qos": {
      "burstIOPS": 27000,
      "burstTime": 60,
      "curve": {
        "1048576": 15000,
        "131072": 1950,
        "16384": 270,
        "262144": 3900,
        "32768": 500,
        "4096": 100,
        "524288": 7600,
        "65536": 1000,
        "8192": 160
      },
      "maxIOPS": 27000,
      "minIOPS": 500
    },
    "qosPolicyID": null,
    "scsiEUIDeviceID": "3365657500000140f47acc0100000000",
    "scsiNAADeviceID": "6f47acc1000000003365657500000140",
    "sliceCount": 0,
    "status": "active",
    "totalSize": 1000000716800,
    "virtualVolumeID": null,
    "volumeAccessGroups": [],
    "volumeConsistencyGroupUUID": "8ed68e57-13ee-47df-8381-
29b125142718",
    "volumeID": 320,
    "volumePairs": [],
    "volumeUUID": "e0e2c938-4ecd-4de9-a1be-f6b17c93ce5d"
  },
  "volumeID": 320
}

```

## New since version

9.6

## Find more information

[GetDefaultQoS](#)

# CreateBackupTarget

You can use `CreateBackupTarget` to create and store backup target information so that you do not need to re-enter it each time a backup is created.

## Parameters

This method has the following input parameters:

| Name       | Description                                     | Type        | Default value | Required               |
|------------|-------------------------------------------------|-------------|---------------|------------------------|
| name       | Name for the backup target.                     | string      | None          | Yes                    |
| attributes | List of name-value pairs in JSON object format. | JSON object | None          | Yes (but can be empty) |

## Return value

This method has the following return value:

| Name           | Description                                          | Type    |
|----------------|------------------------------------------------------|---------|
| backupTargetID | Unique identifier assigned to the new backup target. | integer |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "CreateBackupTarget",
  "params": {
    "name": "mytargetbackup"
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "backupTargetID": 1
  }
}
```

## New since version

9.6

## DeleteQoSPolicy

You can use the `DeleteQoSPolicy` method to delete a QoS policy from the system. The QoS settings for all volumes created or modified with this policy are unaffected.

## Parameters

This method has the following input parameters:

| Name        | Description                             | Type    | Default value | Required |
|-------------|-----------------------------------------|---------|---------------|----------|
| qosPolicyID | The ID of the QoS policy to be deleted. | integer | None          | Yes      |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "id": 663,
  "method": "DeleteQoSPolicy",
  "params": {
    "qosPolicyID": 4
  }
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 663,
  "result": {}
}
```

## New since version

9.6

# DeleteVolume

You can use the `DeleteVolume` method to mark an active volume for deletion. When marked, the volume is purged (permanently deleted) after the cleanup interval elapses.

After making a request to delete a volume, any active iSCSI connections to the volume are immediately terminated and no further connections are allowed while the volume is in this state. A marked volume is not returned in target discovery requests.

Any snapshots of a volume that has been marked for deletion are not affected. Snapshots are kept until the volume is purged from the system. If a volume is marked for deletion and has a bulk volume read or bulk volume write operation in progress, the bulk volume read or write operation is stopped.

If the volume you delete is paired with a volume, replication between the paired volumes is suspended and no data is transferred to it or from it while in a deleted state. The remote volume the deleted volume was paired with enters into a `PausedMisconfigured` state and data is no longer sent to it or from the deleted volume. Until the deleted volume is purged, it can be restored and data transfers resume. If the deleted volume gets purged from the system, the volume it was paired with enters into a `StoppedMisconfigured` state and the volume pairing status is removed. The purged volume becomes permanently unavailable.

## Parameter

This method has the following input parameter:

| Name     | Description                     | Type    | Default value | Required |
|----------|---------------------------------|---------|---------------|----------|
| volumeID | The ID of the volume to delete. | integer | None          | Yes      |

## Return values

This method has the following return values:

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

|          |                                                                                                                                                                                                                                   |                        |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| volume   | Object containing information about the deleted volume.                                                                                                                                                                           | <a href="#">volume</a> |
| volumeID | The volumeID of the deleted volume.                                                                                                                                                                                               | integer                |
| curve    | The curve is a set of key-value pairs. The keys are the I/O sizes in bytes. The values represent the cost of performing an IOP at a specific I/O size. The curve is calculated relative to a 4096 byte operation set at 100 IOPS. | JSON object            |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "DeleteVolume",
  "params": {
    "volumeID" : 5
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "volume": {
      "access": "readWrite",
      "accountID": 1,
      "attributes": {
        "name1": "value1",
        "name2": "value2",
        "name3": "value3"
      },
    },
    "blockSize": 4096,
    "createTime": "2016-03-28T16:16:13Z",
    "deleteTime": "2016-03-31T22:59:42Z",
    "enable512e": true,
  }
}
```



```

    "iqn": "iqn.2010-01.com.solidfire:jyay.1459181777648.5",
    "name": "1459181777648",
    "purgeTime": "2016-04-01T06:59:42Z",
    "qos": {
      "burstIOPS": 150,
      "burstTime": 60,
      "curve": {
        "4096": 100,
        "8192": 160,
        "16384": 270,
        "32768": 500,
        "65536": 1000,
        "131072": 1950,
        "262144": 3900,
        "524288": 7600,
        "1048576": 15000
      },
      "maxIOPS": 100,
      "minIOPS": 60
    },
    "scsiEUIDeviceID": "6a796179000000005f47acc01000000000",
    "scsiNAADeviceID": "6f47acc10000000006a796179000000005",
    "sliceCount": 1,
    "status": "deleted",
    "totalSize": 1000341504,
    "virtualVolumeID": null,
    "volumeAccessGroups": [
      1
    ],
    "volumeID": 5,
    "volumePairs": []
  }
}

```

## New since version

9.6

## DeleteVolumes

You can use the `DeleteVolumes` method to mark multiple (up to 500) active volumes for deletion. When marked, the volume is purged (permanently deleted) after the cleanup interval elapses.

After making a request to delete volumes, any active iSCSI connections to the volumes are immediately

terminated and no further connections are allowed while the volumes are in this state. A marked volume is not returned in target discovery requests.

Any snapshots of a volume that has been marked for deletion are not affected. Snapshots are kept until the volume is purged from the system. If a volume is marked for deletion and has a bulk volume read or bulk volume write operation in progress, the bulk volume read or write operation is stopped.

If the volumes you delete are paired with a volume, replication between the paired volumes is suspended and no data is transferred to them or from them while in a deleted state. The remote volumes the deleted volumes were paired with enter into a PausedMisconfigured state and data is no longer sent to them or from the deleted volumes. Until the deleted volumes are purged, they can be restored and data transfers resume. If the deleted volumes are purged from the system, the volumes they were paired with enter into a StoppedMisconfigured state and the volume pairing status is removed. The purged volumes become permanently unavailable.

## Parameters

This method has the following input parameters.



At least one of the following parameters are required, and you must use only one of the parameters (they are all mutually exclusive with one another).

| Name                 | Description                                                                                                                                      | Type          | Default value | Required  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|-----------|
| volumeIDs            | The list of IDs of the volumes to delete from the system.                                                                                        | integer array | None          | See Note. |
| volumeAccessGroupIDs | A list of volume access group IDs. All of the volumes from all of the volume access groups you specify in this list are deleted from the system. | integer array | None          | See Note. |
| accountIDs           | A list of account IDs. All volumes from these accounts are deleted from the system.                                                              | integer array | None          | See Note. |

## Return values

This method has the following return values:

| Name    | Description                                 | Type                   |
|---------|---------------------------------------------|------------------------|
| volumes | Information about the newly deleted volume. | <a href="#">volume</a> |

|       |                                                                                                                                                                                                                                   |             |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| curve | The curve is a set of key-value pairs. The keys are the I/O sizes in bytes. The values represent the cost of performing an IOP at a specific I/O size. The curve is calculated relative to a 4096 byte operation set at 100 IOPS. | JSON object |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "DeleteVolumes",
  "params": {
    "accountIDs" : [1, 2, 3]
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id" : 1,
  "result": {
    "volumes" : [ {
      "access": "readWrite",
      "accountID": 1,
      "attributes": {},
      "blockSize": 4096,
      "createTime": "2015-03-06T18:50:56Z",
      "deleteTime": "",
      "enable512e": False,
      "iqn": "iqn.2010-01.com.solidfire:pzsr.vclient-030-v00001.1",
      "name": "vclient-030-v00001",
      "qos": {
        "burstIOPS": 15000,
        "burstTime": 60,
        "curve": {},
        "maxIOPS": 15000,
        "minIOPS": 100
      },
      "purgeTime": "",
      "sliceCount": 1,
      "scsiEUIDeviceID": "707a7372000000001f47acc0100000000",
      "scsiNAADeviceID": "6f47acc1000000000707a737200000001",
      "status": "active",
      "totalSize": 10000003072,
      "virtualVolumeID": 5,
      "volumeAccessGroups": [],
      "volumePairs": [],
      "volumeID": 1
    } ]
  }
}

```

## New since version

9.6

## GetBackupTarget

You can use the `GetBackupTarget` method to return information about a specific backup target that you have created.

## Parameters

This method has the following input parameters:

| Name           | Description                                      | Type        | Default value | Required |
|----------------|--------------------------------------------------|-------------|---------------|----------|
| attributes     | List of name-value pairs in JSON object format.  | JSON object | None          | No       |
| backupTargetID | Unique identifier assigned to the backup target. | integer     | None          | Yes      |
| name           | Name of the backup target.                       | string      | None          | No       |

## Return value

This method has the following return value:

| Name         | Description                                     | Type        |
|--------------|-------------------------------------------------|-------------|
| backupTarget | List of name-value pairs in JSON object format. | JSON object |

## Request example

Requests for this method are similar to the following example:

```
{
  "id": 1,
  "method": "GetBackupTarget",
  "params": {
    "backupTargetID": 1
  }
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "backupTarget": {
      "attributes" : {
        "size" : 100
      },
      "backupTargetID" : 1,
      "name" : "mytargetbackup"
    }
  }
}

```

## New since version

9.6

# GetVolumeStats

You can use the `GetVolumeStats` method to get high-level activity measurements for a single volume. Values are cumulative from the creation of the volume.

## Parameter

This method has the following input parameter:

| Name     | Description                                             | Type    | Default value | Required |
|----------|---------------------------------------------------------|---------|---------------|----------|
| volumeID | Specifies the volume for which statistics are gathered. | integer | None          | Yes      |

## Return value

This method has the following return value:

| Name        | Description                  | Type                        |
|-------------|------------------------------|-----------------------------|
| volumeStats | Volume activity information. | <a href="#">volumeStats</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetVolumeStats",
  "params": {
    "volumeID": 32
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "volumeStats": [
      {
        "accountID": 1,
        "actualIOPS": 4,
        "asyncDelay": null,
        "averageIOPSsize": 5970,
        "burstIOPSCredit": 0,
        "clientQueueDepth": 0,
        "desiredMetadataHosts": null,
        "latencyUSec": 474,
        "metadataHosts": {
          "deadSecondaries": [],
          "liveSecondaries": [
            13
          ],
          "primary": 25
        },
        "nonZeroBlocks": 34931222,
        "normalizedIOPS": 4,
        "readBytes": 1282491003392,
        "readBytesLastSample": 0,
        "readLatencyUSec": 0,
        "readLatencyUSecTotal": 4581669750,
        "readOps": 15592933,
        "readOpsLastSample": 0,
        "samplePeriodMSec": 500,
        "sliceIopsStats": {
          "largeStatistics": {
            "averageReadIops": 17,
            "averageTotalIops": 43,
```

```

        "averageWriteIops": 26,
        "nSamples": 24,
        "peakReadIops": 19,
        "peakTotalIops": 47,
        "peakWriteIops": 30,
        "sliceID": 1
    },
    "smallStatistics": {
        "averageReadIops": 17,
        "averageTotalIops": 42,
        "averageWriteIops": 25,
        "nSamples": 120,
        "peakReadIops": 173,
        "peakTotalIops": 249,
        "peakWriteIops": 77,
        "sliceID": 1
    }
},
"throttle": 0,
"timestamp": "2025-02-03T21:18:38.880100Z",
"unalignedReads": 167319,
"unalignedWrites": 90836,
"volumeAccessGroups": [
    1
],
"volumeID": 1,
"volumeSize": 2147483648000,
"volumeUtilization": 0.00026666666666666667,
"writeBytes": 1385173585408,
"writeBytesLastSample": 12288,
"writeLatencyUsec": 474,
"writeLatencyUsecTotal": 11233350905,
"writeOps": 157060458,
"writeOpsLastSample": 2,
"zeroBlocks": 489356778
}
}
}

```

## New since version

9.6

## GetDefaultQoS

You can use the `GetDefaultQoS` method to get the default quality of service (QoS)



values for a newly created volume.

## Parameters

This method has no input parameters.

## Return value

This method has the following return value:

| Name | Description             | Type                |
|------|-------------------------|---------------------|
| QoS  | The default QoS values. | <a href="#">QoS</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetDefaultQoS",
  "params": {},
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id" : 1,
  "result" : {
    "burstIOPS" : 15000,
    "burstTime" : 60,
    "curve" : {
      "1048576" : 15000,
      "131072" : 1900,
      "16384" : 270,
      "262144" : 3000,
      "32768" : 500,
      "4096" : 100,
      "524288" : 7500,
      "65536" : 1000,
      "8192" : 160
    },
    "maxIOPS" : 15000,
    "minIOPS" : 100
  }
}

```

## New since version

9.6

## GetQoSPolicy

You can use the `GetQoSPolicy` method to get details about a specific QoS policy from the system.

### Parameter

This method has the following input parameter:

| Name        | Description                           | Type    | Default value | Required |
|-------------|---------------------------------------|---------|---------------|----------|
| qosPolicyID | The ID of the policy to be retrieved. | integer | None          | Yes      |

### Return value

This method has the following return value:

| Name      | Description                          | Type                      |
|-----------|--------------------------------------|---------------------------|
| qosPolicy | Details of the requested QoS policy. | <a href="#">QoSPolicy</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetQoSPolicy",
  "params": {
    "qosPolicyID": 2
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "qosPolicy": {
      "name": "bronze",
      "qos": {
        "burstIOPS": 15002,
        "burstTime": 60,
        "curve": {
          "4096": 100,
          "8192": 160,
          "16384": 270,
          "32768": 500,
          "65536": 1000,
          "131072": 1950,
          "262144": 3900,
          "524288": 7600,
          "1048576": 15000
        },
        "maxIOPS": 15002,
        "minIOPS": 51
      },
      "qosPolicyID": 2,
      "volumeIDs": [
        2
      ]
    }
  }
}

```

## New since version

10.0

## GetVolumeCount

You can use the `GetVolumeCount` method to get the number of volumes currently in the system.

### Parameters

This method has no input parameters.

## Return value

This method has the following return value:

| Name  | Description                                    | Type    |
|-------|------------------------------------------------|---------|
| count | The number of volumes currently in the system. | integer |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetVolumeCount",
  "params": {
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "count": 7
  }
}
```

## New since version

9.6

# GetVolumeEfficiency

You can use the `GetVolumeEfficiency` method to get information about a volume. Only the volume you give as a parameter in this API method is used to compute the capacity.

## Parameter

This method has the following input parameter:

| Name     | Description                                          | Type    | Default value | Required |
|----------|------------------------------------------------------|---------|---------------|----------|
| volumeID | Specifies the volume for which capacity is computed. | integer | None          | Yes      |

## Return values

This method has the following return values:

| Name             | Description                                                                                                                                                                                                       | Type                 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| compression      | The amount of space being saved by compressing data on a single volume. Stated as a ratio, where 1 means data has been stored without being compressed.                                                           | float                |
| deduplication    | The amount of space being saved on a single volume by not duplicating data. Stated as a ratio.                                                                                                                    | float                |
| missingVolumes   | The volumes that could not be queried for efficiency data. Missing volumes can be caused by Garbage Collection (GC) being less than an hour old, temporary network loss or restarted services since the GC cycle. | integer array        |
| thinProvisioning | The ratio of space used to the amount of space allocated for storing data. Stated as a ratio.                                                                                                                     | float                |
| timestamp        | The last time efficiency data was collected after GC.                                                                                                                                                             | ISO 8601 data string |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetVolumeEfficiency",
  "params": {
    "volumeID": 606
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "compression": 2.001591240821456,
    "deduplication": 1,
    "missingVolumes": [],
    "thinProvisioning": 1.009861932938856,
    "timestamp": "2014-03-10T16:06:33Z"
  }
}
```

## New since version

9.6

## ListActiveVolumes

You can use the `ListActiveVolumes` method to get the list of active volumes currently in the system. The list of volumes is sorted in `VolumeID` order and can be returned in multiple parts (pages).

## Parameters

This method has the following input parameters:

| Name                               | Description                                                                                         | Type    | Default value | Required |
|------------------------------------|-----------------------------------------------------------------------------------------------------|---------|---------------|----------|
| <code>includeVirtualVolumes</code> | Virtual volumes are included in the response, by default. To exclude virtual volumes, set to false. | boolean | true          | No       |

| Name          | Description                                                                                                                                                                                                                           | Type    | Default value | Required |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| startVolumeID | Starting VolumeID to return. If no volume exists with this VolumeID, the next volume by VolumeID order is used as the start of the list. To page through the list, pass the VolumeID of the last volume in the previous response + 1. | integer | 0             | No       |
| limit         | Maximum number of volume info objects to return. 0 (zero) returns all volumes (unlimited).                                                                                                                                            | integer | (unlimited)   | No       |

## Return value

This method has the following return value:

| Name    | Description             | Type                         |
|---------|-------------------------|------------------------------|
| volumes | List of active volumes. | <a href="#">volume</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListActiveVolumes",
  "params": {
    "startVolumeID" : 0,
    "limit" : 1000
  },
  "id" : 1
}
```

## Response example

Due to the length of this response example, it is documented in a supplementary topic.



## New since version

9.6

# ListBackupTargets

You can use the `ListBackupTargets` method to get information about all backup targets that have been created.

## Parameters

This method has no input parameters.

## Return value

This method has the following return value:

| Name          | Description                                                                                                                                                                                                                                                                                                                                                                   | Type        |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| backupTargets | <p>Objects returned for each backup target. Included objects:</p> <ul style="list-style-type: none"><li>• <code>attributes</code>: List of name-value pairs in JSON object format. (JSON object)</li><li>• <code>backupTargetID</code>: Unique identifier assigned to the backup target. (integer)</li><li>• <code>name</code>: Name of the backup target. (string)</li></ul> | JSON object |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListBackupTargets",
  "params": {},
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "backupTargets": [
      {
        "attributes" : {},
        "backupTargetID" : 1,
        "name" : "mytargetbackup"
      }
    ]
  }
}

```

## New since version

9.6

# ListBulkVolumeJobs

You can use the `ListBulkVolumeJobs` method to get information about each bulk volume read or write operation that is occurring in the system.

## Parameters

This method has no input parameters.

## Return value

This method has the following return value:

| Name           | Description                                       | Type                                |
|----------------|---------------------------------------------------|-------------------------------------|
| bulkVolumeJobs | An array of information for each bulk volume job. | <a href="#">bulkVolumeJob</a> array |

## Request example

Requests for this method are similar to the following example:

```

{
  "method": "ListBulkVolumeJobs",
  "params": {
    },
  "id" : 1
}

```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "bulkVolumeJobs": [
      {
        "attributes": {
          "blocksPerTransfer": 1024,
          "firstPendingLba": 216064,
          "nLbas": 2441472,
          "nextLba": 226304,
          "pendingLbas": "[220160, 223232, 221184, 224256, 217088,
225280, 222208, 218112, 219136, 216064]",
          "percentComplete": 8,
          "startLba": 0
        },
        "bulkVolumeID": 2,
        "createTime": "2015-05-07T14:52:17Z",
        "elapsedTime": 44,
        "format": "native",
        "key": "eaffb0526d4fb47107061f09bfc9a806",
        "percentComplete": 8,
        "remainingTime": 506,
        "script": "bv_internal.py",
        "snapshotID": 509,
        "srcVolumeID": 3,
        "status": "running",
        "type": "read"
      }
    ]
  }
}
```

## New since version

9.6

## ListDeletedVolumes

You can use the `ListDeletedVolumes` method to retrieve the list of volumes that have been marked for deletion and purged from the system.

## Parameter

This method has the following input parameter:

| Name                  | Description                                                                                         | Type    | Default value | Required |
|-----------------------|-----------------------------------------------------------------------------------------------------|---------|---------------|----------|
| includeVirtualVolumes | Virtual volumes are included in the response, by default. To exclude virtual volumes, set to false. | boolean | true          | No       |

## Return value

This method has the following return value:

| Name    | Description              | Type                         |
|---------|--------------------------|------------------------------|
| volumes | List of deleted volumes. | <a href="#">volume</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListDeletedVolumes",
  "params": {},
  "id" : 1
}
```

## Response example

Responses for this method are similar to the following example:

```

{
  "id": 1,
  "result": {
    "volumes": [
      {
        "access": "readWrite",
        "accountID": 2,
        "attributes": {},
        "blockSize": 4096,
        "createTime": "2018-06-24T03:13:13Z",
        "deleteTime": "2018-07-22T16:12:39Z",
        "enable512e": true,
        "iqn": "iqn.2010-01.com.solidfire:0oto.deletethis.23",
        "name": "deleteThis",
        "purgeTime": "2016-07-23T00:12:39Z",
        "qos": {
          "burstIOPS": 15000,
          "burstTime": 60,
          "curve": {
            "4096": 100,
            "8192": 160,
            "16384": 270,
            "32768": 500,
            "65536": 1000,
            "131072": 1950,
            "262144": 3900,
            "524288": 7600,
            "1048576": 15000
          },
          "maxIOPS": 15000,
          "minIOPS": 50
        },
        "scsiEUIDeviceID": "306f746f000000017f47acc0100000000",
        "scsiNAADeviceID": "6f47acc1000000000306f746f000000017",
        "sliceCount": 1,
        "status": "deleted",
        "totalSize": 1396703232,
        "virtualVolumeID": null,
        "volumeAccessGroups": [],
        "volumeID": 23,
        "volumePairs": []
      }
    ]
  }
}

```

## New since version

9.6

# ListQoSPolicies

You can use the `ListQoSPolicies` method to list the settings of all QoS policies on the system.

## Parameters

This method has no input parameters.

## Return values

This method has the following return values:

| Name        | Description                              | Type                            |
|-------------|------------------------------------------|---------------------------------|
| qosPolicies | A list of details about each QoS policy. | <a href="#">QoSPolicy</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "id": 231,
  "method": "ListQoSPolicies",
  "params": {}
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 231,
  "result": {
    "qosPolicies": [
      {
        "name": "silver",
        "qos": {
          "burstIOPS": 15000,
          "burstTime": 60,
          "curve": {
```

```

        "4096": 100,
        "8192": 160,
        "16384": 270,
        "32768": 500,
        "65536": 1000,
        "131072": 1950,
        "262144": 3900,
        "524288": 7600,
        "1048576": 15000
    },
    "maxIOPS": 14000,
    "minIOPS": 50
},
"qosPolicyID": 1,
"volumeIDs": [
    1
]
},
{
    "name": "bronze",
    "qos": {
        "burstIOPS": 15000,
        "burstTime": 60,
        "curve": {
            "4096": 100,
            "8192": 160,
            "16384": 270,
            "32768": 500,
            "65536": 1000,
            "131072": 1950,
            "262144": 3900,
            "524288": 7600,
            "1048576": 15000
        },
        "maxIOPS": 15000,
        "minIOPS": 50
    },
    "qosPolicyID": 2,
    "volumeIDs": [
        2
    ]
}
]
}
}

```

## New since version

10.0

# ListSyncJobs

You can use the `ListSyncJobs` method to get information about synchronization jobs that are running on an Element storage cluster. This method returns information about slice, clone, block, and remote synchronization jobs.

## Parameters

This method has no input parameters.

## Return value

This method has the following return value:

| Name                  | Description                                                                                    | Type                          |
|-----------------------|------------------------------------------------------------------------------------------------|-------------------------------|
| <code>syncJobs</code> | List of objects describing synchronization processes that are currently running in the system. | <a href="#">syncJob</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListSyncJobs",
  "params": { },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id":1,
  "result":{
    "syncJobs":[
      {
        "bytesPerSecond":275314.8834458956,
        "currentBytes":178257920,
        "dstServiceID":36,
```



```

        "elapsedTime":289.4568382049871,
        "percentComplete":8.900523560209423,
        "remainingTime":2962.675921065957,
        "sliceID":5,
        "srcServiceID":16,
        "stage":"whole",
        "totalBytes":2002780160,
        "type":"slice"
    },
    {
        "bytesPerSecond":305461.3198607744,
        "cloneID":1,
        "currentBytes":81788928,
        "dstServiceID":16,
        "dstVolumeID":6,
        "elapsedTime":291.7847648200743,
        "nodeID":1,
        "percentComplete":8.167539267015707,
        "remainingTime":3280.708270981153,
        "sliceID":6,
        "srcServiceID":16,
        "srcVolumeID":5,
        "stage":"whole",
        "totalBytes":1001390080,
        "type":"clone"
    },
    {
        "blocksPerSecond":0,
        "branchType": "snapshot",
        "dstServiceID":8,
        "dstVolumeID":2,
        "elapsedTime":0,
        "percentComplete":0,
        "remainingTime":0,
        "sliceID":2,
        "stage":"metadata",
        "type":"remote"
    }
]
}

```

## New since version

9.6

# ListVolumeQoSHistograms

You can use the `ListVolumeQoSHistograms` method to generate a histogram of volume QoS usage for one volume or multiple volumes. This enables you to better understand how volumes are using QoS.

## Parameters

This method has the following input parameters:

| Name      | Description                                                                                   | Type          | Default value | Required |
|-----------|-----------------------------------------------------------------------------------------------|---------------|---------------|----------|
| volumeIDs | An optional list of volume IDs specifying which volumes should have QoS histograms generated. | integer array | None          | No       |

## Return value

This method has the following return value:

| Name          | Description                                                        | Type              |
|---------------|--------------------------------------------------------------------|-------------------|
| qosHistograms | A list of objects describing volume usage for one or more volumes. | JSON object array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeQoSHistograms",
  "params": {
    "volumeIDs": [1]
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
```

```

"id": 1,
"result": {
  "qosHistograms": [
    {
      "histograms": {
        "belowMinIopsPercentages": {
          "Bucket1To19": 2406,
          "Bucket20To39": 3,
          "Bucket40To59": 0,
          "Bucket60To79": 4,
          "Bucket80To100": 0
        },
        "minToMaxIopsPercentages": {
          "Bucket101Plus": 0,
          "Bucket1To19": 0,
          "Bucket20To39": 0,
          "Bucket40To59": 2,
          "Bucket60To79": 0,
          "Bucket80To100": 0
        },
        "readBlockSizes": {
          "Bucket131072Plus": 0,
          "Bucket16384To32767": 0,
          "Bucket32768To65535": 0,
          "Bucket4096To8191": 0,
          "Bucket65536To131071": 0,
          "Bucket8192To16383": 0
        },
        "targetUtilizationPercentages": {
          "Bucket0": 134943,
          "Bucket101Plus": 0,
          "Bucket1To19": 2409,
          "Bucket20To39": 4,
          "Bucket40To59": 0,
          "Bucket60To79": 2,
          "Bucket80To100": 0
        },
        "throttlePercentages": {
          "Bucket0": 137358,
          "Bucket1To19": 0,
          "Bucket20To39": 0,
          "Bucket40To59": 0,
          "Bucket60To79": 0,
          "Bucket80To100": 0
        },
        "writeBlockSizes": {

```

```

        "Bucket131072Plus": 0,
        "Bucket16384To32767": 0,
        "Bucket32768To65535": 0,
        "Bucket4096To8191": 0,
        "Bucket65536To131071": 0,
        "Bucket8192To16383": 0
    },
    "timestamp": "2018-06-21T18:45:52.010844Z",
    "volumeID": 1
}
]
}
}

```

## ListVolumes

You can use the `ListVolumes` method to get a list of volumes that are in a cluster. You can specify the volumes you want to return in the list by using the available parameters.

### Parameters

This method has the following input parameters:

| Name                  | Description                                                                                                        | Type          | Default value | Required |
|-----------------------|--------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| accounts              | Only volumes owned by the accounts you specify here are returned. Mutually exclusive with the volumeIDs parameter. | integer array | None          | No       |
| includeVirtualVolumes | Virtual volumes are included in the response by default. To exclude virtual volumes, set to false.                 | boolean       | true          | No       |

| Name          | Description                                                                                                                                                                                             | Type          | Default value | Required |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| isPaired      | Returns volumes that are paired or not paired. Possible values: <ul style="list-style-type: none"> <li>• true: Returns all paired volumes.</li> <li>• false: Returns all volumes not paired.</li> </ul> | boolean       | None          | No       |
| limit         | Enables you to set the maximum number of volume results that are returned. Mutually exclusive with the volumeIDs parameter.                                                                             | integer       | 10000         | No       |
| startVolumeID | Only volumes with an ID greater than or equal to this value are returned. Mutually exclusive with the volumeIDs parameter.                                                                              | integer       | None          | No       |
| volumeIDs     | A list of volume IDs. If you specify this parameter, other parameters operate only on this set of volumes. Mutually exclusive with the accounts, startVolumeID, and limit parameters.                   | integer array | No            | No       |
| volumeName    | Only volume object information matching the volume name is returned.                                                                                                                                    | string        | No            | No       |

| Name         | Description                                                                                                                                                                                                          | Type   | Default value | Required |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------|----------|
| volumeStatus | <p>Only volumes with a status equal to the status value are returned. Possible values:</p> <ul style="list-style-type: none"> <li>• creating</li> <li>• snapshotting</li> <li>• active</li> <li>• deleted</li> </ul> | string | No            | No       |

## Return value

This method has the following return value:

| Name    | Description      | Type                         |
|---------|------------------|------------------------------|
| volumes | List of volumes. | <a href="#">volume</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumes",
  "params": {
    "volumeIDs": [1],
    "volumeStatus": "active",
    "isPaired": "false"
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "volumes": [
      {
        "access": "readWrite",
        "accountID": 1,
        "attributes": {},
        "blockSize": 4096,
        "createTime": "2016-03-28T14:39:05Z",
        "deleteTime": "",
        "enable512e": true,
        "iqn": "iqn.2010-01.com.solidfire:testvolume1.1",
        "name": "testVolume1",
        "purgeTime": "",
        "qos": {
          "burstIOPS": 15000,
          "burstTime": 60,
          "curve": {
            "4096": 100,
            "8192": 160,
            "16384": 270,
            "32768": 500,
            "65536": 1000,
            "131072": 1950,
            "262144": 3900,
            "524288": 7600,
            "1048576": 15000
          },
          "maxIOPS": 15000,
          "minIOPS": 50
        },
        "scsiEUIDeviceID": "6a796179000000001f47acc0100000000",
        "scsiNAADeviceID": "6f47acc10000000006a79617900000001",
        "sliceCount": 1,
        "status": "active",
        "totalSize": 5000658944,
        "virtualVolumeID": null,
        "volumeAccessGroups": [],
        "volumeID": 1,
        "volumePairs": []
      }
    ]
  }
}

```

## New since version

9.6

# ListVolumeStats

You can use the `ListVolumeStats` method to get high-level activity measurements for a single volume, list of volumes, or all volumes (if you omit the `volumeIDs` parameter). Measurement values are cumulative from the creation of the volume.

## Parameters

This method has the following input parameters:

| Name                               | Description                                                                                                      | Type          | Default value     | Required |
|------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------|-------------------|----------|
| <code>includeVirtualVolumes</code> | Virtual volumes are included in the response by default. To exclude virtual volumes, set to <code>false</code> . | boolean       | <code>true</code> | No       |
| <code>volumeIDs</code>             | A list of volumes from which to retrieve activity information.                                                   | integer array | No                | No       |

## Return value

This method has the following return value:

| Name                     | Description                          | Type                              |
|--------------------------|--------------------------------------|-----------------------------------|
| <code>volumeStats</code> | List of volume activity information. | <a href="#">volumeStats</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeStats",
  "params": {
    "volumeIDs": [1]
  },
  "id": 1
}
```



## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "volumeStats": [
      {
        "accountID": 1,
        "actualIOPS": 0,
        "asyncDelay": null,
        "averageIOPSize": 0,
        "burstIOPSCredit": 30000,
        "clientQueueDepth": 0,
        "desiredMetadataHosts": null,
        "latencyUsec": 0,
        "metadataHosts": {
          "deadSecondaries": [],
          "liveSecondaries": [
            47
          ],
          "primary": 33
        },
        "nonZeroBlocks": 22080699,
        "readBytes": 657262370816,
        "readBytesLastSample": 0,
        "readLatencyUsec": 0,
        "readOps": 160464446,
        "readOpsLastSample": 0,
        "samplePeriodMsec": 500,
        "throttle": 0,
        "timestamp": "2016-03-09T19:39:15.771697Z",
        "unalignedReads": 0,
        "unalignedWrites": 0,
        "volumeAccessGroups": [
          1
        ],
        "volumeID": 1,
        "volumeSize": 107374182400,
        "volumeUtilization": 0,
        "writeBytes": 219117547520,
        "writeBytesLastSample": 0,
        "writeLatencyUsec": 0,
        "writeOps": 53495495,
        "writeOpsLastSample": 0,
      }
    ]
  }
}
```

```
        "zeroBlocks": 4133701
      }
    ]
  }
}
```

## New since version

9.6

# ListVolumesForAccount

You can use the `ListVolumesForAccount` method to list active and (pending) deleted volumes for an account.

## Parameters

This method has the following input parameters:

| Name                  | Description                                                                                        | Type    | Default value | Required |
|-----------------------|----------------------------------------------------------------------------------------------------|---------|---------------|----------|
| includeVirtualVolumes | Virtual volumes are included in the response by default. To exclude virtual volumes, set to false. | boolean | true          | No       |
| accountID             | All volumes owned by this accountID are returned.                                                  | integer | No            | Yes      |

## Return value

This method has the following return value:

| Name    | Description                 | Type                         |
|---------|-----------------------------|------------------------------|
| volumes | List of volume information. | <a href="#">volume</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumesForAccount",
  "params": {
    "accountID" : 1
  },
  "id" : 1
}
```

## Response example

Responses for this method are similar to the following example:

```

{
  "id": 1,
  "result": {
    "volumes": [
      {
        "access": "readWrite",
        "accountID": 1,
        "attributes": {},
        "blockSize": 4096,
        "createTime": "2018-07-22T16:15:25Z",
        "deleteTime": "",
        "enable512e": false,
        "iqn": "iqn.2010-01.com.solidfire:0oto.test1.25",
        "name": "test1",
        "purgeTime": "",
        "qos": {
          "burstIOPS": 15000,
          "burstTime": 60,
          "curve": {
            "4096": 100,
            "8192": 160,
            "16384": 270,
            "32768": 500,
            "65536": 1000,
            "131072": 1950,
            "262144": 3900,
            "524288": 7600,
            "1048576": 15000
          },
          "maxIOPS": 15000,
          "minIOPS": 50
        },
        "scsiEUIDeviceID": "306f746f000000019f47acc0100000000",
        "scsiNAADeviceID": "6f47acc1000000000306f746f000000019",
        "sliceCount": 1,
        "status": "active",
        "totalSize": 1000341504,
        "virtualVolumeID": null,
        "volumeAccessGroups": [],
        "volumeID": 25,
        "volumePairs": []
      }
    ]
  }
}

```

## New since version

9.6

# ListVolumeStatsByAccount

You can use the `ListVolumeStatsByAccount` method to list high-level volume activity measurements for every account. Values are summed from all volumes owned by the account.

## Parameters

This method has the following input parameters:

| Name                               | Description                                                                                                        | Type          | Default value | Required |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| <code>includeVirtualVolumes</code> | Virtual volumes are included in the response by default. To exclude virtual volumes, set to false.                 | boolean       | true          | No       |
| <code>accounts</code>              | A list of account IDs for which to return volume statistics. If omitted, statistics for all accounts are returned. | integer array | None          | No       |

## Return value

This method has the following return value:

| Name                     | Description                                                                                                                                                                                         | Type                              |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| <code>volumeStats</code> | List of volume activity information for each account. <b>Note:</b> The <code>volumeID</code> member is 0 for each entry, as the values represent the summation of all volumes owned by the account. | <a href="#">volumeStats</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeStatsByAccount",
  "params": {"accounts": [3]},
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "volumeStats": [
      {
        "accountID": 3,
        "nonZeroBlocks": 155040175,
        "readBytes": 3156273328128,
        "readBytesLastSample": 0,
        "readOps": 770574543,
        "readOpsLastSample": 0,
        "samplePeriodMSec": 500,
        "timestamp": "2016-10-17T20:42:26.231661Z",
        "unalignedReads": 0,
        "unalignedWrites": 0,
        "volumeAccessGroups": [],
        "volumeID": 0,
        "volumeSize": 1127428915200,
        "writeBytes": 1051988406272,
        "writeBytesLastSample": 0,
        "writeOps": 256833107,
        "writeOpsLastSample": 0,
        "zeroBlocks": 120211025
      }
    ]
  }
}
```

## New since version

9.6

# ListVolumeStatsByVirtualVolume

You can use the `ListVolumeStatsByVirtualVolume` method to list volume statistics for any volumes in the system that are associated with virtual volume. Statistics are cumulative from the creation of the volume.

## Parameter

This method has the following input parameter:

| Name             | Description                                                                                                                                                                 | Type              | Default value | Required |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|----------|
| virtualVolumeIDs | A list of one or more virtual volume IDs for which to retrieve information. If you specify this parameter, the method returns information about only these virtual volumes. | UUID string array | No            | No       |

## Return value

This method has the following return value:

| Name        | Description                                                                              | Type                              |
|-------------|------------------------------------------------------------------------------------------|-----------------------------------|
| volumeStats | A list of objects containing activity information for each virtual volume in the system. | <a href="#">volumeStats</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeStatsByVirtualVolume",
  "params": {},
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "volumeStats": [
      {
        "accountID": 17,
        "actualIOPS": 0,
        "asyncDelay": null,
        "averageIOPSize": 1074265444,
        "burstIOPSCredit": 0,
        "clientQueueDepth": 0,
        "desiredMetadataHosts": null,
        "latencyUSec": 0,
        "metadataHosts": {
          "deadSecondaries": [],
          "liveSecondaries": [
            26
          ],
          "primary": 56
        },
        "nonZeroBlocks": 36,
        "readBytes": 18366464,
        "readBytesLastSample": 0,
        "readLatencyUSec": 0,
        "readOps": 156,
        "readOpsLastSample": 0,
        "samplePeriodMSec": 500,
        "throttle": 0,
        "timestamp": "2016-10-10T17:46:35.914642Z",
        "unalignedReads": 156,
        "unalignedWrites": 185,
        "virtualVolumeID": "070ac0ba-f344-4f4c-b79c-142efa3642e8",
        "volumeAccessGroups": [],
        "volumeID": 12518,
        "volumeSize": 91271200768,
        "volumeUtilization": 0,
        "writeBytes": 23652213248,
        "writeBytesLastSample": 0,
        "writeLatencyUSec": 0,
        "writeOps": 185,
        "writeOpsLastSample": 0,
        "zeroBlocks": 22282972
      }
    ]
  }
}

```



## New since version

9.6

# ListVolumeStatsByVolume

You can use the `ListVolumeStatsByVolume` method to list high-level activity measurements for every volume, by volume. Values are cumulative from the creation of the volume.

## Parameter

This method has the following input parameter:

| Name                               | Description                                                                                        | Type    | Default value | Required |
|------------------------------------|----------------------------------------------------------------------------------------------------|---------|---------------|----------|
| <code>includeVirtualVolumes</code> | Virtual volumes are included in the response by default. To exclude virtual volumes, set to false. | boolean | true          | No       |

## Return value

This method has the following return value:

| Name                     | Description                          | Type                              |
|--------------------------|--------------------------------------|-----------------------------------|
| <code>volumeStats</code> | List of volume activity information. | <a href="#">volumeStats</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeStatsByVolume",
  "params": {},
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
```

```

"result": {
  "volumeStats": [
    {
      "accountID": 1,
      "actualIOPS": 4,
      "asyncDelay": null,
      "averageIOPSize": 5970,
      "burstIOPSCredit": 0,
      "clientQueueDepth": 0,
      "desiredMetadataHosts": null,
      "latencyUSec": 474,
      "metadataHosts": {
        "deadSecondaries": [],
        "liveSecondaries": [
          13
        ],
        "primary": 25
      },
      "nonZeroBlocks": 34931222,
      "normalizedIOPS": 4,
      "readBytes": 1282491003392,
      "readBytesLastSample": 0,
      "readLatencyUSec": 0,
      "readLatencyUSecTotal": 4581669750,
      "readOps": 15592933,
      "readOpsLastSample": 0,
      "samplePeriodMSec": 500,
      "sliceIopsStats": {
        "largeStatistics": {
          "averageReadIops": 17,
          "averageTotalIops": 43,
          "averageWriteIops": 26,
          "nSamples": 24,
          "peakReadIops": 19,
          "peakTotalIops": 47,
          "peakWriteIops": 30,
          "sliceID": 1
        },
        "smallStatistics": {
          "averageReadIops": 17,
          "averageTotalIops": 42,
          "averageWriteIops": 25,
          "nSamples": 120,
          "peakReadIops": 173,
          "peakTotalIops": 249,
          "peakWriteIops": 77,

```

```

        "sliceID": 1
    },
    "throttle": 0,
    "timestamp": "2025-02-03T21:18:38.880100Z",
    "unalignedReads": 167319,
    "unalignedWrites": 90836,
    "volumeAccessGroups": [
        1
    ],
    "volumeID": 1,
    "volumeSize": 2147483648000,
    "volumeUtilization": 0.00026666666666666667,
    "writeBytes": 1385173585408,
    "writeBytesLastSample": 12288,
    "writeLatencyUsec": 474,
    "writeLatencyUsecTotal": 11233350905,
    "writeOps": 157060458,
    "writeOpsLastSample": 2,
    "zeroBlocks": 489356778
}
]
}
}

```

## New since version

9.6

## ListVolumeStatsByVolumeAccessGroup

You can use the `ListVolumeStatsByVolumeAccessGroup` method to list total activity measurements for all of the volumes that are members of the specified volume access groups.

## Parameters

This method has the following input parameters:

| Name                  | Description                                                                                                                               | Type          | Default value | Required |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| includeVirtualVolumes | Virtual volumes are included in the response by default. To exclude virtual volumes, set to false.                                        | boolean       | true          | No       |
| volumeAccessGroups    | An array of VolumeAccessGroupIDs for which volume activity is returned. If omitted, statistics for all volume access groups are returned. | integer array | None          | No       |

## Return value

This method has the following return value:

| Name        | Description                                                                                                                                                                                                                     | Type                        |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| volumeStats | List of volume activity information for all volumes in the specified volume access group. <b>Note:</b> The volumeID member is 0 for each entry, because the values represent the summation of all volumes owned by the account. | <a href="#">volumeStats</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ListVolumeStatsByVolumeAccessGroup",
  "params": {"volumeAccessGroups": [1]},
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```

{
  "id": 1,
  "result": {
    "volumeStats": [
      {
        "accountID": 0,
        "nonZeroBlocks": 149366393,
        "readBytes": 3156273328128,
        "readBytesLastSample": 0,
        "readOps": 770574543,
        "readOpsLastSample": 0,
        "samplePeriodMSec": 500,
        "timestamp": "2016-10-17T21:04:10.712370Z",
        "unalignedReads": 0,
        "unalignedWrites": 0,
        "volumeAccessGroups": [
          1
        ],
        "volumeID": 0,
        "volumeSize": 1073741824000,
        "writeBytes": 1051988406272,
        "writeBytesLastSample": 0,
        "writeOps": 256833107,
        "writeOpsLastSample": 0,
        "zeroBlocks": 112777607
      }
    ]
  }
}

```

## New since version

9.6

## ModifyBackupTarget

You can use the `ModifyBackupTarget` method to change attributes of a backup target.

### Parameters

This method has the following input parameters:

| Name           | Description                                     | Type        | Default value | Required |
|----------------|-------------------------------------------------|-------------|---------------|----------|
| backupTargetID | Unique target ID for the target to modify.      | integer     | None          | Yes      |
| attributes     | List of name-value pairs in JSON object format. | JSON object | None          | No       |
| name           | New name for the backup target.                 | string      | None          | No       |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ModifyBackupTarget",
  "params": {
    "backupTargetID" : 1,
    "name": "yourtargetS3"
    "attributes" : {
      "size" : 500,
    }
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {}
}
```

## New since version

9.6

# ModifyQoSPolicy

You can use the `ModifyQoSPolicy` method to modify an existing QoS policy on the system.

## Parameters

This method has the following input parameters:

| Name        | Description                                                                                                                                              | Type       | Default value | Required |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|----------|
| qosPolicyID | The ID of the policy to be modified.                                                                                                                     | integer    | None          | Yes      |
| name        | If supplied, the name of the QoS policy (e.g. gold, platinum, silver) is changed to this value.                                                          | string     | None          | No       |
| qos         | If supplied, the QoS settings for this policy are changed to these settings. You can supply partial QoS values and only change some of the QoS settings. | QoS object | None          | No       |

## Return values

This method has the following return values:

| Name      | Description                               | Type                      |
|-----------|-------------------------------------------|---------------------------|
| qosPolicy | Details of the newly modified QoS policy. | <a href="#">QoSPolicy</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "id": 1950,
  "method": "ModifyQoSPolicy",
  "params": {
    "qosPolicyID": 2,
    "qos": {
      "minIOPS": 51,
      "maxIOPS": 15002,
      "burstIOPS": 15002
    }
  }
}
```

## Response example

This method returns a response similar to the following example:



```

{
  "id": 1950,
  "result": {
    "qosPolicy": {
      "name": "bronze",
      "qos": {
        "burstIOPS": 15002,
        "burstTime": 60,
        "curve": {
          "4096": 100,
          "8192": 160,
          "16384": 270,
          "32768": 500,
          "65536": 1000,
          "131072": 1950,
          "262144": 3900,
          "524288": 7600,
          "1048576": 15000
        },
        "maxIOPS": 15002,
        "minIOPS": 51
      },
      "qosPolicyID": 2,
      "volumeIDs": [
        2
      ]
    }
  }
}

```

## New since version

10.0

## ModifyVolume

You can use the `ModifyVolume` method to modify settings on an existing volume. You can make modifications to one volume at a time and changes take place immediately.

If you do not specify QoS values when you modify a volume, they remain the same as before the modification. You can retrieve default QoS values for a newly created volume by running the `GetDefaultQoS` method.

When you need to increase the size of a volume that is being replicated, do so in the following order to prevent replication errors:

1. Increase the size of the volume with `replicationTarget` access.

2. Increase the size of the source or the volume with readWrite access.

Ensure that both the target and source volumes are the same size.



If you change the access status to locked or replicationTarget, all existing iSCSI connections are terminated.

## Parameters

This method has the following input parameters:

| Name     | Description                                 | Type    | Default value | Required |
|----------|---------------------------------------------|---------|---------------|----------|
| volumeID | The volumeID for the volume to be modified. | integer | None          | Yes      |

| Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type    | Default value | Required |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| access    | <p>Access allowed for the volume. Possible values:</p> <ul style="list-style-type: none"> <li>• readOnly: Only read operations are allowed.</li> <li>• readWrite: Reads and writes are allowed.</li> <li>• locked: No reads or writes are allowed. If not specified, the access value does not change.</li> <li>• replicationTarget: Identify a volume as the target volume for a paired set of volumes. If the volume is not paired, the access status is locked. If a value is not specified, the access value does not change.</li> <li>• snapMirrorTarget: Identify a volume as the target volume for SnapMirror replication.</li> </ul> | string  | None          | No       |
| accountID | The accountID to which the volume is reassigned. If none is specified, the previous account name is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | integer | None          | No       |

| Name                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Type            | Default value | Required |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|----------|
| associateWithQoSPolicy | <p>Associate the volume with the specified QoS policy. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>true</code>: Associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter.</li> <li>• <code>false</code>: Do not associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter. When false, any existing policy association is removed, regardless of whether you specify a QoS policy in the <code>QoSPolicy</code> parameter.</li> </ul> | boolean         | None          | No       |
| attributes             | List of name-value pairs in JSON object format.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | JSON object     | None          | No       |
| createTime             | An ISO 8601 date string to set as the new volume creation date. Required if <code>setCreateTime</code> is set to true.                                                                                                                                                                                                                                                                                                                                                                                                               | ISO 8601 string | None          | No       |

| Name                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type    | Default value | Required |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| dontMoveforIopsRebalance    | <p>Prevent a volume from moving when load balancing with actual IOPS. This setting is available beginning with Element 12.8 and is only effective when <a href="#">VolumeLoadBalanceOnActualIOPS</a> is enabled. Possible values:</p> <ul style="list-style-type: none"> <li>• true: Volume does not load balance based on actual IOPS.</li> <li>• false: Volume does load balance based on actual IOPS.</li> </ul> <p><b>Note:</b> Balancing for high availability (node failure) takes precedence over <code>VolumeLoadBalanceOnActualIOPS</code> and <code>dontMoveforIopsRebalance</code>.</p> | boolean | false         | No       |
| enableSnapMirrorReplication | <p>Determines whether the volume can be used for replication with SnapMirror endpoints. Possible values:</p> <ul style="list-style-type: none"> <li>• true</li> <li>• false</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             | boolean | false         | No       |

| Name        | Description                                                                                                                                                                                                                                                                                                                                                                    | Type    | Default value | Required |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| fifoSize    | Specifies the maximum number of First-In-First-Out (FIFO) snapshots supported by the volume. Note that FIFO and non-FIFO snapshots both use the same pool of available snapshot slots on a volume. Use this option to limit FIFO snapshot consumption of the available snapshot slots. Note that you cannot modify this value to be less than the current FIFO snapshot count. | integer | None          | No       |
| minFifoSize | Specifies the number of snapshot slots that are reserved for only First-In-First-Out (FIFO) snapshots. Since FIFO and non-FIFO snapshots share the same pool, the minFifoSize parameter reduces the total number of possible non-FIFO snapshots by the same amount. Note that you cannot modify this value so that it conflicts with the current non-FIFO snapshot count.      | integer | None          | No       |

| Name          | Description                                                                                                                                                                                                                                                                                                                                             | Type    | Default value | Required |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| mode          | <p>Volume replication mode. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>asynch</code>: Waits for system to acknowledge that data is stored on source before writing to the target.</li> <li>• <code>sync</code>: Does not wait for data transmission acknowledgment from source to begin writing data to the target.</li> </ul> | string  | None          | No       |
| qos           | <p>The new quality of service settings for this volume. If not specified, the QoS settings are not changed. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>minIOPS</code></li> <li>• <code>maxIOPS</code></li> <li>• <code>burstIOPS</code></li> </ul>                                                                             | QoS     | None          | No       |
| qosPolicyID   | The ID for the policy whose QoS settings should be applied to the specified volumes. This parameter is mutually exclusive with the <code>qos</code> parameter.                                                                                                                                                                                          | integer | None          | No       |
| setCreateTime | Set to true to change the recorded date of volume creation.                                                                                                                                                                                                                                                                                             | boolean | None          | No       |

| Name      | Description                                                                                                                                                                             | Type    | Default value | Required |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| totalSize | The new size of the volume in bytes. 10000000000 is equal to 1GB. Size is rounded up to the nearest megabyte in size. This parameter can only be used to increase the size of a volume. | integer | None          | No       |

## Return value

This method has the following return value:

| Name   | Description                                                    | Type                   |
|--------|----------------------------------------------------------------|------------------------|
| volume | Object containing information about the newly modified volume. | <a href="#">volume</a> |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ModifyVolume",
  "params": {
    "volumeID": 319,
    "access": "readWrite",
    "dontMoveForIopsRebalance": false
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "volume": {
      "access": "readWrite",
      "accountID": 22,
      "attributes": {},

```



```

"blockSize": 4096,
"createTime": "2024-04-01T19:39:40Z",
"currentProtectionScheme": "doubleHelix",
"deleteTime": "",
"dontMoveForIopsRebalance": false,
"enable512e": false,
"enableSnapMirrorReplication": false,
"fifoSize": 24,
"iqn": "iqn.2010-01.com.solidfire:3eeu.suite40.319",
"lastAccessTime": "2024-04-02T12:41:34Z",
"lastAccessTimeIO": "2024-04-01T20:41:19Z",
"minFifoSize": 0,
"name": "suite40",
"previousProtectionScheme": null,
"purgeTime": "",
"qos": {
  "burstIOPS": 27000,
  "burstTime": 60,
  "curve": {
    "1048576": 15000,
    "131072": 1950,
    "16384": 270,
    "262144": 3900,
    "32768": 500, "4096": 100,
    "524288": 7600,
    "65536": 1000,
    "8192": 160
  },
  "maxIOPS": 27000,
  "minIOPS": 500
},
"qosPolicyID": null,
"scsiEUIDeviceID": "336565750000013ff47acc0100000000",
"scsiNAADeviceID": "6f47acc100000000336565750000013f",
"sliceCount": 1,
"status": "active",
"totalSize": 1000000716800,
"virtualVolumeID": null,
"volumeAccessGroups": [
  22
],
"volumeConsistencyGroupUUID": "3003109e-6e75-444c-8cee-
470d641a09c3",
"volumeID": 319,
"volumePairs": [],
"volumeUUID": "78203136-b0eb-454b-9f67-2c867ec7d7bb"

```

```
}  
}  
}
```

## New since version

9.6

## Find more information

[GetDefaultQoS](#)

# ModifyVolumes

You can use the `ModifyVolumes` method to configure up to 500 existing volumes at one time. Changes take place immediately. If `ModifyVolumes` fails to modify any of the specified volumes, none of the specified volumes are changed.

If you do not specify QoS values when you modify volumes, the QoS values for each volume remain unchanged. You can retrieve default QoS values for a newly created volume by running the `GetDefaultQoS` method.

When you need to increase the size volumes that are being replicated, do so in the following order to prevent replication errors:

1. Increase the size of the volume with `replicationTarget` access.
2. Increase the size of the source or the volume with `readWrite` access.

Ensure that both the target and source volumes are the same size.



If you change the access status to `locked` or `replicationTarget`, all existing iSCSI connections are terminated.

## Parameters

This method has the following input parameters:

| Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Type    | Default value | Required |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| access    | <p>Access allowed for the volumes.<br/>Possible values:</p> <ul style="list-style-type: none"> <li>• readOnly: Only read operations are allowed.</li> <li>• readWrite: Reads and writes are allowed.</li> <li>• locked: No reads or writes are allowed. If not specified, the access value does not change.</li> <li>• replicationTarget: Identify a volume as the target volume for a paired set of volumes. If the volume is not paired, the access status is locked. If a value is not specified, the access value does not change.</li> </ul> | string  | None          | No       |
| accountID | The accountID to which the volumes are reassigned. If none is specified, the previous account name is used.                                                                                                                                                                                                                                                                                                                                                                                                                                       | integer | None          | No       |

| Name                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Type            | Default value | Required |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|----------|
| associateWithQoSPolicy | <p>Associate the volume with the specified QoS policy. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>true</code>: Associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter.</li> <li>• <code>false</code>: Do not associate the volume with the QoS policy specified in the <code>QoSPolicyID</code> parameter. When false, any existing policy association is removed, regardless of whether you specify a QoS policy in the <code>QoSPolicy</code> parameter.</li> </ul> | boolean         | None          | No       |
| attributes             | List of name-value pairs in JSON object format.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | JSON object     | None          | No       |
| createTime             | An ISO 8601 date string to set as the new volume creation date. Required if <code>setCreateTime</code> is set to true.                                                                                                                                                                                                                                                                                                                                                                                                               | ISO 8601 string | None          | No       |

| Name                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type    | Default value | Required |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| dontMoveforIopsRebalance    | <p>Prevent a volume from moving when load balancing with actual IOPS. This setting is available beginning with Element 12.8 and is only effective when <a href="#">VolumeLoadBalanceOnActualIOPS</a> is enabled. Possible values:</p> <ul style="list-style-type: none"> <li>• true: Volume does not load balance based on actual IOPS.</li> <li>• false: Volume does load balance based on actual IOPS.</li> </ul> <p><b>Note:</b> Balancing for high availability (node failure) takes precedence over <code>VolumeLoadBalanceOnActualIOPS</code> and <code>dontMoveforIopsRebalance</code>.</p> | boolean | false         | No       |
| enableSnapMirrorReplication | <p>Determines whether the volume can be used for replication with SnapMirror endpoints. Possible values:</p> <ul style="list-style-type: none"> <li>• true</li> <li>• false</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             | boolean | false         | No       |

| Name        | Description                                                                                                                                                                                                                                                                                                                                                                    | Type    | Default value | Required |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| fifoSize    | Specifies the maximum number of First-In-First-Out (FIFO) snapshots supported by the volume. Note that FIFO and non-FIFO snapshots both use the same pool of available snapshot slots on a volume. Use this option to limit FIFO snapshot consumption of the available snapshot slots. Note that you cannot modify this value to be less than the current FIFO snapshot count. | integer | None          | No       |
| minFifoSize | Specifies the number of snapshot slots that are reserved for only First-In-First-Out (FIFO) snapshots. Since FIFO and non-FIFO snapshots share the same pool, the minFifoSize parameter reduces the total number of possible non-FIFO snapshots by the same amount. Note that you cannot modify this value so that it conflicts with the current non-FIFO snapshot count.      | integer | None          | No       |

| Name          | Description                                                                                                                                                                                                                                                                                                                                             | Type    | Default value | Required |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| mode          | <p>Volume replication mode. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>asynch</code>: Waits for system to acknowledge that data is stored on source before writing to the target.</li> <li>• <code>sync</code>: Does not wait for data transmission acknowledgment from source to begin writing data to the target.</li> </ul> | string  | None          | No       |
| qos           | <p>The new quality of service settings for the volumes. If not specified, the QoS settings are not changed. Possible values:</p> <ul style="list-style-type: none"> <li>• <code>minIOPS</code></li> <li>• <code>maxIOPS</code></li> <li>• <code>burstIOPS</code></li> </ul>                                                                             | QoS     | None          | No       |
| qosPolicyID   | The ID for the policy whose QoS settings should be applied to the specified volumes. This parameter is mutually exclusive with the <code>qos</code> parameter.                                                                                                                                                                                          | integer | None          | No       |
| setCreateTime | Set to true to change the recorded date of volume creation.                                                                                                                                                                                                                                                                                             | boolean | None          | No       |

| Name      | Description                                                                                                                                                                              | Type          | Default value | Required |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| totalSize | The new size of the volumes in bytes. 10000000000 is equal to 1GB. Size is rounded up to the nearest megabyte in size. This parameter can only be used to increase the size of a volume. | integer       | None          | No       |
| volumeIDs | A list of volumeIDs for the volumes to be modified.                                                                                                                                      | integer array | None          | Yes      |

## Return value

This method has the following return value:

| Name   | Description                                                                  | Type                         |
|--------|------------------------------------------------------------------------------|------------------------------|
| volume | An array of objects containing information about each newly modified volume. | <a href="#">volume</a> array |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "ModifyVolumes",
  "params": {
    "volumeIDs": [319,22],
    "access": "readWrite",
    "dontMoveForIopsRebalance": false
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
```



```

"result": {
  "volumes":
  {
    "access": "readWrite",
    "accountID": 22,
    "attributes": {},
    "blockSize": 4096,
    "createTime": "2024-04-01T19:39:40Z",
    "currentProtectionScheme": "doubleHelix",
    "deleteTime": "",
    "dontMoveForIopsRebalance": false,
    "enable512e": false,
    "enableSnapMirrorReplication": false,
    "fifoSize": 24,
    "iqn": "iqn.2010-01.com.solidfire:3eeu.suite40.319",
    "lastAccessTime": "2024-04-02T12:41:34Z",
    "lastAccessTimeIO": "2024-04-01T20:41:19Z",
    "minFifoSize": 0,
    "name": "suite40",
    "previousProtectionScheme": null,
    "purgeTime": "",
    "qos": {
      "burstIOPS": 27000,
      "burstTime": 60,
      "curve": {
        "1048576": 15000,
        "131072": 1950,
        "16384": 270,
        "262144": 3900,
        "32768": 500,
        "4096": 100,
        "524288": 7600,
        "65536": 1000,
        "8192": 160
      },
      "maxIOPS": 27000,
      "minIOPS": 500
    },
    "qosPolicyID": null,
    "scsiEUIDeviceID": "336565750000013ff47acc0100000000",
    "scsiNAADeviceID": "6f47acc1000000000336565750000013f",
    "sliceCount": 1,
    "status": "active",
    "totalSize": 1000000716800,
    "virtualVolumeID": null,
    "volumeAccessGroups": [

```

```
22
  ],
  "volumeConsistencyGroupUUID": "3003109e-6e75-444c-8cee-
470d641a09c3",
  "volumeID": 319,
  "volumePairs": [],
  "
}
}
}
```

## New since version

9.6

## Find more information

[GetDefaultQoS](#)

# PurgeDeletedVolume

You can use the `PurgeDeletedVolume` method to immediately and permanently purge a volume that has been deleted. You must delete a volume using `DeleteVolume` before it can be purged.

Volumes are purged automatically after a period of time, so usage of this method is not typically required.

## Parameter

This method has the following input parameter:

| Name     | Description                              | Type    | Default value | Required |
|----------|------------------------------------------|---------|---------------|----------|
| volumeID | The volumeID of the volume to be purged. | integer | No            | Yes      |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "PurgeDeletedVolume",
  "params": {
    "volumeID" : 5
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result": {}
}
```

## New since version

9.6

## Find more information

[DeleteVolume](#)

# PurgeDeletedVolumes

You can use the `PurgeDeletedVolumes` method to immediately and permanently purge volumes that have been deleted; you can use this method to purge up to 500 volumes at one time.

You must delete volumes using `DeleteVolumes` before they can be purged. Volumes are purged automatically after a period of time, so usage of this method is not typically required.



If you purge a large number of volumes at one time, or if the volumes you purge each have many associated snapshots, the method might fail and return the error "xDBCConnectionLoss". If this happens, retry the method call again with fewer volumes.

## Parameters

This method has the following input parameters:

| Name                 | Description                                                                                                                   | Type          | Default value | Required |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|
| volumeIDs            | A list of volumeIDs of volumes to be purged from the system.                                                                  | integer array | No            | No       |
| accountIDs           | A list of accountIDs. All of the volumes from all of the specified accounts are purged from the system.                       | integer array | No            | No       |
| volumeAccessGroupIDs | A list of volumeAccessGroupIDs. All of the volumes from all of the specified volume access groups are purged from the system. | integer array | No            | No       |

**Note:** You can specify only one of the above parameters per method call. Specifying more than one, or none, results in an error.

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "PurgeDeletedVolumes",
  "params": {
    "accountIDs" : [1, 2, 3]
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result": {}
}
```

## New since version

9.6

## Find more information

[DeleteVolumes](#)

# RemoveBackupTarget

You can use the `RemoveBackupTarget` method to remove backup targets.

## Parameter

This method has the following input parameter:

| Name           | Description                               | Type    | Default value | Required |
|----------------|-------------------------------------------|---------|---------------|----------|
| backupTargetID | Unique target ID of the target to remove. | integer | None          | Yes      |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "RemoveBackupTarget",
  "params": {
    "backupTargetID" : 1
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {}
}
```

## New since version

9.6

# RestoreDeletedVolume

You can use the `RestoreDeletedVolume` method to mark a deleted volume as active again. This action makes the volume immediately available for iSCSI connection.

## Parameter

This method has the following input parameter:

| Name     | Description                                    | Type    | Default value | Required |
|----------|------------------------------------------------|---------|---------------|----------|
| volumeID | The volumeID of the deleted volume to restore. | integer | None          | Yes      |

## Return values

This method has no return values.

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "RestoreDeletedVolume",
  "params": {
    "volumeID" : 5
  },
  "id" : 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result": {}
}
```

## New since version

9.6

# SetDefaultQoS

You can use the `SetDefaultQoS` method to configure the default Quality of Service (QoS) values (measured in inputs and outputs per second, or IOPS) for a volume.

## Parameters

This method has the following input parameters:

| Name      | Description                                                                        | Type    | Default value | Required |
|-----------|------------------------------------------------------------------------------------|---------|---------------|----------|
| minIOPS   | The minimum number of sustained IOPS that are provided by the cluster to a volume. | integer | None          | No       |
| maxIOPS   | The maximum number of sustained IOPS that are provided by the cluster to a volume. | integer | None          | No       |
| burstIOPS | The maximum number of IOPS allowed in a short burst scenario.                      | integer | None          | No       |

## Return values

This method has the following return values:

| Name    | Description                                                                        | Type    |
|---------|------------------------------------------------------------------------------------|---------|
| minIOPS | The minimum number of sustained IOPS that are provided by the cluster to a volume. | integer |

| Name      | Description                                                                        | Type    |
|-----------|------------------------------------------------------------------------------------|---------|
| maxIOPS   | The maximum number of sustained IOPS that are provided by the cluster to a volume. | integer |
| burstIOPS | The maximum number of IOPS allowed in a short burst scenario.                      | integer |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "SetDefaultQoS",
  "params": {
    "burstIOPS":8000,
    "maxIOPS":1000,
    "minIOPS":200
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id":1,
  "result": {
    "burstIOPS":8000,
    "maxIOPS":1000,
    "minIOPS":200
  }
}
```

## New since version

9.6

## StartBulkVolumeRead

You can use the `StartBulkVolumeRead` method to start a bulk volume read session on a specified volume.



Only two bulk volume processes can run simultaneously on a volume. When you initialize the session, data is read from a SolidFire storage volume to be stored on an external backup source. The external data is accessed by a web server running on an Element storage node. Server interaction information for external data access is passed by a script running on the storage system.

At the start of a bulk volume read operation, a snapshot of the volume is made and the snapshot is deleted when the read has completed. You can also read a snapshot of the volume by entering the ID of the snapshot as a parameter. When you read a previous snapshot, the system does not create a new snapshot of the volume, nor does it delete the previous snapshot when the read completes.



This process creates a new snapshot if the ID of an existing snapshot is not provided. Snapshots can be created if cluster fullness is at stage 2 or 3. Snapshots are not created when cluster fullness is at stage 4 or 5.

## Parameters

This method has the following input parameters:

| Name       | Description                                                                                                                                                                                                                                                                                                                    | Type    | Default value | Required |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------|
| format     | The format of the volume data. Can be either: <ul style="list-style-type: none"><li>• <b>uncompressed:</b> Every byte of the volume is returned without any compression.</li><li>• <b>native:</b> Opaque data is returned that is smaller and more efficiently stored and written on a subsequent bulk volume write.</li></ul> | string  | None          | Yes      |
| volumeID   | The ID of the volume to be read.                                                                                                                                                                                                                                                                                               | integer | None          | Yes      |
| snapshotID | The ID of a previously created snapshot used for bulk volume reads. If no ID is entered, a snapshot of the current active volume image is made.                                                                                                                                                                                | integer | None          | No       |

| Name             | Description                                                                                                                                                                                                                                                  | Type        | Default value | Required |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------|
| script           | The name of an executable script. If no script name is given, the key and URL are necessary to access Element storage nodes. The script is run on the primary node, and the key and URL are returned to the script so the local web server can be contacted. | string      | None          | No       |
| scriptParameters | JSON parameters to pass to the script.                                                                                                                                                                                                                       | JSON object | None          | No       |
| attributes       | List of name-value pairs in the JSON object format. <a href="#">Learn more</a> .                                                                                                                                                                             | JSON object | None          | No       |

## Return values

This method has the following return values:

| Name        | Description                                                      | Type    |
|-------------|------------------------------------------------------------------|---------|
| asyncHandle | The ID of the asynchronous process to be checked for completion. | integer |
| key         | Opaque key uniquely identifying the session.                     | string  |
| url         | URL to access the node's web server.                             | string  |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "StartBulkVolumeRead",
  "params": {
    "volumeID" : 5,
    "format"   : "native",
    "snapshotID" : 2
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result" : {
    "asyncHandle" : 1,
    "key" : "11eed8f086539205beeaadd981aad130",
    "url" : "https://127.0.0.1:44000/"
  }
}
```

## New since version

9.6

## StartBulkVolumeWrite

You can use the `StartBulkVolumeWrite` method to start a bulk volume write session on a specified volume.

Only two bulk volume processes can run simultaneously on a volume. When you initialize the session, data is written to an Element storage volume from an external backup source. The external data is accessed by a web server running on an Element storage node. Server interaction information for external data access is passed by a script running on the storage system.

## Parameters

This method has the following input parameters:

| Name             | Description                                                                                                                                                                                                                                                                                                                        | Type        | Default value | Required |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------|
| format           | <p>The format of the volume data. Can be either:</p> <ul style="list-style-type: none"> <li>• uncompressed:<br/>Every byte of the volume is returned without any compression.</li> <li>• native:<br/>Opaque data is returned that is smaller and more efficiently stored and written on a subsequent bulk volume write.</li> </ul> | string      | None          | Yes      |
| volumeID         | The ID of the volume to be written to.                                                                                                                                                                                                                                                                                             | integer     | None          | Yes      |
| script           | The name of an executable script. If no script name is given, the key and URL are necessary to access Element storage nodes. The script is run on the primary node, and the key and URL are returned to the script so the local web server can be contacted.                                                                       | string      | None          | No       |
| scriptParameters | JSON parameters to pass to the script.                                                                                                                                                                                                                                                                                             | JSON object | None          | No       |
| attributes       | List of name-value pairs in the JSON object format. <a href="#">Learn more.</a>                                                                                                                                                                                                                                                    | JSON object | None          | No       |

## Return values

This method has the following return values:

| Name        | Description                                                      | Type    |
|-------------|------------------------------------------------------------------|---------|
| asyncHandle | The ID of the asynchronous process to be checked for completion. | integer |
| key         | Opaque key uniquely identifying the session.                     | string  |
| url         | URL to access the node's web server.                             | string  |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "StartBulkVolumeWrite",
  "params": {
    "volumeID" : 5,
    "format"   : "native",
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result" : {
    "asyncHandle" : 1,
    "key" : "11eed8f086539205beeaadd981aad130",
    "url" : "https://127.0.0.1:44000/"
  }
}
```

## New since version

9.6

# UpdateBulkVolumeStatus

You can use the `UpdateBulkVolumeStatus` method to update the status of a bulk volume job that you started with the `StartBulkVolumeRead` or `StartBulkVolumeWrite` methods.

## Parameters

This method has the following input parameters:

| Name            | Description                                                                                                                                                                                                                                          | Type        | Default value | Required |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------|
| key             | The key assigned during initialization of a <a href="#">StartBulkVolumeRead</a> or <a href="#">StartBulkVolumeWrite</a> session.                                                                                                                     | string      | None          | Yes      |
| status          | The system sets the status of the given bulk volume job.<br>Possible values: <ul style="list-style-type: none"><li>• running: Jobs that are still active.</li><li>• complete: Jobs that are done.</li><li>• failed: Jobs that have failed.</li></ul> | string      | None          | Yes      |
| percentComplete | The completed progress of the bulk volume job as a percentage.                                                                                                                                                                                       | string      | None          | No       |
| message         | Returns the status of the bulk volume job when the job has completed.                                                                                                                                                                                | string      | None          | No       |
| attributes      | JSON attributes; updates what is on the bulk volume job.                                                                                                                                                                                             | JSON object | None          | No       |

## Return values

This method has the following return values:

| Name       | Description                                                                                                                                                       | Type   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| status     | Status of the session requested.<br>Returned status: <ul style="list-style-type: none"><li>• preparing</li><li>• active</li><li>• done</li><li>• failed</li></ul> | string |
| attributes | Returns attributes that were specified in the method call. Values are returned whether they have changed or not.                                                  | string |
| url        | The URL to access the node's web server; provided only if the session is still active.                                                                            | string |

## Request example

Requests for this method are similar to the following example:

```
{
  "method": "UpdateBulkVolumeStatus",
  "params": {
    "key": "0b2f532123225febda2625f55dcb0448",
    "status": "running"
  },
  "id": 1
}
```

## Response example

This method returns a response similar to the following example:

```
{
  "id" : 1,
  "result": {
    "status" : "running",
    "url" : "https://10.10.23.47:8443/"
  }
}
```

## New since version

9.6

## Find more information

- [StartBulkVolumeRead](#)
- [StartBulkVolumeWrite](#)



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