Common methods

Element Software

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Common methods

Common methods are methods used to retrieve information about the storage cluster, the API itself, or ongoing API operations.

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Find more information

- SolidFire and Element Software Documentation
- Documentation for earlier versions of NetApp SolidFire and Element products

GetAPI

You can use the `GetAPI` method to get a list of all the API methods and supported API endpoints that can be used in the system.

Parameters

This method has no input parameters.

Return values

This method has the following return values:

Name	Description	Type
<version>	A list of all supported API methods for this software version, where <version> is the current software version this system is running.	string array
currentVersion	The current version of the storage cluster software.	string
supportedVersions	A list of all API endpoints supported by the system.	string array

Request example

Requests for this method are similar to the following example:

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

Response example

This method returns a response similar to the following example:

```
{
"id": 1,
    "result": {
        "12.0": [
            "AbortSnapMirrorRelationship",
            "AddAccount",
            "AddClusterAdmin",
            "AddDrives",
            "AddIdpClusterAdmin",
            "AddInitiatorsToVolumeAccessGroup",
            "AddKeyServerToProviderKmip",
            "AddLdapClusterAdmin",
            "AddNodes",
            "AddVirtualNetwork",
            "AddVolumesToVolumeAccessGroup",
            "BreakSnapMirrorRelationship",
            "BreakSnapMirrorVolume",
            "CancelClone",
            "CancelGroupClone",
            "CheckPingOnVlan",
            "CheckProposedCluster",
            "CheckProposedNodeAdditions",
            "ClearClusterFaults",
            "CloneMultipleVolumes",
            "CloneVolume",
            "CompleteClusterPairing",
            "CompleteVolumePairing",
            "CopyVolume",
            "CreateBackupTarget",
            "CreateClusterInterfacePreference",
            "CreateClusterSupportBundle",
```

```
            "CreateGroupSnapshot",
            "CreateIdpConfiguration",
            "CreateInitiators",
            "CreateKeyProviderKmip",
            "CreateKeyServerKmip",
            "CreatePublicPrivateKeyPair",
            "CreateQoSPolicy",
            "CreateSchedule",
            "CreateSnapMirrorEndpoint",
            "CreateSnapMirrorEndpointUnmanaged",
            "CreateSnapMirrorRelationship",
            "CreateSnapMirrorVolume",
            "CreateSnapshot",
            "CreateStorageContainer",
            "CreateSupportBundle",
            "CreateVolume",
            "CreateVolumeAccessGroup",
            "DeleteAllSupportBundles",
            "DeleteAuthSession",
            "DeleteAuthSessionsByClusterAdmin",
            "DeleteAuthSessionsByUsername",
            "DeleteClusterInterfacePreference",
            "DeleteGroupSnapshot",
            "DeleteIdpConfiguration",
            "DeleteInitiators",
            "DeleteKeyProviderKmip",
            "DeleteKeyServerKmip",
            "DeleteQoSPolicy",
            "DeleteSnapMirrorEndpoints",
            "DeleteSnapMirrorRelationships",
            "DeleteSnapshot",
            "DeleteStorageContainers",
            "DeleteVolume",
            "DeleteVolumeAccessGroup",
            "DeleteVolumes",
            "DisableAutoip",
            "DisableBmcColdReset",
            "DisableClusterSsh",
            "DisableEncryptionAtRest",
            "DisableIdpAuthentication",
            "DisableLdapAuthentication",
            "DisableSnmp",
            "EnableAutoip",
            "EnableBmcColdReset",
            "EnableClusterSsh",
            "EnableEncryptionAtRest",
```

```
            "EnableFeature",
            "EnableIdpAuthentication",
            "EnableLdapAuthentication",
            "EnableSnmp",
            "GetAccountByID",
            "GetAccountByName",
            "GetAccountEfficiency",
            "GetActiveTlsCiphers",
            "GetAsyncResult",
            "GetBackupTarget",
            "GetBinAssignmentProperties",
            "GetClientCertificateSignRequest",
            "GetClusterCapacity",
            "GetClusterConfig",
            "GetClusterFullThreshold",
            "GetClusterHardwareInfo",
            "GetClusterInfo",
            "GetClusterInterfacePreference",
            "GetClusterMasterNodeID",
            "GetClusterSshInfo",
            "GetClusterState",
            "GetClusterStats",
            "GetClusterStructure",
            "GetClusterVersionInfo",
            "GetCompleteStats",
            "GetConfig",
            "GetCurrentClusterAdmin",
            "GetDefaultQoS",
            "GetDriveHardwareInfo",
            "GetDriveStats",
            "GetFeatureStatus",
            "GetFipsReport",
            "GetHardwareConfig",
            "GetHardwareInfo",
            "GetIdpAuthenticationState",
            "GetIpmiConfig",
            "GetIpmiInfo",
            "GetKeyProviderKmip",
            "GetKeyServerKmip",
            "GetLdapConfiguration",
            "GetLimits",
            "GetLldpInfo",
            "GetLoginBanner",
            "GetLoginSessionInfo",
            "GetNetworkConfig",
            "GetNetworkInterface",
```

```
            "GetNodeFipsDrivesReport",
            "GetNodeHardwareInfo",
            "GetNodeStats",
            "GetNtpInfo",
            "GetNvramInfo",
            "GetOntapVersionInfo",
            "GetOrigin",
            "GetPendingOperation",
            "GetProtectionDomainLayout",
            "GetQoSPolicy",
            "GetRawStats",
            "GetRemoteLoggingHosts",
            "GetSSLCertificate",
            "GetSchedule",
            "GetSnapMirrorClusterIdentity",
            "GetSnmpACL",
            "GetSnmpInfo",
            "GetSnmpState",
            "GetSnmpTrapInfo",
            "GetStorageContainerEfficiency",
            "GetSupportedTlsCiphers",
            "GetSystemStatus",
            "GetVirtualVolumeCount",
            "GetVolumeAccessGroupEfficiency",
            "GetVolumeAccessGroupLunAssignments",
            "GetVolumeCount",
            "GetVolumeEfficiency",
            "GetVolumeStats",
            "InitializeSnapMirrorRelationship",
            "ListAccounts",
            "ListActiveAuthSessions",
            "ListActiveNodes",
            "ListActivePairedVolumes",
            "ListActiveVolumes",
            "ListAllNodes",
            "ListAsyncResults",
            "ListAuthSessionsByClusterAdmin",
            "ListAuthSessionsByUsername",
            "ListBackupTargets",
            "ListBulkVolumeJobs",
            "ListClusterAdmins",
            "ListClusterFaults",
            "ListClusterInterfacePreferences",
            "ListClusterPairs",
            "ListDeletedVolumes",
            "ListDriveHardware",
```

```
            "ListDriveStats",
            "ListDrives",
            "ListEvents",
            "ListFibreChannelPortInfo",
            "ListFibreChannelSessions",
            "ListGroupSnapshots",
            "ListISCSISessions",
            "ListIdpConfigurations",
            "ListInitiators",
            "ListKeyProvidersKmip",
            "ListKeyServersKmip",
            "ListNetworkInterfaces",
            "ListNodeFibreChannelPortInfo",
            "ListNodeStats",
            "ListPendingActiveNodes",
            "ListPendingNodes",
            "ListProtectionDomainLevels",
            "ListProtocolEndpoints",
            "ListQoSPolicies",
            "ListSchedules",
            "ListServices",
            "ListSnapMirrorAggregates",
            "ListSnapMirrorEndpoints",
            "ListSnapMirrorLuns",
            "ListSnapMirrorNetworkInterfaces",
            "ListSnapMirrorNodes",
            "ListSnapMirrorPolicies",
            "ListSnapMirrorRelationships",
            "ListSnapMirrorSchedules",
            "ListSnapMirrorVolumes",
            "ListSnapMirrorVservers",
            "ListSnapshots",
            "ListStorageContainers",
            "ListSyncJobs",
            "ListTests",
            "ListUtilities",
            "ListVirtualNetworks",
            "ListVirtualVolumeBindings",
            "ListVirtualVolumeHosts",
            "ListVirtualVolumeTasks",
            "ListVirtualVolumes",
            "ListVolumeAccessGroups",
            "ListVolumeStats",
            "ListVolumeStatsByAccount",
            "ListVolumeStatsByVirtualVolume",
            "ListVolumeStatsByVolume",
```

```
            "ListVolumeStatsByVolumeAccessGroup",
            "ListVolumes",
            "ListVolumesForAccount",
            "ModifyAccount",
            "ModifyBackupTarget",
            "ModifyClusterAdmin",
            "ModifyClusterFullThreshold",
            "ModifyClusterInterfacePreference",
            "ModifyGroupSnapshot",
            "ModifyInitiators",
            "ModifyKeyServerKmip",
            "ModifyQoSPolicy",
            "ModifySchedule",
            "ModifySnapMirrorEndpoint",
            "ModifySnapMirrorEndpointUnmanaged",
            "ModifySnapMirrorRelationship",
            "ModifySnapshot",
            "ModifyStorageContainer",
            "ModifyVirtualNetwork",
            "ModifyVolume",
            "ModifyVolumeAccessGroup",
            "ModifyVolumeAccessGroupLunAssignments",
            "ModifyVolumePair",
            "ModifyVolumes",
            "PurgeDeletedVolume",
            "PurgeDeletedVolumes",
            "QuiesceSnapMirrorRelationship",
            "RemoveAccount",
            "RemoveBackupTarget",
            "RemoveClusterAdmin",
            "RemoveClusterPair",
            "RemoveDrives",
            "RemoveInitiatorsFromVolumeAccessGroup",
            "RemoveKeyServerFromProviderKmip",
            "RemoveNodes",
            "RemoveSSLCertificate",
            "RemoveVirtualNetwork",
            "RemoveVolumePair",
            "RemoveVolumesFromVolumeAccessGroup",
            "ResetDrives",
            "ResetNetworkConfig",
            "ResetNode",
            "ResetSupplementalTlsCiphers",
            "RestartNetworking",
            "RestartServices",
            "RestoreDeletedVolume",
```

```
            "ResumeSnapMirrorRelationship",
            "ResyncSnapMirrorRelationship",
            "RollbackToGroupSnapshot",
            "RollbackToSnapshot",
            "SecureEraseDrives",
            "SetClusterConfig",
            "SetClusterStructure",
            "SetConfig",
            "SetDefaultQoS",
            "SetLoginBanner",
            "SetLoginSessionInfo",
            "SetNetworkConfig",
            "SetNtpInfo",
            "SetProtectionDomainLayout",
            "SetRemoteLoggingHosts",
            "SetSSLCertificate",
            "SetSnmpACL",
            "SetSnmpInfo",
            "SetSnmpTrapInfo",
            "SetSupplementalTlsCiphers",
            "Shutdown",
            "SnmpSendTestTraps",
            "StartBulkVolumeRead",
            "StartBulkVolumeWrite",
            "StartClusterPairing",
            "StartVolumePairing",
            "TestAddressAvailability",
            "TestConnectEnsemble",
            "TestConnectMvip",
            "TestConnectSvip",
            "TestDrives",
            "TestHardwareConfig",
            "TestKeyProviderKmip",
            "TestKeyServerKmip",
            "TestLdapAuthentication",
            "TestLocalConnectivity",
            "TestLocateCluster",
            "TestNetworkConfig",
            "TestPing",
            "TestRemoteConnectivity",
            "UpdateBulkVolumeStatus",
            "UpdateIdpConfiguration",
            "UpdateSnapMirrorRelationship"
        ],
        "currentVersion": "12.0",
        "supportedVersions": [
```

```
            "1.0",
            "2.0",
            "3.0",
            "4.0",
            "5.0",
            "5.1",
            "6.0",
            "7.0",
            "7.1",
            "7.2",
            "7.3",
            "7.4",
            "8.0",
            "8.1",
            "8.2",
            "8.3",
            "8.4",
            "8.5",
            "8.6",
            "8.7",
            "9.0",
            "9.1",
            "9.2",
            "9.3",
            "9.4",
            "9.5",
            "9.6",
            "10.0",
            "10.1",
            "10.2",
            "10.3",
            "10.4",
            "10.5",
            "10.6",
            "10.7",
            "11.0",
            "11.1",
            "11.3",
            "11.5",
            "11.7",
            "11.8",
            "12.0"
        ]
    }
}
```

GetAsyncResult

You can use `GetAsyncResult` to retrieve the result of asynchronous method calls. Some method calls require some time to run, and might not be finished when the system sends the initial response. To obtain the status or result of the method call, use `GetAsyncResult` to poll the asyncHandle value returned by the method.

`GetAsyncResult` returns the overall status of the operation (in progress, completed, or error) in a standard fashion, but the actual data returned for the operation depends on the original method call and the return data is documented with each method.

If the keepResult parameter is missing or false, the asyncHandle becomes inactive when the result is returned, and later attempts to query that asyncHandle return an error. You can keep the asyncHandle active for future queries by setting the keepResult parameter to true.

Parameters

This method has the following input parameters:

Name	Description	Type	Default value	Required
asyncHandle	A value that was returned from the original asynchronous method call.	integer	None	Yes
keepResult	If true, GetAsyncResult does not remove the asynchronous result upon returning it, enabling future queries to that asyncHandle.	boolean	false	No

Return values

This method has the following return values:

Name	Description	Type
status	Status of the asynchronous method call. Possible values: • running: The method is still running. • complete: The method is complete and the result or error is available.	string

Name	Description	Type
result	If the asynchronous method successfully completed, this is the result of the asynchronous operation. If the asynchronous operation failed, this member is not present.	string
error	If the status is complete and the asynchronous method failed, this member includes the error details. If the asynchronous operation succeeded, this member is not present.	string
resultType	The type of operation the asynchronous method call is or was performing.	string
details	If the status is running, this member includes information relevant to the method's current operation. If the asynchronous method is not running, this member is not present.	JSON Object
createTime	The time that the asynchronous method was called, in UTC+0 format.	ISO 8601 date string
lastUpdateTime	The time that the asynchronous method's status was last updated, in UTC+0 format.	ISO 8601 date string

Note: The return value of GetAsyncResult is essentially a nested version of the standard JSON response with an additional status field.

Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetAsyncResult",
  "params": {
      "asyncHandle" : 389
},
"id" : 1
}
```

Response example: method error

This method returns a response similar to the following example:

```
{
   "error": {
      "code": 500,
      "message": "DBClient operation requested on a non-existent path at
[/asyncresults/1]",
      "name": "xDBNoSuchPath"
   },
   "id": 1
}
```

If "response" were the JSON response object from the GetAsyncResult call, then "response.error" would correspond to an error with the GetAsyncResult method itself (such as querying a non-existent asyncHandle).

Response example: asynchronous task error

This method returns a response similar to the following example:

```
{
   "id": 1,
   "result": {
     "createTime": "2016-01-01T02:05:53Z",
     "error": {
       "bvID": 1,
       "message": "Bulk volume job failed",
       "name": "xBulkVolumeScriptFailure",
       "volumeID": 34
     },
     "lastUpdateTime": "2016-01-21T02:06:56Z",
     "resultType": "BulkVolume",
     "status": "complete"
   }
}
```

The “response.result.error” would correspond to an error result from the original method call.

Response example: asynchronous task success

This method returns a response similar to the following example:

```
{
   "id": 1,
   "result": {
     "createTime": "2016-01-01T22:29:18Z",
     "lastUpdateTime": "2016-01-01T22:45:51Z",
     "result": {
       "cloneID": 25,
       "message": "Clone complete.",
       "volumeID": 47
     },
     "resultType": "Clone",
     "status": "complete"
   }
}
```

The “response.result.result” is the return value for the original method call if the call completed successfully.

New since version

9.6

GetCompleteStats

NetApp engineering uses the `GetCompleteStats` API method to test new features. The data returned from `GetCompleteStats` is not documented, changes frequently, and is not guaranteed to be accurate. You should not use `GetCompleteStats` for collecting performance data or any other management integration with a storage cluster running Element software.

Use the following supported API methods to retrieve statistical information:

- GetVolumeStats
- GetClusterStats
- GetNodeStats
- GetDriveStats

New since version

9.6

GetLimits

You can use the `GetLimits` method to get the limit values set by the API. These values might change between releases of Element, but do not change without an update to the system. Knowing the limit values set by the API can be useful when writing API scripts for user-facing tools.

> The `GetLimits` method returns the limits for the current software version regardless of the API endpoint version used to pass the method.

Parameters

This method has no input parameters.

Return values

This method returns a JSON object with name-value pairs containing the API limits.

Request example

Requests for this method are similar to the following example:

```
{
   "method": "GetLimits",
   "id" : 1
}
```

Response example

This method returns a response similar to the following example:


```
{
    "id": 1,
    "result": {
        "accountCountMax": 5000,
        "accountNameLengthMax": 64,
        "accountNameLengthMin": 1,
        "backupTargetNameLengthMax": 64,
        "backupTargetNameLengthMin": 1,
        "bulkVolumeJobsPerNodeMax": 8,
        "bulkVolumeJobsPerVolumeMax": 2,
        "chapCredentialsCountMax": 15000,
        "cloneJobsPerNodeMax": 8,
        "cloneJobsPerVirtualVolumeMax": 8,
        "cloneJobsPerVolumeMax": 2,
        "clusterAdminAccountMax": 5000,
        "clusterAdminInfoNameLengthMax": 1024,
        "clusterAdminInfoNameLengthMin": 1,
        "clusterPairsCountMax": 4,
        "fibreChannelVolumeAccessMax": 16384,
        "initiatorAliasLengthMax": 224,
        "initiatorCountMax": 10000,
        "initiatorNameLengthMax": 224,
        "initiatorsPerVolumeAccessGroupCountMax": 128,
        "iscsiSessionsFromFibreChannelNodesMax": 4096,
        "maxAuthSessionsForCluster": 1024,
        "maxAuthSessionsPerUser": 1024,
        "nodesPerClusterCountMax": 100,
        "nodesPerClusterCountMin": 3,
        "qosPolicyCountMax": 500,
        "qosPolicyNameLengthMax": 64,
        "qosPolicyNameLengthMin": 1,
        "scheduleNameLengthMax": 244,
        "secretLengthMax": 16,
        "secretLengthMin": 12,
        "snapMirrorEndpointIPAddressesCountMax": 64,
        "snapMirrorEndpointsCountMax": 4,
        "snapMirrorLabelLengthMax": 31,
        "snapMirrorObjectAttributeValueInfoCountMax": 9900000,
        "snapshotNameLengthMax": 255,
        "snapshotsPerVolumeMax": 32,
        "storageNodesPerClusterCountMin": 2,
        "virtualVolumeCountMax": 8000,
```

```
        "virtualVolumesPerAccountCountMax": 10000,
        "volumeAccessGroupCountMax": 1000,
        "volumeAccessGroupLunMax": 16383,
        "volumeAccessGroupNameLengthMax": 64,
        "volumeAccessGroupNameLengthMin": 1,
        "volumeAccessGroupsPerInitiatorCountMax": 1,
        "volumeAccessGroupsPerVolumeCountMax": 64,
        "volumeBurstIOPSMax": 200000,
        "volumeBurstIOPSMin": 100,
        "volumeCountMax": 4000,
        "volumeMaxIOPSMax": 200000,
        "volumeMaxIOPSMin": 100,
        "volumeMinIOPSMax": 15000,
        "volumeMinIOPSMin": 50,
        "volumeNameLengthMax": 64,
        "volumeNameLengthMin": 1,
        "volumeSizeMax": 17592186044416,
        "volumeSizeMin": 1000000000,
        "volumesPerAccountCountMax": 2000,
        "volumesPerGroupSnapshotMax": 32,
        "volumesPerVolumeAccessGroupCountMax": 2000,
        "witnessNodesPerClusterCountMax": 4
    }
}
```


New since version

9.6

GetOrigin

You can use the `GetOrigin` method to get the origination certificate for where the node was built.

Parameters

This method returns "null" if there is no origination certification.

This method has no input parameters.

Return value

This method returns vendor origination certification information.

Request example

Requests for this method are similar to the following example:

```
{
 "method": "GetOrigin",
 "id" : 1
}
```

Response example

This method returns a response similar to the following example:

```
{
  "integrator": "SolidFire",
  "<signature>": {
    "pubkey": [public key info],
    "version": 1,
    "data": [signature info]
  },
   "contract-id": "none",
   "location": "Boulder, CO",
   "organization": "Engineering",
   "type": "element-x"
  }
 ]
}
```

New since version

9.6

GetRawStats

NetApp engineering uses the `GetRawStats` API method to test new features. The data returned from `GetRawStats` is not documented, changes frequently, and is not guaranteed to be accurate. You should not use `GetRawStats` for collecting performance data or any other management integration with a storage cluster running Element software.

Use the following supported API methods to retrieve statistical information:

- GetVolumeStats
- GetClusterStats

- GetNodeStats
- GetDriveStats

New since version

9.6

ListAsyncResults

You can use `ListAsyncResults` to list the results of all currently running and completed asynchronous methods on the system. Querying asynchronous results with `ListAsyncResults` does not cause completed asyncHandles to expire; you can use `GetAsyncResult` to query any of the asyncHandles returned by `ListAsyncResults`.

Parameter

This method has the following input parameter:

Name	Description	Type	Default value	Required
asyncResultTypes	An optional list of types of results. You can use this list to restrict the results to only these types of operations. Possible values: • DriveAdd: Operations involving the system adding a drive to the cluster. • BulkVolume: Copy operations between volumes, such as backups or restores. • Clone: Volume cloning operations. • DriveRemoval: Operations involving the system copying data from a drive in preparation to remove it from the cluster. • RtfiPendingNode: Operations involving the system installing compatible software on a node before adding it to the cluster.	string array	None	No

Return value

This method has the following return value:

Name	Description	Type

asyncHandles	An array of serialized asynchronous method results.	JSON object array

Request example

Requests for this method are similar to the following example:

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

Response example

This method returns a response similar to the following example:

```
{
   "id": 1,
   "result": {
     "asyncHandles": [
       {
         "asyncResultID": 47,
         "completed": true,
         "createTime": "2016-01-01T22:29:19Z",
         "data": {
           "cloneID": 26,
           "message": "Clone complete.",
           "volumeID": 48
         },
         "lastUpdateTime": "2016-01-01T22:45:43Z",
         "resultType": "Clone",
         "success": true
      },
      ...]
   }
}
```

New since version

9.6

Find more information

GetAsyncResult

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