



Manage SAN LUN maps

ONTAP 9.9.1 REST API reference

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Table of Contents

- Manage SAN LUN maps 1
 - Protocols SAN lun-maps endpoint overview 1
 - Retrieve LUN maps 4
 - Create a LUN map 12
 - Delete a LUN map 22
 - Retrieve a LUN map 24

Manage SAN LUN maps

Protocols SAN lun-maps endpoint overview

Overview

A LUN map is an association between a LUN and an initiator group. When a LUN is mapped to an initiator group, the initiator group's initiators are granted access to the LUN. The relationship between an initiator group and a LUN is many initiator groups to many LUNs.

The LUN map REST API allows you to create, delete, and discover LUN maps.

Examples

Creating a LUN map

```
# The API:
POST /api/protocols/san/lun-maps

# The call:
curl -X POST 'https://<mgmt-ip>/api/protocols/san/lun-maps' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm1" }, "igroup": { "name":
"igroup1" }, "lun": { "name": "/vol/vol1/lun1" } }'
```

Retrieving all of the LUN maps

```
# The API:
GET /api/protocols/san/lun-maps

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/lun-maps' -H 'accept:
application/hal+json'

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "03157e81-24c5-11e9-9ec1-005056bba643",
        "name": "svm1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/03157e81-24c5-11e9-9ec1-005056bba643"
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "lun": {
    "uuid": "a60d9862-9bee-49a6-8162-20d2421bb1a6",
    "name": "/vol/vol1/lun1",
    "_links": {
      "self": {
        "href": "/api/storage/luns/a60d9862-9bee-49a6-8162-20d2421bb1a6"
      }
    }
  },
  "igroup": {
    "uuid": "40d98b2c-24c5-11e9-9ec1-005056bba643",
    "name": "ig1",
    "_links": {
      "self": {
        "href": "/api/protocols/san/igroups/40d98b2c-24c5-11e9-9ec1-005056bba643"
      }
    }
  },
  "_links": {
    "self": {
      "href": "/api/protocols/san/lun-maps/a60d9862-9bee-49a6-8162-20d2421bb1a6/40d98b2c-24c5-11e9-9ec1-005056bba643"
    }
  }
},
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/protocols/san/lun-maps"
  }
}
}

```

Retrieving a specific LUN map

```

# The API:
GET /api/protocols/san/lun-maps/{lun.uuid}/{igroup.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/lun-maps/a60d9862-9bee-

```

```
49a6-8162-20d2421bb1a6/40d98b2c-24c5-11e9-9ec1-005056bba643' -H 'accept: application/hal+json'
```

```
# The response:
```

```
{
  "svm": {
    "uuid": "03157e81-24c5-11e9-9ec1-005056bba643",
    "name": "svm1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/03157e81-24c5-11e9-9ec1-005056bba643"
      }
    }
  },
  "lun": {
    "uuid": "a60d9862-9bee-49a6-8162-20d2421bb1a6",
    "name": "/vol/vol1/lun1",
    "node": {
      "uuid": "7d8607ea-24c1-11e9-9ec1-005056bba643",
      "name": "node1",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/7d8607ea-24c1-11e9-9ec1-005056bba643"
        }
      }
    }
  },
  "_links": {
    "self": {
      "href": "/api/storage/luns/a60d9862-9bee-49a6-8162-20d2421bb1a6"
    }
  }
},
  "igroup": {
    "uuid": "40d98b2c-24c5-11e9-9ec1-005056bba643",
    "name": "ig1",
    "os_type": "linux",
    "protocol": "mixed",
    "_links": {
      "self": {
        "href": "/api/protocols/san/igroups/40d98b2c-24c5-11e9-9ec1-005056bba643"
      }
    }
  },
  "logical_unit_number": 0,
  "_links": {
```

```
"self": {
  "href": "/api/protocols/san/lun-maps/a60d9862-9bee-49a6-8162-20d2421bb1a6/40d98b2c-24c5-11e9-9ec1-005056bba643"
}
}
```

Deleting a LUN map

```
# The API:
DELETE /api/protocols/san/lun-maps/{lun.uuid}/{igroup.uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/lun-maps/a60d9862-9bee-49a6-8162-20d2421bb1a6/40d98b2c-24c5-11e9-9ec1-005056bba643' -H 'accept: application/hal+json'
```

Retrieve LUN maps

GET /protocols/san/lun-maps

Introduced In: 9.6

Retrieves LUN maps.

Related ONTAP commands

- lun mapping show
- [DOC /protocols/san/lun-maps](#)

Parameters

Name	Type	In	Required	Description
lun.node.name	string	query	False	Filter by lun.node.name
lun.node.uuid	string	query	False	Filter by lun.node.uuid
lun.uuid	string	query	False	Filter by lun.uuid
lun.name	string	query	False	Filter by lun.name

Name	Type	In	Required	Description
igroup.protocol	string	query	False	Filter by igroup.protocol
igroup.initiators	string	query	False	Filter by igroup.initiators
igroup.os_type	string	query	False	Filter by igroup.os_type
igroup.uuid	string	query	False	Filter by igroup.uuid
igroup.name	string	query	False	Filter by igroup.name
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
logical_unit_number	integer	query	False	Filter by logical_unit_number
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	<p>The default is true for GET calls. When set to false, only the number of records is returned.</p> <ul style="list-style-type: none"> • Default value: 1

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

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[lun_map]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "igroup": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "initiators": {
      },
      "name": "igroup1",
      "os_type": "aix",
      "protocol": "fc",
      "uuid": "1ad8544d-8cd1-91e0-9e1c-723478563412"
    },
    "logical_unit_number": "1",
    "lun": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "/vol/volume1/qtrees1/lun1",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cf8aa42-8cd1-12e0-a11c-423468563412"
      }
    }
  }
}
```

```
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Error

Status: Default, Error

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

igroup

The initiator group to which the LUN is mapped. Required in POST by supplying either the `igroup.uuid`, `igroup.name`, or both.

Name	Type	Description
_links	_links	
initiators	array[string]	The initiators that are members of the initiator group.
name	string	The name of the initiator group. Valid in POST.
os_type	string	The host operating system of the initiator group. All initiators in the group should be hosts of the same operating system.
protocol	string	The protocols supported by the initiator group. This restricts the type of initiators that can be added to the initiator group.
uuid	string	The unique identifier of the initiator group. Valid in POST.

node

The LUN node.

Name	Type	Description
_links	_links	
name	string	The name the LUN's node.
uuid	string	The unique identifier of the LUN node.

lun

The LUN to which the initiator group is mapped. Required in POST by supplying either the `lun.uuid`, `lun.name`, or both.

Name	Type	Description
_links	_links	
name	string	The fully qualified path name of the LUN composed of a "/vol" prefix, the volume name, the (optional) qtree name, and file name of the LUN. Valid in POST.
node	node	The LUN node.
uuid	string	The unique identifier of the LUN. Valid in POST.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

lun_map

A LUN map is an association between a LUN and an initiator group. When a LUN is mapped to an initiator group, the initiator group's initiators are granted access to the LUN. The relationship between a LUN and an initiator group is many LUNs to many initiator groups.

Name	Type	Description
_links	_links	

Name	Type	Description
igroup	igroup	The initiator group to which the LUN is mapped. Required in POST by supplying either the <code>igroup.uuid</code> , <code>igroup.name</code> , or both.
logical_unit_number	integer	The logical unit number assigned to the LUN when mapped to the specified initiator group. The number is used to identify the LUN to initiators in the initiator group when communicating through Fibre Channel Protocol or iSCSI. Optional in POST; if no value is provided, ONTAP assigns the lowest available value. <ul style="list-style-type: none"> • example: 1 • Max value: 4095 • Min value: 0 • Introduced in: 9.6 • readCreate: 1
lun	lun	The LUN to which the initiator group is mapped. Required in POST by supplying either the <code>lun.uuid</code> , <code>lun.name</code> , or both.
svm	svm	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Type	Description
message	string	Error message
target	string	The target parameter that caused the error.

Create a LUN map

POST /protocols/san/lun-maps

Introduced In: 9.6

Creates a LUN map.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the LUN map.
- `igroup.uuid` or `igroup.name` - Existing initiator group to map to the specified LUN.
- `lun.uuid` or `lun.name` - Existing LUN to map to the specified initiator group.

Default property values

If not specified in POST, the following default property values are assigned.

- `logical_unit_number` - If no value is provided, ONTAP assigns the lowest available value.

Related ONTAP commands

- `lun mapping create`

Learn more

- [DOC /protocols/san/lun-maps](#)

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. <ul style="list-style-type: none"> • Default value:

Request Body

Name	Type	Description
_links	_links	
igroup	igroup	The initiator group to which the LUN is mapped. Required in POST by supplying either the <code>igroup.uuid</code> , <code>igroup.name</code> , or both.
<code>logical_unit_number</code>	integer	The logical unit number assigned to the LUN when mapped to the specified initiator group. The number is used to identify the LUN to initiators in the initiator group when communicating through Fibre Channel Protocol or iSCSI. Optional in POST; if no value is provided, ONTAP assigns the lowest available value. <ul style="list-style-type: none">• example: 1• Max value: 4095• Min value: 0• Introduced in: 9.6• readCreate: 1
lun	lun	The LUN to which the initiator group is mapped. Required in POST by supplying either the <code>lun.uuid</code> , <code>lun.name</code> , or both.
svm	svm	

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "igroup": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "initiators": {
    },
    "name": "igroup1",
    "os_type": "aix",
    "protocol": "fc",
    "uuid": "1ad8544d-8cd1-91e0-9e1c-723478563412"
  },
  "logical_unit_number": "1",
  "lun": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "/vol/volume1/qtrees1/lun1",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cf8aa42-8cd1-12e0-a11c-423468563412"
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
}
```



```
"name": "svm1",  
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
}
```

Response

Status: 201, Created

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[lun_map]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "igroup": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "initiators": {
      },
      "name": "igroup1",
      "os_type": "aix",
      "protocol": "fc",
      "uuid": "1ad8544d-8cd1-91e0-9e1c-723478563412"
    },
    "logical_unit_number": "1",
    "lun": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "/vol/volume1/qtrees1/lun1",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cf8aa42-8cd1-12e0-a11c-423468563412"
      }
    }
  }
}
```

```

    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}

```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
1254207	The LUN is already mapped to the same initiator group.
2621462	The specific SVM does not exist.
2621706	Both the SVM UUID and SVM name were supplied, but don't refer to the same SVM.
2621707	No SVM was specified. Either <code>svm.name</code> or <code>svm.uuid</code> must be supplied.
5374053	The LUN is the destination of an ongoing restore operation and is inaccessible for I/O and management. Wait for the restore to complete and try the command again.
5374238	The operation is not allowed on a LUN in a Snapshot copy.
5374316	A LUN move operation is in progress on the source LUN.
5374329	A LUN of class <code>vvol</code> cannot be mapped.
5374573	A node has no interface configured with the iSCSI or Fibre Channel protocols for the specified SVM.

Error Code	Description
5374574	Multiple nodes have no interface configured with the iSCSI or Fibre Channel protocols for the specified SVM.
5374581	A node has no interface configured with the iSCSI protocol for the specified SVM.
5374582	Multiple nodes have no interface configured with the iSCSI protocol for the specified SVM.
5374583	A node has no interface configured with the Fibre Channel protocol for the specified SVM.
5374584	Multiple nodes have no interface configured with the Fibre Channel protocol for the specified SVM.
5374901	Either <code>lun.uuid</code> or <code>lun.name</code> must be provided to create a LUN map.
5374902	Either <code>igroup.uuid</code> or <code>igroup.name</code> must be provided to create a LUN map.

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

igroup

The initiator group to which the LUN is mapped. Required in POST by supplying either the `igroup.uuid`, `igroup.name`, or both.

Name	Type	Description
_links	_links	
initiators	array[string]	The initiators that are members of the initiator group.
name	string	The name of the initiator group. Valid in POST.
os_type	string	The host operating system of the initiator group. All initiators in the group should be hosts of the same operating system.
protocol	string	The protocols supported by the initiator group. This restricts the type of initiators that can be added to the initiator group.
uuid	string	The unique identifier of the initiator group. Valid in POST.

node

The LUN node.

Name	Type	Description
_links	_links	
name	string	The name the LUN's node.

Name	Type	Description
uuid	string	The unique identifier of the LUN node.

lun

The LUN to which the initiator group is mapped. Required in POST by supplying either the `lun.uuid`, `lun.name`, or both.

Name	Type	Description
_links	_links	
name	string	The fully qualified path name of the LUN composed of a "/vol" prefix, the volume name, the (optional) qtree name, and file name of the LUN. Valid in POST.
node	node	The LUN node.
uuid	string	The unique identifier of the LUN. Valid in POST.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

lun_map

A LUN map is an association between a LUN and an initiator group. When a LUN is mapped to an initiator group, the initiator group's initiators are granted access to the LUN. The relationship between a LUN and an initiator group is many LUNs to many initiator groups.

Name	Type	Description
_links	_links	
igroup	igroup	The initiator group to which the LUN is mapped. Required in POST by supplying either the <code>igroup.uuid</code> , <code>igroup.name</code> , or both.

Name	Type	Description
logical_unit_number	integer	The logical unit number assigned to the LUN when mapped to the specified initiator group. The number is used to identify the LUN to initiators in the initiator group when communicating through Fibre Channel Protocol or iSCSI. Optional in POST; if no value is provided, ONTAP assigns the lowest available value. <ul style="list-style-type: none"> • example: 1 • Max value: 4095 • Min value: 0 • Introduced in: 9.6 • readCreate: 1
lun	lun	The LUN to which the initiator group is mapped. Required in POST by supplying either the <code>lun.uuid</code> , <code>lun.name</code> , or both.
svm	svm	

_links

Name	Type	Description
next	href	
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Delete a LUN map

```
DELETE /protocols/san/lun-maps/{lun.uuid}/{igroup.uuid}
```

Introduced In: 9.6

Deletes a LUN map.

Related ONTAP commands

- `lun mapping delete`

Learn more

- [DOC /protocols/san/lun-maps](#)

Parameters

Name	Type	In	Required	Description
lun.uuid	string	path	True	The unique identifier of the LUN.
igroup.uuid	string	path	True	The unique identifier of the igroup.

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374875	The LUN was not found.

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Retrieve a LUN map

GET /protocols/san/lun-maps/{lun.uuid}/{igroup.uuid}

Introduced In: 9.6

Retrieves a LUN map.

Related ONTAP commands

- `lun mapping show`

Learn more

- [DOC /protocols/san/lun-maps](#)

Parameters

Name	Type	In	Required	Description
lun.uuid	string	path	True	The unique identifier of the LUN.

Name	Type	In	Required	Description
igroup.uuid	string	path	True	The unique identifier of the igroup.
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
igroup	igroup	The initiator group to which the LUN is mapped. Required in POST by supplying either the <code>igroup.uuid</code> , <code>igroup.name</code> , or both.
logical_unit_number	integer	The logical unit number assigned to the LUN when mapped to the specified initiator group. The number is used to identify the LUN to initiators in the initiator group when communicating through Fibre Channel Protocol or iSCSI. Optional in POST; if no value is provided, ONTAP assigns the lowest available value. <ul style="list-style-type: none"> • example: 1 • Max value: 4095 • Min value: 0 • Introduced in: 9.6 • readCreate: 1
lun	lun	The LUN to which the initiator group is mapped. Required in POST by supplying either the <code>lun.uuid</code> , <code>lun.name</code> , or both.
svm	svm	

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "igroup": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "initiators": {
    },
    "name": "igroup1",
    "os_type": "aix",
    "protocol": "fc",
    "uuid": "1ad8544d-8cd1-91e0-9e1c-723478563412"
  },
  "logical_unit_number": "1",
  "lun": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "/vol/volume1/qtrees1/lun1",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cf8aa42-8cd1-12e0-a11c-423468563412"
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
}
```

```
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
```

Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
5374852	The initiator group was not found.
5374875	The LUN was not found.

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

igroup

The initiator group to which the LUN is mapped. Required in POST by supplying either the `igroup.uuid`, `igroup.name`, or both.

Name	Type	Description
_links	_links	
initiators	array[string]	The initiators that are members of the initiator group.
name	string	The name of the initiator group. Valid in POST.
os_type	string	The host operating system of the initiator group. All initiators in the group should be hosts of the same operating system.
protocol	string	The protocols supported by the initiator group. This restricts the type of initiators that can be added to the initiator group.
uuid	string	The unique identifier of the initiator group. Valid in POST.

node

The LUN node.

Name	Type	Description
_links	_links	
name	string	The name the LUN's node.

Name	Type	Description
uuid	string	The unique identifier of the LUN node.

lun

The LUN to which the initiator group is mapped. Required in POST by supplying either the `lun.uuid`, `lun.name`, or both.

Name	Type	Description
_links	_links	
name	string	The fully qualified path name of the LUN composed of a "/vol" prefix, the volume name, the (optional) qtree name, and file name of the LUN. Valid in POST.
node	node	The LUN node.
uuid	string	The unique identifier of the LUN. Valid in POST.

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

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