Manage name mappings for SVMs

REST API reference

NetApp
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Overview

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

The system keeps a set of conversion rules for each Storage Virtual Machine (SVM). Each rule consists of two pieces: a pattern and a replacement. Conversions start at the beginning of the appropriate list and perform a substitution based on the first matching rule. The pattern is a UNIX-style regular expression. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX sed program.

Name mappings are applied in the order in which they occur in the priority list; for example, a name mapping that occurs at position 2 in the priority list is applied before a name mapping that occurs at position 3. Each mapping direction (Kerberos-to-UNIX, Windows-to-UNIX, and UNIX-to-Windows) has its own priority list. You are prevented from creating two name mappings with the same pattern.

Examples

Creating a name-mapping with client_match as the ip-address

Use the following API to create a name-mapping. Note the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api//name-services/name-mappings

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/name-
mappings?return_records=true" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"client_match\": \"10.254.101.111/28\",
\"direction\": \"win_unix\", \"index\": 1, \"pattern\":
\"ENGCIFS_AD_USER\", \"replacement\": \"unix_user1\", \"svm\": { \"name\":
\"vs1\", \"uuid\": \"f71d3640-0226-11e9-8526-000c290a8c4b\" }}"

# The response:
{
"num_records": 1,
"records": [
  {
    "svm": {
      "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
      "name": "vs1"
    },
    "direction": "win_unix",
    "index": 1,
    "pattern": "ENGCIFS_AD_USER",
    "replacement": "unix_user1",
    "client_match": "10.254.101.111/28"
  }
]
}
```

Creating a name-mapping with client_match as the hostname

Use the following API to create a name-mapping. Note the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /api//name-services/name-mappings

# The call:
curl -X POST "https://<mgmt-ip>/api/name-services/name-
mappings?return_records=true" -H "accept: application/json" -H "Content-
Type: applicatio/json" -d "{ \"client_match\": \"google.com\",
\"direction\": \"win_unix\", \"index\": 2, \"pattern\":
\"ENGCIFS_AD_USER\", \"replacement\": \"unix_user1\", \"svm\": { \"name\":
\"vs1\", \"uuid\": \"f71d3640-0226-11e9-8526-000c290a8c4b\" }}"

# The response:
{
"num_records": 1,
"records": [
  {
    "svm": {
      "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
      "name": "vs1"
    },
    "direction": "win_unix",
    "index": 2,
    "pattern": "ENGCIFS_AD_USER",
    "replacement": "unix_user1",
    "client_match": "google.com"
  }
]
}
```

Retrieving all name-mapping configurations for all SVMs in the cluster

```
# The API:
GET /api/name-services/name-mappings

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/name-
mappings?fields=*&return_records=true&return_timeout=15" -H "accept:
application/json"

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
      "name": "vs1"
    },
    "direction": "win_unix",
    "index": 1,
    "pattern": "ENGCIFS_AD_USER",
    "replacement": "unix_user1",
    "client_match": "10.254.101.111/28"
  },
  {
    "svm": {
      "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
      "name": "vs1"
    },
    "direction": "win_unix",
    "index": 2,
    "pattern": "ENGCIFS_AD_USER",
    "replacement": "unix_user1",
    "client_match": "google.com"
  }
],
"num_records": 2
}
```

Retrieving a name-mapping configuration for a specific SVM, and for the specified direction and index

```
# The API:
GET /api/name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X GET "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-
0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept: application/json"

# The response:
{
"svm": {
  "uuid": "f71d3640-0226-11e9-8526-000c290a8c4b",
  "name": "vs1"
},
"direction": "win_unix",
"index": 1,
"pattern": "ENGCIFS_AD_USER",
"replacement": "unix_user1",
"client_match": "10.254.101.111/28"
}
```

Updating a specific name-mapping configuration

```
# The API:
PATCH /api//name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-
0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept: application/json" -H
"Content-Type: application/json" -d "{ \"client_match\":
\"10.254.101.222/28\", \"pattern\": \"ENGCIFS_LOCAL_USER\",
\"replacement\": \"pcuser\"}"

# swapping a specified namemapping entry by index
curl -X PATCH "https://<mgmt-ip>/api/name-services/name-mappings/f71d3640-
0226-11e9-8526-000c290a8c4b/win-unix/3?new_index=1" -H "accept:
application/json" -H "Content-Type: application/json" -d "{  \"pattern\":
\"ENGCIFS_AD_USER\", \"replacement\": \"unix_user1\"}"
```

Removing a specific name-mapping configuration

```
# The API:
DELETE /api/name-services/name-mappings/{svm.uuid}/{direction}/{index}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/name-services/name-
mappings/f71d3640-0226-11e9-8526-000c290a8c4b/win_unix/1" -H "accept:
application/json"
```

Retrieves the name mapping configuration for all svms

related ontap commands

- `vserver name-mapping show` # learn more
- [`doc /name-services/name-mappings`](#docs-name-services-name-services_name-mappings)

GET `/name-services/name-mappings`

Retrieves the name mapping configuration for all SVMs.

Related ONTAP commands

- `vserver name-mapping show`

Learn more

- DOC /name-services/name-mappings

Parameters

Name	Type	In	Required	Description
client_match	string	query	False	Filter by client_match
direction	string	query	False	Filter by direction
index	integer	query	False	Filter by index
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name

Name	Type	In	Required	Description
pattern	string	query	False	Filter by pattern
replacement	string	query	False	Filter by replacement
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.
return_timeout	integer	query	False	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.
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[name_mapping]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_match": "10.254.101.111/28",
      "direction": "win_unix",
      "index": 1,
      "pattern": "ENGCIFS_AD_USER",
      "replacement": "unix_user1",
      "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	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	Direction in which the name mapping is applied. The possible values are: • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.

Name	Type	Description
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
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
message	string	Error message
target	string	The target parameter that caused the error.

Creates name mappings for an svm

required properties

- `svmuuid` or `svmname` - existing svm in which to create the name mapping
- `index` - name mappings position in the priority list
- `direction` - direction of the name mapping
- `pattern` - pattern to match to maximum length is 256 characters
- `replacement` - replacement pattern to match to maximum length is 256 characters # recommended optional properties
- `client_match` - hostname or ip address added to match the pattern to the clients workstation ip address # related ontap commands
- `vserver name-mapping create`
- `vserver name-mapping insert` # learn more

- [doc /name-services/name-mappings](#docs-name-services-name-services_name-mappings)

POST /name-services/name-mappings

Creates name mappings for an SVM.

Required properties

- svm.uuid or svm.name - Existing SVM in which to create the name mapping.
- index - Name mapping's position in the priority list.
- direction - Direction of the name mapping.
- pattern - Pattern to match to. Maximum length is 256 characters.
- replacement - Replacement pattern to match to. Maximum length is 256 characters.

Recommended optional properties

- client_match - Hostname or IP address added to match the pattern to the client's workstation IP address.

Related ONTAP commands

- vserver name-mapping create
- vserver name-mapping insert

Learn more

- DOC /name-services/name-mappings

Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned.

Request Body

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	Direction in which the name mapping is applied. The possible values are: • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.

Name	Type	Description
svm	svm	

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "direction": "win_unix",
  "index": 1,
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "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[name_mapping]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "client_match": "10.254.101.111/28",
      "direction": "win_unix",
      "index": 1,
      "pattern": "ENGCIFS_AD_USER",
      "replacement": "unix_user1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
65798185	Failed to resolve the specified hostname
65798149	Invalid index for the name mapping entry
2621706	The specified svm.uuid and svm.name refer to different SVMs

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	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	Direction in which the name mapping is applied. The possible values are: • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.

Name	Type	Description
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
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
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Deletes the name mapping configuration

related ontap commands

- `vserver name-mapping delete` # learn more
- [`doc /name-services/name-mappings`](#docs-name-services-name-services_name-mappings)

DELETE `/name-services/name-mappings/{svm.uuid}/{direction}/{index}`

Deletes the name mapping configuration.

Related ONTAP commands

- `vserver name-mapping delete`

Learn more

- DOC /name-services/name-mappings

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
direction	string	path	True	Direction
index	integer	path	True	Position of the entry in the list

Response

```
Status: 200, Ok
```

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

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.

Retrieves the name mapping configuration of an svm

related ontap commands

- `vserver name-mapping show` # learn more
- [`doc /name-services/name-mappings`](#docs-name-services-name-services_name-mappings)

GET `/name-services/name-mappings/{svm.uuid}/{direction}/{index}`

Retrieves the name mapping configuration of an SVM.

Related ONTAP commands

- `vserver name-mapping show`

Learn more

- DOC /name-services/name-mappings

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
direction	string	path	True	Direction
index	integer	path	True	Position of the entry in the list
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
direction	string	Direction in which the name mapping is applied. The possible values are: • krb_unix - Kerberos principal name to UNIX user name • win_unix - Windows user name to UNIX user name • unix_win - UNIX user name to Windows user name mapping
index	integer	Position in the list of name mappings.
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.

Name	Type	Description
svm	svm	

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "direction": "win_unix",
  "index": 1,
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "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
self	href	

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

Updates the name mapping configuration of an svm the positions can be swapped by providing the `new_index` property

swapping is not allowed for entries that have `client_match` property configured # related ontap commands * `vserver name-mapping insert` * `vserver name-mapping modify` * `vserver name-mapping swap` # learn more * [`doc /name-services/name-mappings`](#docs-name-services-name-services_name-mappings)

PATCH `/name-services/name-mappings/{svm.uuid}/{direction}/{index}`

Updates the name mapping configuration of an SVM. The positions can be swapped by providing the `new_index` property. Swapping is not allowed for entries that have `client_match` property configured.

Related ONTAP commands

- `vserver name-mapping insert`
- `vserver name-mapping modify`
- `vserver name-mapping swap`

Learn more

- DOC /name-services/name-mappings

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
direction	string	path	True	Direction
index	integer	path	True	Position of the entry in the list
new_index	integer	query	False	New position of the Index after a swap is completed.

Request Body

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "client_match": "10.254.101.111/28",
  "pattern": "ENGCIFS_AD_USER",
  "replacement": "unix_user1",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```


Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
65798185	Failed to resolve the specified hostname
65798179	Cannot swap entries because one or both entries have hostname or address configured.
	Delete and recreate the new entry at the specified position.

schema: $ref: "#/definitions/error_response"

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

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

name_mapping

Name mapping is used to map CIFS identities to UNIX identities, Kerberos identities to UNIX identities, and UNIX identities to CIFS identities. It needs this information to obtain user credentials and provide proper file access regardless of whether they are connecting from an NFS client or a CIFS client.

Name	Type	Description
_links	_links	

Name	Type	Description
client_match	string	Client workstation IP Address which is matched when searching for the pattern. You can specify the value in any of the following formats: • As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.0/24 • As an IPv6 address with a subnet mask expressed as a number of bits; for instance, fd20:8b1e:b255:4071::/64 • As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0 • As a hostname
pattern	string	Pattern used to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
replacement	string	The name that is used as a replacement, if the pattern associated with this entry matches.
svm	svm	

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