Data Management Guide

DS.OUD REST API

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## REST API for Oracle Unified Directory Data Management

The Data Management REST API enables can be used to manage directory data in Oracle Unified Directory.

This approach makes it possible to manage groups separately by the responsible person from the application side.

|  | **Important** |
| --- | --- |
| The document covers only the functionalities what are sufficient to perform the following operations:  Creation of new groups,  Deletion of unused groups,  Modification of *description* attribute value,  For the complete feature set please visit the official website. |

### Prerequisites

##### Requirements to use REST API:

| **Prerequisite** | **Description** |
| --- | --- |
| **cURL** | cURL must be installed on the system where the requests will be performed from. |
| **Set up authentication** | To perform calls over HTTPS, certificates must be configured for cURL. |
| **OUD** | An Oracle Unified Directory instance is installed and available. |
| **ACIs** | Data Management REST API interface supports ACIs configured in OUD. By default, ACIs are restrictive in OUD owing to security reasons. You need to update or configure the ACIs according to your data access requirement designed for your use case. |
| **Connection handlers** | You must configure the connection handlers to support HTTP-based communication for Data Management REST API. |
| **JKS keystore and JKS Trust Manager Provider is configured** | The cn=JKS,cn=Key Manager Providers,cn=config and cn=JKS,cn=Trust Manager Providers,cn=config must be configured. |

To execute the operations, you will need:

* Username and password
* Host name and port number

### Resources

*About the OUD REST APIs*

<https://docs.oracle.com/en/middleware/idm/unified-directory/12.2.1.4/ouddr/index.html>

### cURL

The examples within this document use cURL command-line tool to demonstrate how to access the Oracle Unified Directory Data Management REST API.

To use CA certs, the CURL\_CA\_BUNDLE variable must be set.

##### Usage

|  | **Command** |
| --- | --- |
| curl \  -X GET \  -u <username>:<password> \  -H <request-header>:<value> \ https://<subdomain>.<domain>.com/<path>/<resource-path> |

##### Options

| **Name** | **Meaning** |
| --- | --- |
| **-k** | To trust self -signed certifications. |
| **-i** | To display response header information. |
| **-X** | To define the HTTP method. |
| **-u** | To define authentication data. |
| **-H** | To define header values. |
| **-d** | To define request body. |

## Operations

In the examples the following parameters are used:

| **Name** | **Value** |
| --- | --- |
| **Protocol** | https |
| **Host** | IAM-DEV-STG1010.pap.bka.bund.de |
| **Port** | 1081 (HTTPS port) |
| **URL** | {Protocol}://{Host}:{Port}  https://IAM-DEV-STG1010.pap.bka.bund.de:1081 |
| **Application** | ZIMP |
| **Username** | cn=zimpserviceuser,cn=System,dc=bka,dc=bund,dc=de |
| **Password** | Password123 |

| D:\tt\icon-note-16.png | **Note** |
| --- | --- |
| Each application should have a service user to operate on the subtree where the groups are located. |

### Searching Directory Entries

Returns the details of an entry.

| **Name** | **Value** |
| --- | --- |
| **Method** | GET |
| **Path** | /rest/v1/directory/{dn}?{params} |
| **dn** | The full DN of an entry. |
| **params** | Optional query parameters to apply on the search request. |
| **Supported Media Type** | application/json |
| **Documentation** | <https://docs.oracle.com/en/middleware/idm/unified-directory/12.2.1.4/ouddr/op-rest-v1-directory-dn-get.html> |

Query to fetch all the groups for an application:

|  | **Command** |
| --- | --- |
| curl -k -i \  -X GET \  -u {Username}:{Password} \  {URL}/rest/v1/directory/{dn}?{params} |

Get all ZIMP Groups:

|  | **Command** |
| --- | --- |
| curl -k -i \  -X GET \  -u "cn=zimpserviceuser,cn=System,dc=bka,dc=bund,dc=de":”Password123” \  "https://IAM-DEV-STG1010.pap.bka.bund.de:1081/rest/v1/directory  /ou=Groups,ou=ZIMP,cn=Services,dc=bka,dc=bund,dc=de?scope=sub" |

### Creating Directory Groups

Creates a directory entry.

| **Name** | **Value** |
| --- | --- |
| **Method** | POST |
| **Path** | /rest/v1/directory |
| **Supported Media Type** | application/json |
| **Documentation** | <https://docs.oracle.com/en/middleware/idm/unified-directory/12.2.1.4/ouddr/op-rest-v1-directory-post.html> |

Create a new group entry:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X POST \  -u {Username}:{Password} \  -H "Content-Type:application/json" \  "{URL}/rest/v1/directory/" \  -d '{  "msgType": "urn:ietf:params:rest:schemas:oracle:oud:1.0:AddRequest",  "dn": "<full dn of the group>"  "attributes": {  "cn": "<cn of the group>",  "description": "<group description>",  "objectClass": [  "top",  "groupOfUniqueNames"  ]  }  }' |

In the request body only the values like *<full dn of the group>* should be replaced.

Create ZIMP Admin group:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X POST \  -u "cn=zimpserviceuser,cn=System,dc=bka,dc=bund,dc=de":”Password123” \  -H "Content-Type:application/json" \  "https://IAM-DEV-STG1010.pap.bka.bund.de:1081/rest/v1/directory/" \  -d '{  "msgType": "urn:ietf:params:rest:schemas:oracle:oud:1.0:AddRequest",  "dn": "cn=ZIMP Admin,ou=Groups,ou=ZIMP,cn=Services,dc=bka,dc=bund,dc=de",  "attributes": {  "cn": "ZIMP Admin",  "description": "ZIMP Administrator Group",  "objectClass": [  "top",  "groupOfUniqueNames"  ]  }  }' |

### Modifying Directory Groups

Modifies a directory entry.

| **Name** | **Value** |
| --- | --- |
| **Method** | PATCH |
| **Path** | /rest/v1/directory/{dn} |
| **dn** | The full DN of an entry to modify. |
| **Supported Media Type** | application/json |
| **Documentation** | <https://docs.oracle.com/en/middleware/idm/unified-directory/12.2.1.4/ouddr/op-rest-v1-directory-dn-patch.html> |

Modify an existing group entry:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X PATCH \  -u {Username}:{Password} \  -H "Content-Type:application/json" \  "{URL}/rest/v1/directory/{dn}" \  -d '{  "msgType": "urn:ietf:params:rest:schemas:oracle:oud:1.0:ModifyRequest",  "operations": [  {  "opType": "replace",  "attribute": "description",  "values": [  "<new value>"  ]  }  ]  }' |

In the request body only the *<new value>* should be replaced.

Modify ZIMP Admin group description:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X PATCH \  -u "cn=Directory Manager":"Password123" \  -H "Content-Type: application/json" \  "https://IAM-DEV-STG1010.pap.bka.bund.de:1081/rest/v1/directory/cn=ZIMP Admin,ou=Groups,ou=ZIMP,cn=Services,dc=bka,dc=bund,dc=de" \  -d '{  "msgType": "urn:ietf:params:rest:schemas:oracle:oud:1.0:ModifyRequest",  "operations": [  {  "opType": "replace",  "attribute": "description",  "values": [  "New ZIMP Admin Description"  ]  }  ]  }' |

|  | **Important** |
| --- | --- |
| The only supported operation is description update.  Operations like membership modification or group rename are forbidden! |

### Removing Directory Groups

Deletes a directory entry.

| **Name** | **Value** |
| --- | --- |
| **Method** | DELETE |
| **Path** | /rest/v1/directory/{dn} |
| **dn** | The full DN of an entry to delete. |
| **Supported Media Type** | application/json |
| **Documentation** | <https://docs.oracle.com/en/middleware/idm/unified-directory/12.2.1.4/ouddr/op-rest-v1-directory-dn-delete.html> |

Delete an existing group entry:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X DELETE \  -u {Username}:{Password} \  "{URL}/rest/v1/directory/{dn}" |

Delete ZIMP Admin group:

|  | **Command** |
| --- | --- |
|  | curl -k -i \  -X POST \  -u "cn=zimpserviceuser,cn=System,dc=bka,dc=bund,dc=de":"Password123" \  "https://IAM-DEV-STG1010.pap.bka.bund.de:1081/rest/v1/directory/cn=ZIMP Admin,ou=Groups,ou=ZIMP,cn=Services,dc=bka,dc=bund,dc=de" |