
Soffid Objects

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User object

A user objects are maps that hold the information belonging to a single user account.

| Attribute | Type | Description |
|--------------------|---------|-----------------------------|
| id | Long | user id |
| accountId | Long | account id |
| accountName | String | account name |
| system | String | managed system (agent) name |
| accountDescription | String | account description |
| active | Boolean | true if user is active |
| accountDisabled | Boolean | true if account is disabled |

| Attribute | Type | Description |
|-----------------|--------------------------|---|
| mailAlias | String | blank separated mails |
| userName | String | user name |
| primaryGroup | String | user's primary group name |
| comments | String | user's comments |
| createdOn | Date | user creation date |
| modifiedOn | Date | user last modification date |
| mailDomain | Date | user mail domain (email right side of @) |
| fullName | String | user full name |
| shortName | String | user mail name (email left side of @) |
| firstName | String | user first name |
| lastName | String | user last name |
| lastName2 | String | user second last name (when applicable) |
| mailServer | String | mail server host name |
| homeServer | String | home drive server host name |
| profileServer | String | roaming profile server host name |
| phone | String | user's phone number |
| userType | String | user type |
| createdBy | String | user name creator of this user |
| modifiedBy | String | user name modifier of this user |
| secondaryGroups | List<Map<String,Object>> | list of <u>groups</u> the user belongs to, including primary group The attributes of the inner map are described later |

| Attribute | Type | Description |
|-----------------|--------------------------|---|
| attributes | Map<String,String> | additional user attributes |
| grantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly granted to the user |
| allGrantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly on indirectly granted to the user |
| granted | List<String> | list of role names and group names directly granted to the user |
| allGranted | List<String> | list of role names and group names directly or indirectly granted to the user |

Account object

An account object holds the information belonging to an account.

| Attribute | Type | Description |
|--------------------|--------------------------|--|
| accountDescription | String | account description |
| accountDisabled | Boolean | true if account is disabled |
| accountId | Long | account id |
| accountName | String | account name |
| allGranted | List<String> | list of role names directly or indirectly granted to the user |
| allGrantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly on indirectly granted to the user |
| attributes | Map<String,String> | additional account attributes |
| granted | List<String> | list of role names directly granted to the user |
| grantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly granted to the user |
| lastLogin | Calendar | lastLogin |
| lastPasswordUpdate | Calendar | lastPasswordUpdate |
| lastUpdate | Calendar | lastUpdate |
| passwordExpiration | Calendar | passwordExpiration |

| Attribute | Type | Description |
|----------------|-------------|--|
| passwordPolicy | String | password policy |
| system | String | managed system (agent) name |
| type | AccountType | "U"=user, "S"=shared, "P"=privileged, "I"=ignored |

Group object

An group object holds the information belonging to a group.

| Attribute | Type | Description |
|-----------------|--------------------------|---|
| groupId | Long | group id |
| name | String | group name |
| description | String | group description |
| parent | String | parent group name |
| server | String | home server host name |
| disabled | boolean | true if the group is disabled |
| accountingGroup | String | group accounting information |
| type | String | group type |
| driveLetter | String | home server letter to connect to |
| users | List<Map<String,Object>> | list of <u>users</u> belonging to this group |
| userNames | List<String> | list of user names belonging to this group |
| allUsers | List<Map<String,Object>> | list of <u>users</u> directly or indirectly belonging to this group |
| allUserNames | List<String> | list of user names either directly or indirectly grantee of this role |
| grantedRoles | List<Map<String,Object>> | list of <u>roles</u> granted to this group |

| Attribute | Type | Description |
|------------------|--------------|--|
| grantedRoleNames | List<String> | list of role names granted to this group |

Role object

An role object holds the information belonging to a role.

| Attribute | Type | Description |
|------------------------|--------------------------|--|
| roleId | Long | role id |
| system | String | managed system (agent) name |
| name | String | role name |
| application | String | application system name |
| category | String | role category |
| passwordProtected | boolean | true if role should be password protected (where applicable) |
| description | String | Role description |
| wfmanaged | boolean | true if role should be displayed in self service requests |
| domain | String | custom domain for this role: Use com.softid.iam.api.DomainType constants or configured custom domain |
| ownedRoles | List<Map<String,Object>> | list of <u>roles granted</u> to this one |
| ownerRoles | List<Map<String,Object>> | list of <u>roles grantee</u> of this one |
| ownerGroups | List<Map<String,Object>> | list of <u>groups</u> grantee of this role |
| grantedAccountNames | List<String> | list of account names directly grantee of this role |
| grantedAccounts | List<Map<String,Object>> | list of <u>users</u> directly grantee of this role |
| allGrantedAccountNames | List<String> | list of account names either directly or indirectly grantee of this role |
| allGrantedAccounts | List<Map<String,Object>> | list of <u>users</u> either directly or indirectly grantee of this role |
| attributes | Map<String,Object> | role's custom attributes |

Grant object

Grant, grantedRole & allGrantedRoles

The objects grant, grantedRole and allGrantedRoles are used to assing roles to accounts and roles.

| Attribute | Type | Description |
|--------------------|-----------------------|---|
| domainValue | String | grant value (if any) |
| grantedRole | String | granted role name |
| grantedRoleId | Long | granted role id |
| grantedRoleObject | <u>role object</u> | granted role |
| grantedRoleSystem | String | granted role managed system (agent) name |
| id | Long | grant id |
| ownerAccount | String | grantee account name |
| ownerAccountObject | <u>account object</u> | grantee account |
| ownerGroup | String | grantee group name |
| ownerRoleId | String | grantee role id |
| ownerRoleName | String | grantee role name |
| ownerSystem | String | grantee account or role managed system name |
| ownerUser | String | grantee user name |

Examples

Grant

Example to map a grant object (assign a role to an account):

| System attribute | Direction | Soffid attribute |
|------------------|-----------|------------------|
| role_name | => | grantedRole |
| account_name | => | ownerAccount |

GrantedRole

Example to map a grantedRole object (assign a role as a child of another role):

| System attribute | Direction | Soffid attribute |
|------------------|-----------|------------------|
| role_name | => | grantedRole |
| parent_role_name | => | ownerRoleName |

AllGrantedRoles

Example to map a allGrantedRoles object in a holderGroup (assign a role to an account in a specific group):

| System attribute | Direction | Soffid attribute |
|------------------|-----------|------------------|
| role_name | => | grantedRole |
| parent_role_name | => | ownerRoleName |
| group_code | => | domainValue |
| group_code | => | holderGroup |
| userName | => | ownerUser |

Maillist object

| Attribute | Type | Description |
|-------------|--------------|---|
| id | Long | internal mail list id |
| name | String | mail list name (the initial part, before the @ sign) |
| domain | String | mail list domain (the remaining part after the @ sign) |
| system | String | managed system (agent) name |
| description | String | mail list description |
| users | String array | user names that are bound to this mail list |
| groups | String array | group names thta are subscribed to this mai list |
| roles | String array | role names that grant access to this mail list |

| Attribute | Type | Description |
|-----------------------|--------------|---|
| lists | String array | Nested mail lists |
| explodedUsers | String array | Names of the users that should be subscribed to this mail list, including the users that should be subscribed due to group or role membership |
| explodedUserAddresses | String array | Mail addresses of any exploded User |

Membership object

A membership object contains the user account information as well as the group the user belongs to.

| Attribute | Type | Description |
|------------|--------------------|------------------------------|
| userName | String | User name |
| user | Map<String,Object> | <u>user object</u> |
| groupName | String | Group name |
| group | Map<String,Object> | <u>group object</u> |
| attributes | Map<String,Object> | Membership custom attributes |

dispatcherService

dispatcherService is an object available from agents' attribute translation rules.

This object contains four methods:

| method name | parameters | result type | comments |
|----------------|---|-------------------------|---|
| soffidToSystem | <u>ExtensibleObject</u> soffidObject | <u>ExtensibleObject</u> | Uses attribute translation tables to transform a soffid object to a target system object. Mind to fill-in objectType property to use the proper object mapping |

| method name | parameters | result type | comments |
|----------------|--|-------------------------|---|
| systemToSoffid | <u>ExtensibleObject</u> systemObject | <u>ExtensibleObject</u> | Uses attribute translation tables to transform a target system object to a Soffid object. Mind to fill-in objectType property to use the proper object mapping |
| search | <u>ExtensibleObject</u> exampleObject | <u>ExtensibleObject</u> | Uses the exampleObject to perform a query by example on the target system. If the object exists on the target system, it is returned. Mind to fill-in objectType property with the desired system object type |
| invoke | String verb String action Map parameters | List of Map | This method allows arbitrary executions on the target system, but its semantics can change depending on the connector used. For instance, it can be used to perform a GET on the target system in REST connector, can issue an LDAP query on ActiveDirectory connector, can execute a SELECT sentence on a SQL connector, or can execute an operating system command in Shell connector. The results are returned as a list of objects (map). |

Examples

Snippet to query the sys_id attribute for a grant owner

```

System.out.println("Searching id for "+ownerRoleName);
com.soffid.iam.sync.intf.ExtensibleObject eo = new com.soffid.iam.sync.intf.ExtensibleObject();
eo.setObjectType("ROLE");
eo{"name"} = ownerRoleName;
eo = dispatcherService.search(eo);
System.out.println("FOUND "+eo{"sys_id"});

```

```
return eo{"sys_id"};
```

Snippet that performs a REST query to get group to role assignments in ServiceNow

```
list = dispatcherService.invoke ("GET",
    "https://arxusdev.service-
now.com/api/now/table/sys_group_has_role?sysparm_exclude_reference_link=true&sysparm_display_value
=all&sysparm_fields=role%2Cgroup&sysparm_query=group="+sys_id,
    null).
    get(0).get("result")

r = new java.util.LinkedList();
for ( d: list)
{
    grant = new java.util.HashMap();
    grant{"grantedRole"} = d.get("role").get("display_value");
    grant{"grantedRoleSystem"} = "ServiceNow";
    grant{"ownerRoleName"} = name;
    grant{"ownerSystem"} = "ServiceNow";
    r.add (grant);
}
return r;
```

Snippet of invoke usage on a relational database

```
// Table ITREPT
role = source{"granted"}.size() == 0 ? "" : source{"granted"}.get(0);
System.out.println ("***** ROLE "+role);
args = new java.util.HashMap();
args.put("user", source{"accountName"}.toUpperCase());
if (role.equals ("Receptores PR") || role.equals("Jefes_Personal")) {
    r = dispatcherService.invoke("select", "* from ITREPT where IDUSER=:user", args);
    if (r.size() == 0) {
        dispatcherService.invoke("insert", "into ITREPT(IDUSER,NOMECO) values (:user, 1)", args);
    }
} else {
    dispatcherService.invoke("delete", "from ITREPT where IDUSER=:user", args);
}
// TABLE MRGEUCT
```

```

cc = source{"attributes"}{"dominio"};
if ( source{"userType"} .equals ("T")) {
    cc = source{"userName"}.substring(1);
}
while (cc != null && cc.startsWith("0")) cc = cc.substring(1);
System.out.println ("***** COST CENTER "+cc);
if (cc != null && ! cc.trim().isEmpty())
{
    args = new java.util.HashMap();
    args.put("user", source{"accountName"}.toUpperCase());
    args.put("cc", cc);
    r = dispatcherService.invoke("SELECT", "* from MRGEUCT where IDUSER=:user and MOARPR=:cc", args);
    if (r.size() == 0) {
        dispatcherService.invoke("INSERT", "into MRGEUCT(MOARPR,CENTRA, IDUSER, NOTIFI ) "+
            "values ('I', :cc, :user, 'S')", args);
        dispatcherService.invoke("INSERT", "into MRGEUCT(MOARPR,CENTRA, IDUSER, NOTIFI ) "+
            "values ('BM', :cc, :user, 'S')", args);
        dispatcherService.invoke("DELETE", "FROM MRGEUCT WHERE CENTRA!=:cc AND IDUSER=:user", args);
    }
}
return true;

```

Snippet of invoke usage on a Active Directory I

```

hashMap = new java.util.HashMap();
list = serviceLocator.getDispatcherService().invoke("AD soffid.pat",
    "select",
    "(&(objectClass=user))",
    hashMap);
out.println("** list.size -- " + list.size());

```

Snippet of invoke usage on a Active Directory II

```

ACC = source{"accountName"};
la = dispatcherService.invoke("AD soffid.pat", "(&(objectClass=user)(sAMAccountName=userName))", new
    java.util.HashMap());

```

Authoritative change object

A user objects are maps that hold the information belonging to a single user account

| Attribute | Type | Description |
|--------------------|---------|---|
| id | Long | user id |
| accountId | Long | account id |
| accountName | String | account name |
| system | String | managed system (agent) name |
| accountDescription | String | account description |
| active | Boolean | true if user is active |
| accountDisabled | Boolean | true if account is disabled |
| mailAlias | String | blank separated mails |
| userName | String | user name |
| primaryGroup | String | user's primary group name |
| comments | String | user's comments |
| createdOn | Date | user creation date |
| modifiedOn | Date | user last modification date |
| mailDomain | Date | user mail domain (email right side of @) |
| fullName | String | user full name |
| shortName | String | user mail name (email left side of @) |
| firstName | String | user first name |
| lastName | String | user last name |
| lastName2 | String | user second last name (when applicable) |
| mailServer | String | mail server host name |
| homeServer | String | home drive server host name |

| Attribute | Type | Description |
|------------------|--------------------------|---|
| profileServer | String | roaming profile server host name |
| phone | String | user's phone number |
| userType | String | user type |
| createdBy | String | user name creator of this user |
| modifiedBy | String | user name modifier of this user |
| secondaryGroups | List<Map<String,Object>> | list of <u>groups</u> the user belongs to, including primary group The attributes of the inner map are described in the link |
| secondariGroups2 | List<Map<String,Object>> | list of user <u>memberships</u> , excluding primary group The attributes of the inner map are described link |
| attributes | Map<String,String> | additional user attributes |
| grantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly granted to the user |
| allGrantedRoles | List<Map<String,Object>> | list of <u>grants</u> directly on indirectly granted to the user |
| granted | List<String> | list of role names and group names directly granted to the user |
| allGranted | List<String> | list of role names and group names directly or indirectly granted to the user |

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