



White Paper

Fabasoft Cloud Web Services

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1 Introduction

The Fabasoft Cloud provides web services that can be used by third-party applications to execute actions in the Fabasoft Cloud. A web service is invoked in context of a user. The authentication is carried out with a “password for applications” that is managed by the user.

2 Password for Applications

The web service is authenticated with a password for applications.

To define a password for applications, perform the following steps:

1. In the Fabasoft Cloud Web Client open the account menu (your user name).
2. Click “Access for Applications”.
3. In the *Passwords for Applications* field click “New”.
4. In the *Valid for* field select the desired web service (e.g. “Standard Web Service (SOAP, JSON)”).
5. Define a *Validity Period* and click “Next”.
6. Copy the displayed password that can be used for the authentication of the web service.
7. Click “Close”.

3 Standard Web Service

The standard web service encapsulates commonly used operations.

3.1 SOAP and WSDL

You can use SOAP to call the operations listed in the Cloud Standard Web Service WSDL.

The WSDL can be retrieved via following URL:

```
https://<host>/<vdir>/fscdav/wsdl?WEBSVC=FSCFOLIOCLOUD_1_1001_StandardWebService
```

Example:

https://at.cloud.fabasoft.com/folio/fscdav/wsdl?WEBSVC=FSCFOLIOCLOUD_1_1001_StandardWebService

3.2 JSON

The Cloud Standard Web Service also supports the JSON format. You can call the operations the following way:

```
https://<host>/<vdir>/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/<operation>
```

Example:

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/GetCurrentUser

3.3 Available Operations

The Cloud Standard Web Service provides following operations:

- `AddChangeSubscriptionObjects`
Adds objects to a change subscription.
- `AddObjectRemark`
Adds a remark to an object.
- `CreateChangeSubscription`
Creates a change subscription that is used to inform about changes of objects added to the change subscription.
- `CreateTeamRoom`
Creates a Teamroom with the defined values.
- `CreateTeamRoomInit`
Retrieves the required information (e.g. the list of all organizations of the user) for creating a Teamroom.
- `DeleteChangeSubscription`
Deletes a change subscription.
- `GetChangedObjects`
Returns a list of changed objects since a defined date.
- `GetCurrentUser`
Returns all relevant data for the currently logged in user.
- `GetObjectHistory`
Returns the history of an object.
- `GetObjectRemarks`
Returns all remarks of an object.
- `GetSearchFolderResults`
Returns a list of objects contained in a search folder.
- `RemoveChangeSubscriptionObjects`
Removes objects from a change subscription.
- `SendTeamRoomInvitation`
Sends invitations for the defined Teamroom to all defined users.
- `SendTeamRoomInvitationInit`
Returns a list of users of a Teamroom and the default invitation message for this Teamroom.
- `TeamRoomInvitations`
Returns a list of all pending Teamroom invitations of the user.

More information about the parameters of the operations can be found here (the listed actions are mapped to the corresponding web service operations):

- `AddChangeSubscriptionObjects` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#AddChangeSubscriptionObjects)
- `AddObjectRemark` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#AddObjectRemark)
- `CreateChangeSubscription` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#CreateChangeSubscription)
- `WSCreateTeamRoom` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCTEAMROOM_1_1001.htm#WSCreateTeamRoom)
- `WSCreateTeamRoomInit` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#WSCreateTeamRoomInit)

- DeleteChangeSubscription (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#DeleteChangeSubscription)
- GetChangedObjects (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#GetChangedObjects)
- GetCurrentUser (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#GetCurrentUser)
- GetObjectHistory (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#GetObjectHistory)
- GetObjectRemarks (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#GetObjectRemarks)
- GetSearchFolderResults (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#GetSearchFolderResults)
- RemoveChangeSubscriptionObjects (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSSTDSEVICES_1_1001.htm#RemoveChangeSubscriptionObjects)
- WSSendInvitation (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCTEAMROOM_1_1001.htm#WSSendInvitation)
- WSSendInvitationInit (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCTEAMROOM_1_1001.htm#WSSendInvitationInit)
- WSGetPendingInvitations (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCTEAMROOM_1_1001.htm#WSGetPendingInvitations)

3.4 Examples

The following chapters provide some standard web service examples.

3.4.1 GetCurrentUser

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/GetCurrentUser

Input JSON Object

Output JSON Object
<pre>{ "userdata": { "_": "UserData", "objaddress": "COO.1.506.1.5553", "udfirstname": "Christina", "udsurname": "Baumann", "udsalutation": "Sehr geehrte Damen und Herren", "udorgtxt": "Cloud DataXchange", "udemailinformation": [{ "_": "EmailInformation", "emailaddress": "baumann@sq.fabasoft.com", "addrtopic": {</pre>

```

        "_":"TermComponentObject",
        "objaddress":"COO.1.1001.1.182480",
        "objname":"E-Mail 1"
    }
}
],
"udfeatures":[
    {
        "_":"UserFeature",
        "uffeatureid":"aspect",
        "ufadditionalfeatureinfo":[
            "FSCFOLIO@1.1001:CMISProperties",
            "FSCFOLIO@1.1001:CMISPropertiesRemarks"
        ]
    },
    {
        "_":"UserFeature",
        "uffeatureid":"basetypefolder",
        "ufadditionalfeatureinfo":[
            "COODESK@1.1:Folder"
        ]
    }
],
"udhomelocation":"https://at.cloud.fabasoft.com/folio",
"udcountryid":"AT"
}
}

```

Note: `udcountryid` will return the ISO3166Alpha2 code of the country.

3.4.2 CreateTeamroom

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/CreateTeamRoomInit

Input JSON Object

Output JSON Object
<pre> { "groups":{ "_":"Group", "objaddress":"COO.1.506.1.8025", "objname":"Cloud DataXchange" }, "securitylevels":null, "errors":null, "enforceprimarygroup":false, "preselectprimarygroup":true } </pre>

Note: Retrieves required information such as organizations assigned to the user. Security levels are not used in the Fabasoft Cloud. If an organization enforces to be used as primary organization, only that one will be returned and `enforceprimarygroup` will be `true`.

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/CreateTeamRoom

Input JSON Object

As POST request in the document envelope:

```
{
  name:"New Teamroom",
  parent:"COO.1.506.1.7065",
  group:"COO.1.506.1.8025",
  notification:false
}
```

As GET request in the URL as parameter:

```
?name=New Teamroom&parent=COO.1.506.1.7065&...
```

Output JSON Object

```
{
  "teamroom":{
    "_":"TeamRoom",
    "objaddress":"COO.1.506.3.11579",
    "objname":"New Teamroom"
  },
  "errors":null
}
```

Note: The name is mandatory. If the parent is empty, the objects will be put on the users' desk. By default the notifications for a new Teamroom are activated.

3.4.3 SendTeamRoomInvitation

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/SendTeamRoomInvitationInit

Input JSON Object

As POST request in the document envelope:

```
{ teamroom:"COO.1.506.3.11579" }
```

As GET request in the URL as parameter:

```
?teamroom=COO.1.506.3.11579
```

Output JSON Object

```
{
  "message": "\r\nHello!\r\n\r\nIn order to simplify our collaboration I would like to invite you to the Fabasoft Cloud. In this trusted and reliable environment we will be able to exchange data and create joint work results.\r\n\r\nBest regards,\r\nChristina Baumann\r\nCloud DataXchange\r\n",
  "subject": "New Teamroom",
  "notacceptedusers": {
    "_": "JSAPIUser",
    "apiuobjaddress": "COO.1.506.1.5565",
    "apiuobjname": "R\u00f0fceg Luca",
    "apiuemail": "rueegg@fabasoft.com",
    "apiufirstname": "Luca",
    "apiusurname": "R\u00f0fceg"
  },
  "notinitedusers": null,
  "allusers": {
```



```

    "_": "JSAPIUser",
    "apiobjaddress": "COO.1.506.1.5565",
    "apiobjname": "R\u00fcegg Luca",
    "apiemail": "rueegg@fabasoft.com",
    "apifirstname": "Luca",
    "apiusurname": "R\u00fcegg"
  },
  "errors": null
}

```

Note: Retrieves required information such as not invited users and users who have not accepted the invitation.

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/SendTeamRoomInvitation

Input JSON Object

As POST request in the document envelope:

```

{
  teamroom: "COO.1.1.1.1",
  users: [{
    "_": "JSAPIUser",
    "apiobjaddress": "COO.1.506.1.268",
    "apifirstname": "William",
    "apiusurname": "Briere",
    "apiobjname": "Briere William",
    "apiemail": "briere@sq.fabasoft.com"
  }],
  subject: "text",
  message: ["Line 1", "Line 2", "..."]
}

```

Output JSON Object

```

{
  "users": null,
  "errors": null
}

```

Note: The input parameter `users` will be reduced by each successful invitation. Each entry with invalid values or where an error occurred will be returned in the output JSON object as `users`. If no user exists for the entries `apiobjaddress` or `apiemail` a user will be created.

The first name, surname and e-mail address in a user JSON object are mandatory, so that the user can be created, if it does not exist.

The message that is passed is encoded in UTF-8. If this message should contain line breaks, every line is a single entry in the message text list.

3.4.4 TeamRoomInvitations

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/TeamRoomInvitations

Input JSON Object

```

---
Output JSON Object
{
  "amount":1,
  "pendinginvitations":{
    "_":"TeamRoomInvitation",
    "objaddress":"COO.1.506.3.11649",
    "objname":"Marketing",
    "issuer":"Baumann Christina",
    "invitationtime":"2015-08-21T12:16:38+02:00"
  }
}

```

3.4.5 RespondInvitation

https://at.cloud.fabasoft.com/folio/wsjson/FSCFOLIOCLOUD_1_1001_StandardWebService/RespondInvitation

```

Input JSON Object
As POST request in the document envelope:
{
  context:"COO.1.1001.1.324322",
  teamroom:"COO.1.506.3.11579"
}
As GET request in the URL as parameter:
?teamroom=COO.1.506.3.11579
Output JSON Object
{
  "result":{
    "_":"TeamRoom",
    "objaddress":"COO.1.506.3.11649",
    "objname":"Marketing"
  },
  "errors":null
}

```

Note: The context may be COO.1.1001.1.324322 (accept) or COO.1.1001.1.324317 (refuse).

4 Workflow

The workflow web service provides following operations:

- `GetWorklistAvailableLists`
Returns all non-empty lists of the worklist with reference and name.
- `GetWorklist`
Returns the work list entries of the list defined by the `reference` parameter.
- `GetWorklistEntry`
Returns a work list entry defined by the `obj` parameter.

- `GetWorkItems`
Returns the work items for a work list entry defined by the `obj` parameter.
- `ExecuteWorkItem`
Executes a work item.

Example
https://at.cloud.fabasoft.com/folio/wsjson/FSCOWSWF_1_1001_WorkflowWebService/GetWorklistAvailableLists
https://at.cloud.fabasoft.com/folio/wsjson/FSCOWSWF_1_1001_WorkflowWebService/GetWorklist?reference=worklisttracking
https://at.cloud.fabasoft.com/folio/wsjson/FSCOWSWF_1_1001_WorkflowWebService/GetWorklistEntry?obj=COO.1.506.2.1431

More information about the parameters of the operations can be found here (the listed actions are mapped to the corresponding web service operations):

- `WSGetWorklistAvailableLists` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSWF_1_1001.htm#WSGetWorklistAvailableLists)
- `WSGetWorklist` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSWF_1_1001.htm#WSGetWorklist)
- `WSGetWorklistEntry` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSWF_1_1001.htm#WSGetWorklistEntry)
- `WSGetWorkItems` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSWF_1_1001.htm#WSGetWorkItems)
- `WSExecuteWorkItem` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCOWSWF_1_1001.htm#WSExecuteWorkItem)

Customization point:

`CPMobileAppMapping` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/COMPOBJ_FSCOWSWF_1_1001.htm#CPMobileAppMapping)

5 Organization Management

The organization management web service allows managing members of an organization. The user for calling the web service should be an organization administrator with a defined "Organization Management" password for applications (see chapter 2 "Password for Applications").

5.1 SOAP and WSDL

You can use SOAP to call the operations listed in the organization management web service WSDL.

The WSDL can be retrieved via following URL:

`https://<host>/<vdir>/fscdav/wsd1?WEBSVC=FSCFOLIOCLOUD_1_1001_OrganizationWebService`

Example:

https://at.cloud.fabasoft.com/folio/fscdav/wsd1?WEBSVC=FSCFOLIOCLOUD_1_1001_OrganizationWebService

5.2 Available Operations

The organization management web service provides following operations:

- `UpdateOrganizationMember`
Allows creating and updating an organization member.
- `ManageOrganizationMembership`
Allows changing the membership of a user.
- `UpdateOrganizationTeam`
Allows creating and updating a team.

More information about the parameters of the operations can be found here (the listed actions are mapped to the corresponding web service operations):

- `WSUpdateOrganizationMember` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCFOLIOCLOUD_1_1001.htm#WSUpdateOrganizationMember)
- `WSManageOrganizationMembership` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCFOLIOCLOUD_1_1001.htm#WSManageOrganizationMembership)
- `WSUpdateOrganizationTeam` (https://help.appducx.com/index.php?topic=doc/Reference-Documentation/ACTION_FSCFOLIOCLOUD_1_1001.htm#WSUpdateOrganizationTeam)

5.3 Examples

The following chapters provide some organization management web service examples.

5.3.1 UpdateOrganizationMember

SOAP Request

```
<soap:Envelope xmlns:soap="https://www.w3.org/2003/05/soap-envelope"
xmlns:fsc="https://schemas.fabasoft.com/websvc/FSCFOLIOCLOUD_1_1001_Organization
WebService/">
  <soap:Header/>
  <soap:Body>
    <fsc:UpdateOrganizationMember>
      <fsc:data>
        <fsc:FSCFOLIOCLOUD_1_1001_organizationid>COO.1.506.1.9022
        </fsc:FSCFOLIOCLOUD_1_1001_organizationid>
        <fsc:FSCFOLIOCLOUD_1_1001_email>user@example.com
        </fsc:FSCFOLIOCLOUD_1_1001_email>
        <fsc:FSCFOLIOCLOUD_1_1001_title>Dr.
        </fsc:FSCFOLIOCLOUD_1_1001_title>
        <fsc:FSCFOLIO_1_1001_address>
          <fsc:FSCFOLIO_1_1001_Address>
            <fsc:FSCFOLIO_1_1001_addrstreet>Example Street
            </fsc:FSCFOLIO_1_1001_addrstreet>
            <fsc:FSCFOLIO_1_1001_addrzipcode>12345
            </fsc:FSCFOLIO_1_1001_addrzipcode>
            <fsc:FSCFOLIO_1_1001_addrcity>Example City
            </fsc:FSCFOLIO_1_1001_addrcity>
            <fsc:FSCFOLIO_1_1001_addrstate>Example State
            </fsc:FSCFOLIO_1_1001_addrstate>
            <fsc:FSCFOLIO_1_1001_addrcountry>Example Country
            </fsc:FSCFOLIO_1_1001_addrcountry>
            <fsc:FSCFOLIO_1_1001_addrtopic>COO.1.1001.1.182477
            </fsc:FSCFOLIO_1_1001_addrtopic>
          </fsc:FSCFOLIO_1_1001_Address>
        </fsc:FSCFOLIO_1_1001_address>
      </fsc:data>
    </fsc:UpdateOrganizationMember>
  </soap:Body>
</soap:Envelope>
```

```

</fsc:FSCFOLIO_1_1001_address>
<fsc:FSCFOLIO_CLOUD_1_1001_overwriteattributes>
  <fsc:string>address</fsc:string>
</fsc:FSCFOLIO_CLOUD_1_1001_overwriteattributes>
</fsc:data>
</fsc:UpdateOrganizationMember>
</soap:Body>
</soap:Envelope>

```

The Fabasoft Cloud ID of the organization is used to identify the corresponding organization. The e-mail is used to identify the user to be created or modified. In this example, a title and an address entry will be set for the user. The `overwriteattributes` parameter defines that addresses with the defined address topic `COO.1.1001.1.182477` will be removed and replaced by the new address entry. If `overwriteattributes` is not defined for `address`, the new address entry will just be added (exception: if the whole address entry does not differ, nothing is done).

5.3.2 ManageOrganizationMembership

SOAP Request

```

<soapenv:Envelope xmlns:soapenv="https://schemas.xmlsoap.org/soap/envelope/"
xmlns:fsc="https://schemas.fabasoft.com/websvc/FSCFOLIO_CLOUD_1_1001_Organization
WebService/">
  <soapenv:Header/>
  <soapenv:Body>
    <fsc:ManageOrganizationMembership>
      <fsc:data>
        <fsc:FSCFOLIO_CLOUD_1_1001_organizationid>COO.1.506.1.9022
</fsc:FSCFOLIO_CLOUD_1_1001_organizationid>
        <fsc:FSCFOLIO_CLOUD_1_1001_email>user@example.com
</fsc:FSCFOLIO_CLOUD_1_1001_email>
        <fsc:FSCFOLIO_CLOUD_1_1001_membershiptype>MSC_REMOVEMEMBER
</fsc:FSCFOLIO_CLOUD_1_1001_membershiptype>
        <fsc:FSCFOLIO_CLOUD_1_1001_successor>successor@example.com
</fsc:FSCFOLIO_CLOUD_1_1001_successor>
        <fsc:FSCFOLIO_CLOUD_1_1001_informmember>0
</fsc:FSCFOLIO_CLOUD_1_1001_informmember>
      </fsc:data>
    </fsc:ManageOrganizationMembership>
  </soapenv:Body>
</soapenv:Envelope>

```

The Fabasoft Cloud ID of the organization is used to identify the corresponding organization. The e-mail is used to identify the user whose membership should be changed. In this example, the member is excluded from the defined organization. A successor is specified and the excluded member should not be informed by e-mail.

5.3.3 UpdateOrganizationTeam

SOAP Request

```

<soap:Envelope xmlns:soap="https://www.w3.org/2003/05/soap-envelope"
xmlns:fsc="https://schemas.fabasoft.com/websvc/FSCFOLIO_CLOUD_1_1001_Organization
WebService/">
  <soap:Header/>
  <soap:Body>
    <fsc:UpdateOrganizationTeam>
      <fsc:data>
        <fsc:FSCFOLIO_CLOUD_1_1001_organizationid>COO.1.506.1.9022

```

```

</fsc:FSCFOLIOCLOUD_1_1001_organizationid>
<fsc:FSCFOLIOCLOUD_1_1001_teamid>MT
</fsc:FSCFOLIOCLOUD_1_1001_teamid>
<fsc:FSCFOLIOCLOUD_1_1001_teamname>My Team
</fsc:FSCFOLIOCLOUD_1_1001_teamname>
<fsc:FSCFOLIOCLOUD_1_1001_teammembers>
  <fsc:string>laura.hammond@example.com
  </fsc:string>
  <fsc:string>daniel.porter@example.com
  </fsc:string>
</fsc:FSCFOLIOCLOUD_1_1001_teammembers>
<fsc:FSCFOLIOCLOUD_1_1001_overwriteattributes>
  <fsc:string>teammembers</fsc:string>
</fsc:FSCFOLIOCLOUD_1_1001_overwriteattributes>
</fsc:data>
</fsc:UpdateOrganizationTeam>
</soap:Body>
</soap:Envelope>

```

The Fabasoft Cloud ID of the organization is used to identify the corresponding organization. The team ID is used to identify the team to be created or modified. In this example, the name of the team is set and two members are added. Only existing users can be added. Because `overwriteattributes` is defined for `teammembers`, an update of the team will cause the replacement of all existing members by the two defined members. Otherwise, the defined two members will be added to the existing list.