

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

Joint Venture Cash Call Approval using SAP Workflow Management

Table of Contents

Table of Contents	2
Overview.....	3
Required SAP Business Technology Platform Services	4
Setup and Configuration	5
Configure SAP Workflow Management.....	5
Configure Workflow Email Destination.....	5
Configure OAuth2ClientCredentials Workflow Destination	5
Configure OAuth2ClientCredentials Business Rules Destination.....	6
Configure Destination to Enable Start & Step Conditions	6
Configure OAuth2 Client Credentials Workflow Destination (Service Instance).....	6
Configure Cloud Integration Destination	7
Configure SAP S/4HANA Destination.....	7
Configure APIs in SAP S/4HANA	7
Configure RFC Destination.....	8
Configure Cloud Connector	8
Import, configure and deploy cloud integration content	9
Import pre-packaged Integration content in SAP Integration Suite	9
RFC Adapter Configuration	10
Deploy Custom UI for Workflow module	11
Deploy subflow project for Workflow module	11
Deploy Custom ABAP Objects.....	11
Creating OAuth2.0 client profile:.....	14
Configure the OAuth2.0 Client	14

Overview

This document provides information about configuration steps to consume the package **Joint Venture Cash Call Approval**. The main audience of this document are Business Process Experts and Process Operators.

The objective of the workflow is to Automate workflow to cash call request to different approvers. The JV cash call process allows the operator to invoice partners for future estimated venture costs. Based on an estimate of the future costs, non-operating partners are invoiced for their share of the costs to be incurred.

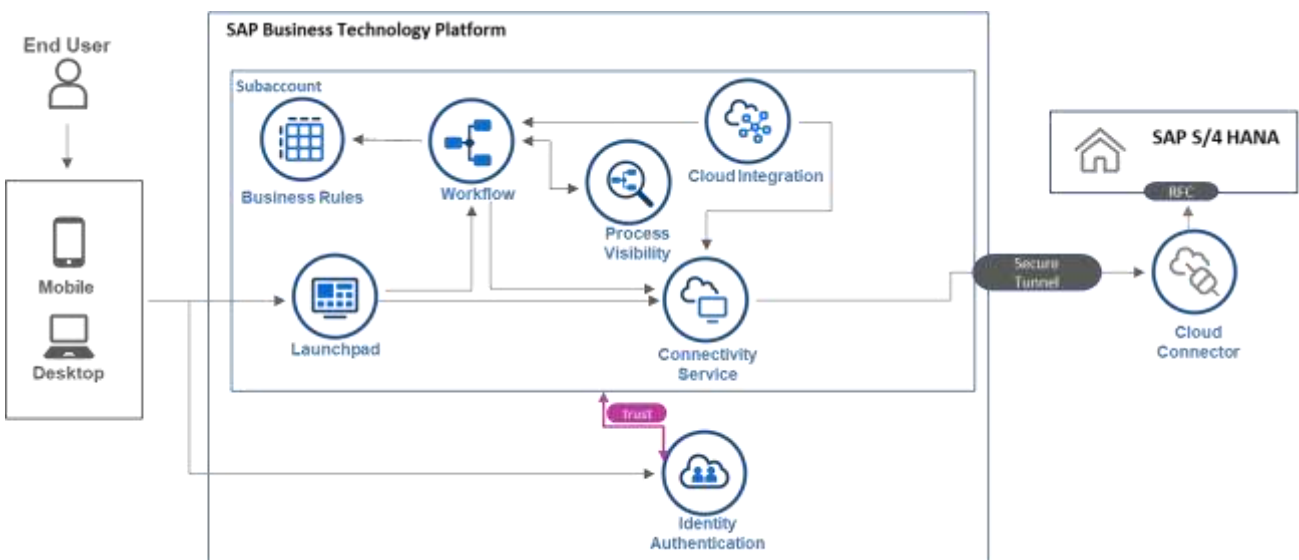
The standard cash call process does not allow to route cash call request to different internal approver(s) before request sent to JV partner.

This extension fills that void and allow to send cash call request to different approver(s) before the request is posted to the system. This extension will notify relevant persons about the cash call request made to JV partner.

Salient features of this content package are:

- Plug and Play with SAP S/4 HANA without additional development.
- New Process variants can be configured in a no-code approach.
- Agent/approver determination using Business Rules or external service.
- Pre-built integration content to call SAP S/4 HANA from SAP Workflow Management
- Out-of-the-box visibility into key process performance indicators.

Solution Diagram



Required SAP Business Technology Platform Services

The workflow content package Authorization for Expenditure is intended to be used for SAP S/4HANA and requires the following services in SAP BTP:

- SAP Workflow Management to orchestrate the process.
- SAP Integration Suite for data activities with JV Cash call information.
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA.
- SAP Launchpad service to access the apps that are involved in the process.
- SAP Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP BTP, Cloud Foundry runtime.

Setup and Configuration

Configure SAP Workflow Management

Joint Venture Cash Call Approval content package requires SAP Workflow Management subscription or a CPEA contract. Follow the setup and configuration section of SAP Workflow Management.

<https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/d7910e2bf7f64afc9d0eb21b0cc9e84d.html>

Configure Workflow Email Destination

Configure workflow email destination to automatically send email notification to the involved parties. For more information on configuring the destination, see [configure workflow email destination](#).

Configure OAuth2ClientCredentials Workflow Destination

A HTTP destination is required in the BTP subaccount where SAP Workflow Management is subscribed. Create a destination with name "Workflow" with the following configuration, if it doesn't exist already. Please refer how to [create a HTTP destination](#) OAuth 2.0 Authentication (client credentials).

Name	Workflow
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<rest_api_url>
Client ID	<client ID>
Client Secret	<client secret>
Token Service URL	<uaa.url>/oauth/token

Note: While creating the service instance for Workflow service, make sure that at least the following scopes are assigned (help documentation to [enable technical authentication](#) to access the workflow APIs). If the scopes are not assigned, you can also [update the service instance](#) with the following scopes.

- WORKFLOW_INSTANCE_START
- WORKFLOW_INSTANCE_UPDATE_CONTEXT
- WORKFLOW_INSTANCE_GET
- MESSAGE_SEND

Please refer help documentation how to get [URL](#), [Client ID](#), [Client Secret](#) and [Token Service URL](#). For more information refer to [how to create a HTTP destination](#) and [how to use Workflow APIs](#).

Configure OAuth2ClientCredentials Business Rules Destination

A HTTP destination is required in the Cloud Foundry account where SAP Workflow Management is subscribed. Create a destination with name "BUSINESS_RULES" with the following configuration, if it doesn't exist already. Please refer how to [create a HTTP destination](#) and [how to access business rules APIs](#) using OAuth 2.0 Authentication (client credentials)

Name	BUSINESS_RULES
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<rule_runtime_url>/rules-service
Client ID	<client ID>
Client Secret	<client secret>
Token Service URL	<uaa.url>/oauth/token

Configure Destination to Enable Start & Step Conditions

To enable the usage of start conditions and step conditions on a process variant, create a destination for business rules with the configuration as mentioned in the following help document:

https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/543b5dbd77d940b4b1f972298b559911.html?q=WM_BUSINESSRULES

Configure OAuth2 Client Credentials Workflow Destination (Service Instance)

Similarly, create new Destination to call Workflow Service APIs using a Service route from SAP UI5 Component. For more details, follow the official help document:

<https://help.sap.com/viewer/cca91383641e40ffbe03bdc78f00f681/Cloud/en-US/685f383cebb54c009b2fac633b32c90f.html>

Configure Cloud Integration Destination

To call an integration flow, a HTTP destination is required in the SAP BTP tenant where the SAP Workflow Management is subscribed. Create a destination called CPI with either Basic Authentication or OAuth2ClientCredentials.

Destination with OAuth2ClientCredentials Authentication

Name	CPI
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<runtime.url>
Client Id	<client ID>
Client Secret	<client secret>
Token Service URL	<oauth.url.for.clientCredentials>

Additional Properties to Destination

Additionally, add the following properties in the destination for cloud integration.

WebIDEEEnabled	true
WebIDESystem	CPI
WebIDEUsage	odata_gen

Configure SAP S/4HANA Destination

Configure a S/4 HANA destination to connect with SAP S/4HANA on-premise .

Name	S4HANA
Type	HTTP
Proxy Type	On-Premise
User	<ONPREMISE_ USER>
Password	<ONPREMISE_ PASSWORD>
Authentication	BasicAuthentication
URL	<OData base URL of SAP S/4HANA>
Additional Properties	sap-client: <client number>

Configure APIs in SAP S/4HANA

Following APIs are needed to be configured in SAP S/4HANA to use the content package.

RFC Required

1. ZWF_FM_JVCASHCALL

Note: Steps to implement the custom RFC is mentioned in the section “Deploy Custom ABAP Objects” in this document.

Configure RFC Destination

Configure a RFC destination to connect with SAP S/4HANA on-premise. Below is a destination configuration for *SAP S/4HANA on-premise*.

Note: This destination is required by Cloud Platform Integration.

Name	<RFC_DESTINATION_NAME>
Type	RFC
Proxy Type	OnPremise
User	<ONPREMISE_USER>
Password	<ONPREMISE_PASSWORD>
Repository User	<ONPREMISE_USER>
Repository Password	<ONPREMISE_PASSWORD>

Additional Properties	jco.client.ashost: <host>
Additional Properties	jco.client.client:<client number>
Additional Properties	jco.client.lang: <language>
Additional Properties	jco.client.sysnr:<system number >

Configure Cloud Connector

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP BTP tenant. Please refer the help documentation to [configure Cloud Connector](#).

Services/Resources that need to be exposed from SAP S/4HANA on-premise using Cloud Connector.

Note: Steps to implement the Custom ABAP Objects are mentioned in “Deploy Custom ABAP Objects” section of the Setup Guide of workflow content package **Joint Venture Cash Call Approval**.

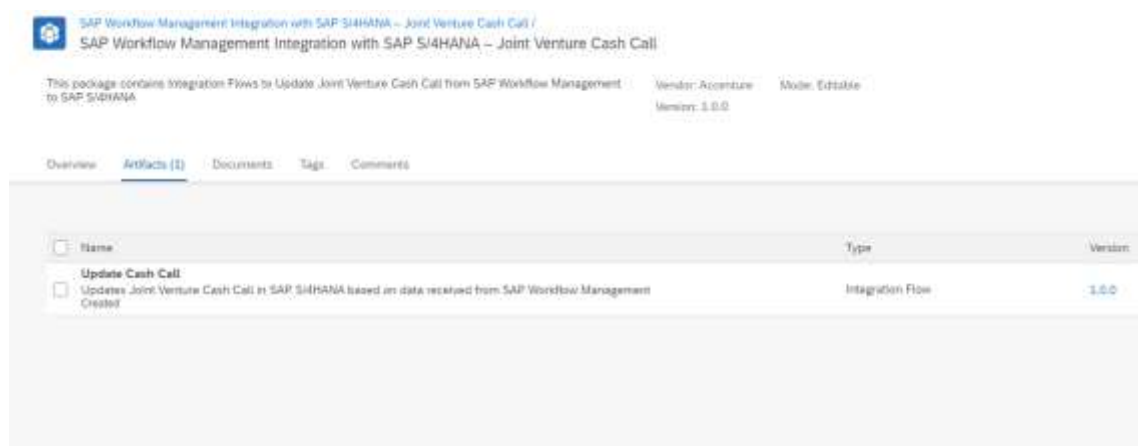
Resources	Protocol	Backend-Type
-----------	----------	--------------

ZWF_FM_JVCASHCALL	RFC	ABAP System
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Import, configure and deploy cloud integration content

This workflow content requires the cloud integration to process the – Joint Venture Cash Call in SAP S/4HANA. The integration content package **SAP Workflow Management Integration with SAP S/4HANA – Joint Venture Cash Call** is available in SAP API Business hub to integrate SAP Workflow Management with SAP S/4HANA. Integration models use RFC and OData to integrate with SAP S/4HANA. The following integration models are available in this package.

1. Update Cash Call



Import the integration package to your SAP Cloud Integration tenant. To be able to import and deploy integration flows, you need the role AuthGroup.IntegrationDeveloper (in Neo environment) or PI_Integration_Developer (in cloud foundry environment) assigned in your tenant.

Import pre-packaged Integration content in SAP Integration Suite

- Access your SAP Integration Suite tenant management node (<https://<integrationtenant>/itspaces>).
- View all pre-packaged integration flow under Discover->Integration. (<https://<integrationtenant>/itspaces/shell/discover>)
- Search integration package “**SAP Workflow Management Integration with SAP S/4HANA – Joint Venture Cash Call**”.
- Click on the package SAP Workflow Management Integration with SAP S/4HANA – Joint Venture Cash Call.
- Click Copy to import the Integration content package to your workspace.
- Navigate to the *Monitor* view (<https://<integrationtenant>/itspaces/shell/monitoring>) to setup the security materials required for the package.

RFC Adapter Configuration

- Open the integration model *Update Cash Call*.
- Click **Configure** button, choose receiver (SAP_S4HANA) and set the required destination and RFC Name for RFC Adapter. (RFC Name can be found in the “Deploy Custom ABAP Objects” section in Setup Guide)

The image shows two screenshots of the SAP Integration Suite configuration interface. The top screenshot is titled "Configure 'Update Cash Call'" and shows the "Receiver" tab selected. It contains three fields: "Receiver:" with a dropdown menu set to "SAP_S4HANA", "Adapter Type:" with a dropdown menu set to "RFC", and "Destination:" with an empty text input field. The bottom screenshot shows the "More" tab selected, containing two fields: "Type:" with a dropdown menu set to "All Parameters" and "rfcName:" with an empty text input field.

- Save and Deploy the integration model.

Note: In case the Approver Determination Strategy is selected as “External Service” in workflow configurations, then a CPI iFlow needs to be implemented with the below mentioned endpoint, input and output details.

API Attributes	Values
Path	/http/getApproversJVcashcallwfm
HTTP Method	GET
Payload sent by workflow (sample data)	<pre>{ "d": { "CashCall" : \$.context.cashCallDetails, "Role" : "JV Supervisor" } };</pre>

Response Payload from integration flow	RESPONSE STATUS, Ex 200 OK <pre>"ApproverRulesResult": {"d": {"approvers": [{"supervisorEmail": "email@example.com", "email": "email@example.com", "userGroup": "Approver_GroupId", "userId": "Approver_UserId"}]}}</pre> <p>Note: When Status is not 200, then it is considered a failed service call.</p>
Payload Type	Application / JSON

Deploy Custom UI for Workflow module

The project consists of the following:

- JVCashCallUIModule – serves as the Workflow Task User Interface application for processing JV Cash Call requests by Approver.

Deploy subflow project for Workflow module

The project consists of the following:

- JVCashCallApprovalSubflow– MTA project containing sub flows to be called from process.

Deploy Custom ABAP Objects

Creating Function Group

Steps:

1. Go to t-code "SE37"
2. In Menu, select Goto -> Function Groups -> Create Group
3. Enter Function Group name as "ZWF_FG_JVCASHCALL" and also enter a meaningful Short Text (Select the required package name to save this object)
4. Go to t-code "SE80"
5. Select "Function Group" from dropdown
6. Enter "ZWF_FG_JVCASHCALL" as the name of function group and click on Display button
7. Right click on "Includes" folder and select "Create" option
8. Enter "ZWF_FG_JVCASHCALL_FORMS" as the name of Include. (Select the required package and click on ok in the successive dialog boxes)
9. Copy paste the attached code for "ZWF_FG_JVCASHCALL_FORMS" inside the code editor from [SAP note 3119868](#).
10. Click on "Save"
11. On the left side panel, expand "Includes" folder and double click on "LZWF_FG_JVCASHCALL TOP"
12. Go to edit mode and paste the attached code for "LZWF_FG_JVCASHCALL TOP" inside the code editor from [SAP note 3119868](#)
13. Click on Save

- Right click on the Function Group “ZWF_FG_JVCASHCALL “ on the left side panel and “Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

Creating Function Modules

Steps:

- Go to t-code “SE37”
- Click on “Create” button
- Enter “ZWF_FM_JVCASHCALL” as name of Function Module
- Enter “ZWF_FG_JVCASHCALL” as Function Group
- Enter a meaningful short text
- Click on “Save” (Click on OK in successive pop-ups)
- Go to “Import” tab and enter the below mentioned entries

Parameter Name	Typing	Associated Type	Default value	Opti...	Pass...	Short text
COMPANY	TYPE	T8J_F-BUKRS		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Company Code
EFF_DATE	TYPE	BSID-BLDAT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Document Date in Document
POSTDATE	TYPE	BKPF-BUDAT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Posting Date in the Document
PERIOD	TYPE	BKPF-MONAT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fiscal period
BAT_NUM	TYPE	T8J4B-BATCH		<input type="checkbox"/>	<input checked="" type="checkbox"/>	JV Cash Call Batch Number
GR_FLG	TYPE	CHAR1	'X'	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Post Gross Documents
DEL_FLG	TYPE	CHAR1	'X'	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete Batch after posting

- Go to “Export” tab and create the below entries

Parameter Name	Typing	Associated Type	Pass by Val...	Short text
ET_MESSAGE	TYPE	BAPI_MSG	<input checked="" type="checkbox"/>	Message Text

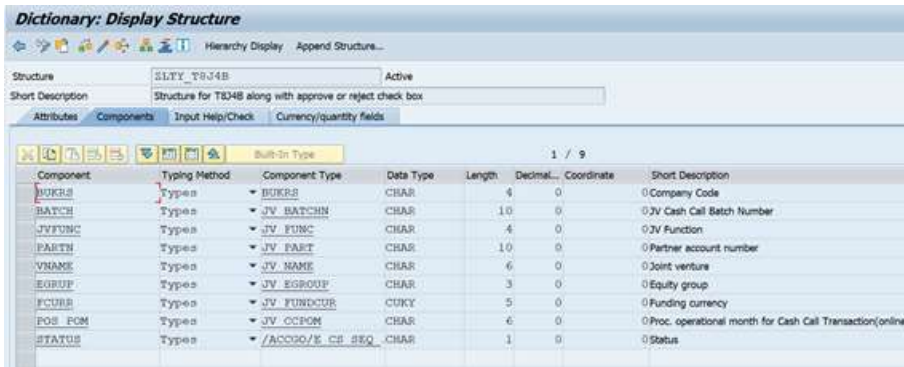
- Go to “Tables” tab and create the below entries

Parameter Name	Typing	Associated Type	Optional	Short text
ET_TRAN	LIKE	SAPUGJCI_TRAN_ALV	<input type="checkbox"/>	Transaction Details
IT_T8J4B	TYPE	ZTTY_T8J4B	<input type="checkbox"/>	T8J4B along with Approval Status

- Go to “Source Code” tab and paste the attached code for “ZWF_FM_JVCASHCALL” from [SAP note 3119868](#)
- Go to “Attributes” tab and select radio button for “Remote-Enabled”
- Click on “Save”
- Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

Note: The details of required “Associated Type” (Table Type) used in the Tables tab are mentioned below:

Create the Line type ZLTY_T8J4B



Create the Table type ZTTY_T8J4B referring to the above line type.



Implicit Enhancements

The details of implicit enhancements that need to be implemented in SAP S/4HANA are mentioned below:

Program Name	Position	Type	Code
MGJC1F10	To be added at the end of FORM "UPDATE_BATCH_TABLE"	Code	Copy-Paste the code Enhancement1.txt from SAP note 3119868
MGJC1F10	To be added at the beginning of FORM "UPDATE_BATCH_TABLE"	Code	Copy-Paste the code Enhancement2.txt from SAP note 3119868

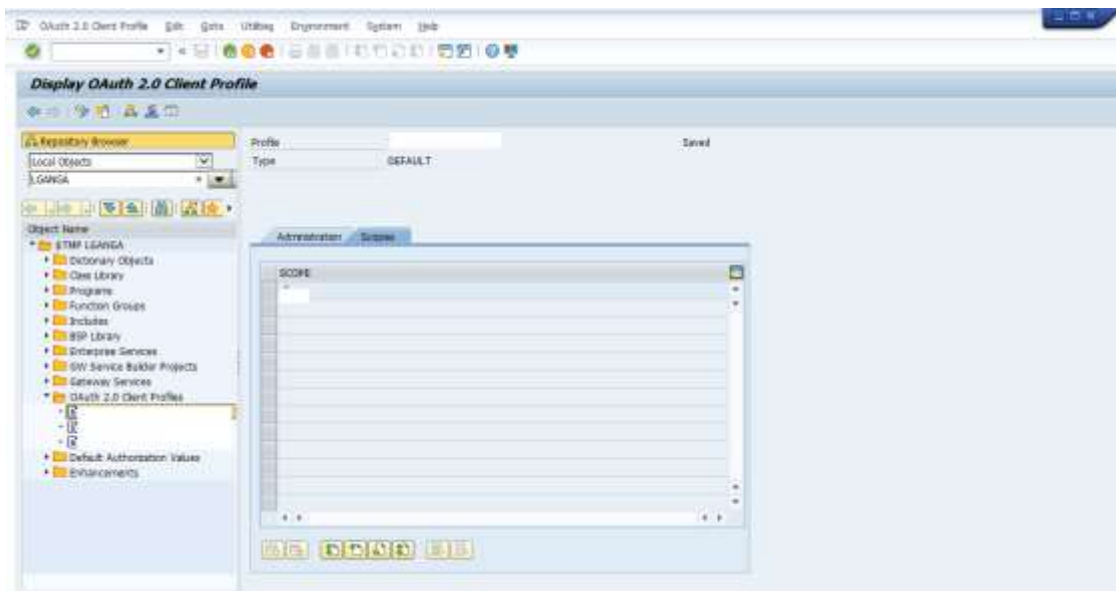
Note:

1. The exporting parameter "url" of method "cl_http_client=>create_by_url" in "Enhancement 1" needs to be changed as per the Workflow Management API URL applicable for your SAP BTP Tenant.

2. The above-mentioned enhancement code requires OAuth2.0 client and profile to be created in SAP S/4 HANA. The steps for this configuration are mentioned below:

Creating OAuth2.0 client profile:

1. Start the object navigator (transaction SE80). Choose Development Object in the dropdown list.
2. To create a development object in the SAP namespace, choose Create OAuth 2.0 Client Profile in the context menu of the object name.
3. Enter the object name in the Client Profile field of the popup as 'ZOAUTH_CLIENT_PROFILE'.
4. choose the type of service provider as 'DEFAULT'
5. Also provide the scope as configured in the service provider configuration and activate the client profile.



Configure the OAuth2.0 Client

1. Go to transaction OA2C_CONFIG to configure the OAuth2.0
2. Click on 'Create'.
3. Select the OAuth2.0 Client Profile as 'ZOAUTH_CLIENT_PROFILE' and provide the Client ID.
4. Maintain the Client Secret
5. Also provide the Token Endpoint.
6. Enter the Client Authentication as 'Basic', Resource Access Authentication as 'Header Field' and select grant type as 'Client Credentials'.
7. Click on save. The OAuth2.0 configuration name is 'ZOAUTH_CLIENT_PROFILE'

Administration Scopes Enhancement Settings

Created By: Created On: 12/14/2020 Created At: 11:52:27 AM Changed By: Changed On: 12/14/2020 Changed At: 11:52:27 AM

General Settings

Service Provider Type: DEFAULT

Profile:

Configuration Name:

OAuth 2.0 Client ID:

OAuth 2.0 Client ID (Internal):

Client Secret:

Authorization Server Settings

Authorization Endpoint:

Token Endpoint:

Revoke Endpoint:

Access Settings

Now the OAuth2.0 configuration is completed.