

Basics of CPI

Challenges in Integration.

- 1) Cloud Integration
- 2) Technical Protocols
- 3) Real-time Business
- 4) process integration
- 5) Integration Technology.

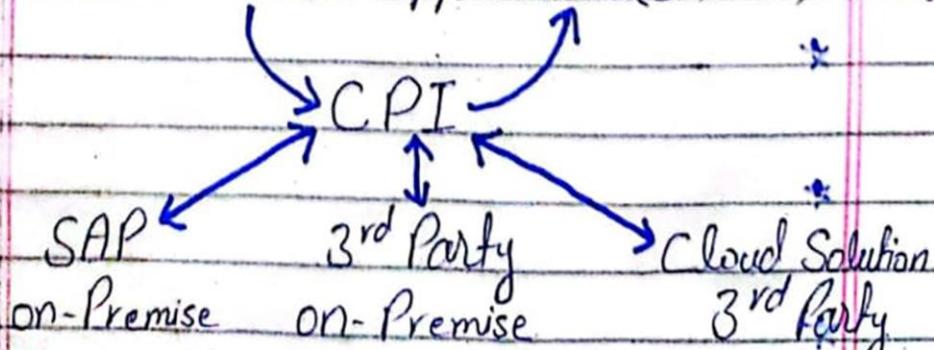
Standard SAP Integration solution

* cloudintegration.hana.ondemand.com.



SAP CPI Architecture

SAP Cloud Applications (SF, C4C, Ariba)



CPI is based in cloud.
These are SAP Cloud Platforms
from which CPI is one.

There should be a customer
like company.

Company needs to buy
account with SAP.

One account we creates
tenant. Tenants are work
places. Like SAP CPI Tenant,
SAP SAC Tenant.

SAP CPI Framework

- * Apache Camel is the integration framework for SAP CPI.
- * Camel is open source java based framework.
- * Camel is based on integration pattern. (camel.apache.org)

SAP CPI

- SAP BTP Account Creation
- SAP CPI Tennat Activation

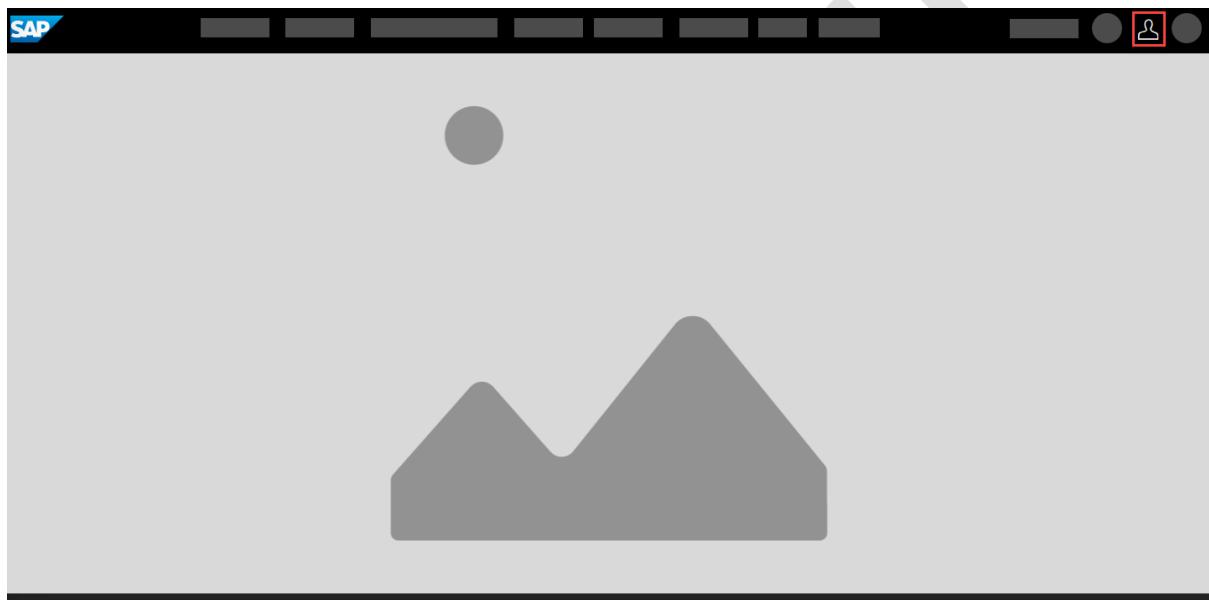
To start on SAP CPI (Cloud Platform Integration) Create your SAP BTP Trial Account.

SAP BTP Account Creation

STEP 1:

Log into the SAP website

Visit <https://www.sap.com> and click the Log On icon in the upper-right corner.



If you have an account on www.sap.com you can enter it or the associated email along with your password. If you do not have an account yet, you can select one of the other login methods or click Register to create an account.



If you do not need to register with sap.com, you can skip to Step 4. Make sure to make all steps as DONE to get credit for completing this tutorial.

STEP 2:

Register at sap.com

If you do not have an account, you will see a register dialog on the left-hand side of the dialog. Fill in the required fields and click Submit.

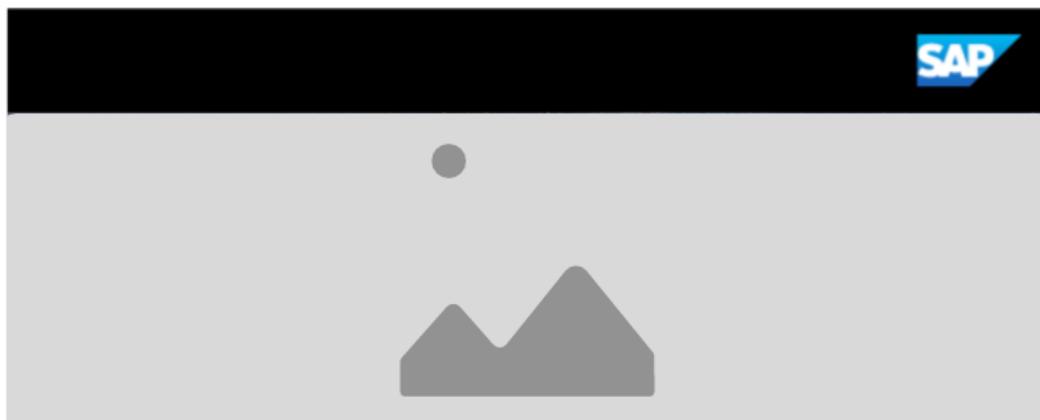
The screenshot shows a registration form titled "Tell us about yourself". It contains several input fields: "E-mail address *", "First name *", "Last name *", "Company *", "Country/Region", "Phone", "Department *", and "Relationship to SAP *". A large blue button labeled "Submit" is visible on the right side of the form.

You will see a message that an activation link has been sent to you.

STEP 3:

Activate your account.

Check your emails to find the activation button Click to activate your account.



Finalize Your Account

Click to activate your account

You will see a success message after activating your account.

STEP 4:

Log on to SAP BTP Trial

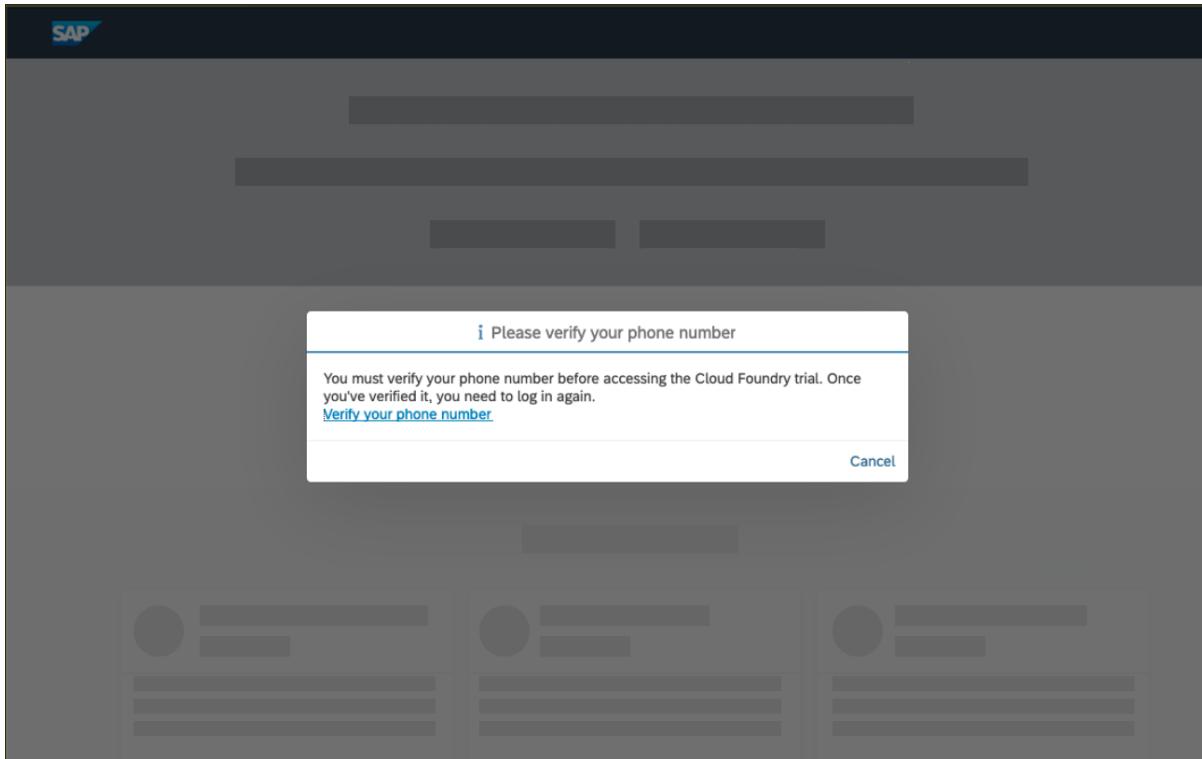
After activation, or if you already have an SAP account, go to the [SAP BTP Trial](#) page and click Log On.

You will see a dialog to confirm the terms and conditions for the SAP BTP Trial. Check the checkboxes and click Accept. This adds the SAP.com registration to your login account on SAP Cloud Identity.

STEP 5:

Verify your account.

You will see a message that you need to verify your account with a phone number.
Click Verify your phone number to trigger that flow.



Enter your phone number and click New Code to retrieve a code.

Please enter this code as well and click Continue to verify your account. After the verification, you will be logged off automatically.

STEP 6:

Access the welcome screen.

Click on Log on to log on to your verified account.

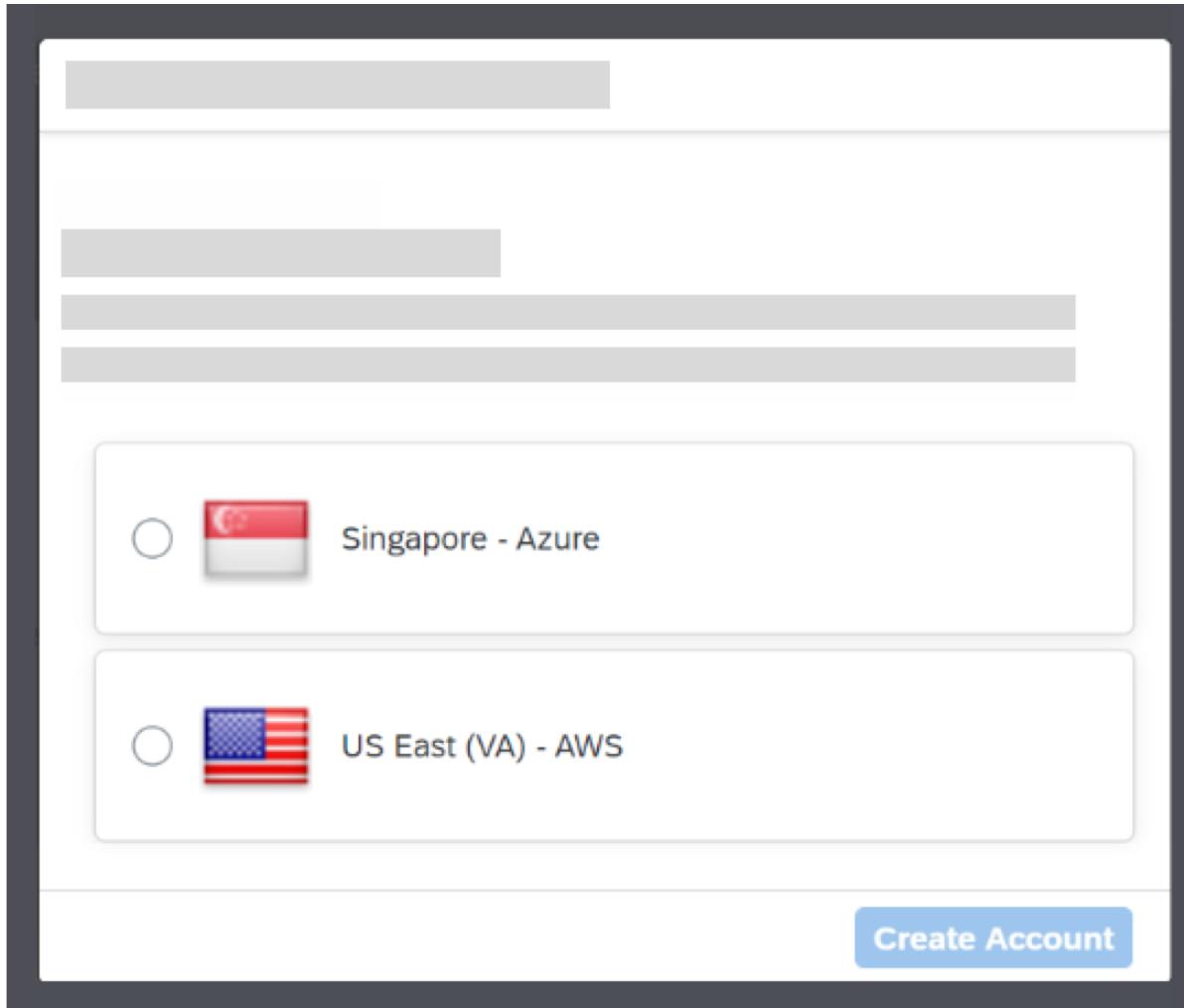
You will see one main button on the welcome screen of the SAP BTP Cockpit. Click on Go to Your Trial Account to navigate to your global account.

Bookmark the link for fast and quick access to the cockpit.

STEP 7:

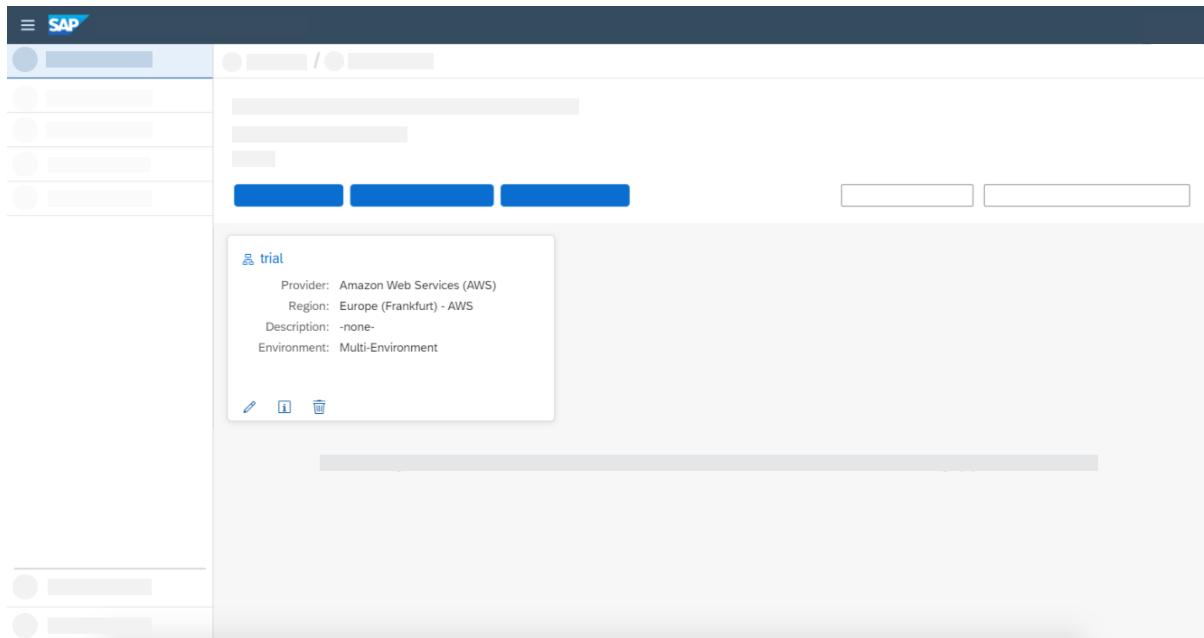
Navigate to the subaccount.

Here, you can now create a subaccount that lives in a geographic region. Choose any region from this list and click Create Account to trigger the provisioning process.



You will then see a dialog box while the account is set up. When complete, click Continue to close to popup and to navigate to the new account.

The global trial account contains one subaccount and space. Navigate to subaccount by clicking on the tile named trial (this name may vary if you created the subaccount manually).



This page will display the current state of the subaccount. You can manage your subscriptions and jump into the different runtime environments. It also shows you fundamental information of the Cloud Foundry environment, such as the API endpoint and the available spaces.

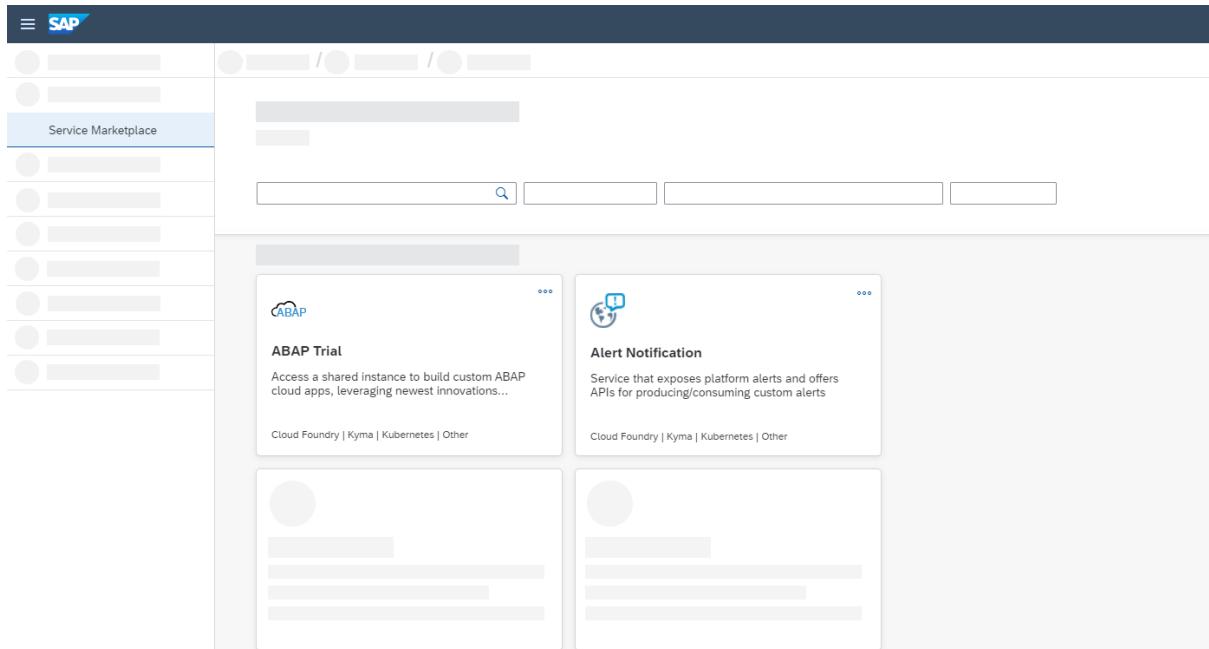
This screenshot shows the SAP Cloud Foundry Subaccount Overview page for a subaccount named 'trial'. The page displays fundamental information about the environment, including the provider (Amazon Web Services (AWS)), region (Europe (Frankfurt) - AWS), description (-none-), and environment (Multi-Environment). It also shows a summary of active subscriptions (4 available) and links to manage them. Additionally, it provides details about the API endpoint (<https://api.cf.eu10.hana.ondemand.com>) and the Kyma Environment, which is currently disabled.

Name	Applications	Service Instances
dev	0	3
hanacloud	0	1

STEP 8:

Learn about the service marketplace.

In the service marketplace you can find all services that are available on any of the environments. Select Service Marketplace on the left to see all available services and a filter bar to find the one you are looking for. From here you can specify a service plan to provision service instances.



SAP CPI Tennat Activation

Go to your BTP Trial account page.

<https://account.hanatrial.ondemand.com/trial/#/home/trial>

Welcome to SAP BTP Trial

Learn how to create and deploy cloud apps and gain access to a comprehensive set of platform services.

[Go To Your Trial Account](#)

Quick Tool Access

- SAP Business Application Studio: Develop business applications using SAP's next-generation, Web-based IDE
- CLI for BTP: Manage your trial account using the command-line interface
- APIs for SAP BTP: Manage, build, and extend the core capabilities of SAP BTP

Open the Subaccount that was created in the last steps:

Global Account: cf433a9dtrial – Account Explorer

All: 0 directories, 1 subaccounts | Subdomain: cf433a9dtrial-ga

Search All Regions Hide entities you don't have access to

Directories and Subaccounts Subaccounts (1)

Subaccounts
trial ✓ Provider: Amazon Web Services (AWS) Region: US East (VA) Environment: Multi-Environment

Here are two main options.

- Service marketplace.
- Subscriptions.

I have 4 subscriptions open; they should be open for you after these steps.

Subaccount: trial - Overview

General Cloud Foundry Environment Kyma Environment Entitlements

Entitlements: 76 **Instances and Subscriptions**: 4

Subdomain: cf... Tenant ID: ... Subaccount ID: ... Provider: Amazon Web Services (AWS) Used for Production: No Region: US East (VA) Beta Features: Disabled Environment: Multi-Environment

Created By: Created On: 24 Oct 2023, 22:16:39 (GMT+05:00) Modified On: 24 Oct 2023, 22:16:54 (GMT+05:00)

Cloud Foundry Environment

Name	Applications	Service Instances
dev	0	1

Note: We Need these 2 subscriptions others should be activated already:

Subaccount: trial - Instances and Subscriptions

All: 4

Subscriptions (2) **Instances (1)** **Environments (1)**

Applications to which your subaccount is currently subscribed

Application	Plan	Created On	Changed On	Status
Integration Suite	trial	24 Oct 2023	24 Oct 2023	Subscribed
SAP Business Application Studio	trial	24 Oct 2023	24 Oct 2023	Subscribed

Instances (1)

Service instances created in: Cloud Foundry | Kyma/Kubernetes | Other environments

Instance	Service	Plan	Runtime Environm...	Scope	Credentials	Status
Integration-flow	Process Integratio...	Integration-flow	Cloud Foundry	dev	1 key	Created

Let's subscribe to these one by one.

For Integration Suite:

1. Go to Service Marketplace.
2. Write Integration Suite in the search bar.
3. Select the integration suite.
4. Click on the Create button and finish.

The screenshot shows the SAP BTP Cockpit interface. On the left, the sidebar includes options like Overview, Services (with Service Marketplace highlighted), Cloud Foundry, HTML5 Applications, Connectivity, Security, Users, Role Collections, Help and Support, Useful Links, and Legal Information. The main content area has a header "Subaccount: trial - Service Marketplace" with a search bar containing "integra". Below it, there are sections for "Foundation / Cross Services" (Continuous Integration & Delivery, Integration Suite, Master Data Integration, Process Integration Runtime) and "Application Plans" (Integration Suite plan). A large orange circle highlights the "Create" button in the Application Plans section. Another orange circle highlights the "Integration Suite" card in the Foundation section. A red checkmark is placed over the "Integration Suite" card. A red arrow points from the search bar towards the Integration Suite card.

Next, we need to assign roles to the user who will use this application.

1. Go to the security drop-down.
2. Click on users and Select user.
3. Here you can see the role collections bar.
4. Right-click on 3 dots and select assign role collection.
5. Select all the roles and finish.

The screenshot shows the SAP BTP Cockpit interface. The left sidebar has a 'Security' section with 'Users' selected, indicated by a red circle. The main area shows a table of users with one row selected, also indicated by a red circle. To the right, a detailed view of the selected user is displayed, including their email, creation date, and an 'Assign Role Collection' button, which is circled in red.

This screenshot shows the 'Assign Role Collection' dialog box. It lists several role collections with checkboxes. The 'Assign Role Collection' button at the bottom is circled in red.

Now, go to the service marketplace again to create the next subscription.

Just click on the Create button.

SAP BTP Cockpit

Subaccount: trial - Service Marketplace

Integration

Process Integration Runtime

Service Plans

Plan	Description	Environments	Active
integration-flow	Creates an OAuth client that provides access to the Cloud Integration...	Cloud Foundry, Kyma, Kubernetes	1 instance
api	Creates an OAuth client that provides access to the public APIs of the Cloud...	Cloud Foundry, Kyma, Kubernetes	...

Fill the values like this and click next:

New Instance or Subscription

Basic Info

Service: Process Integration Runtime

Plan: integration-flow

Runtime Environment: Cloud Foundry

Space: dev

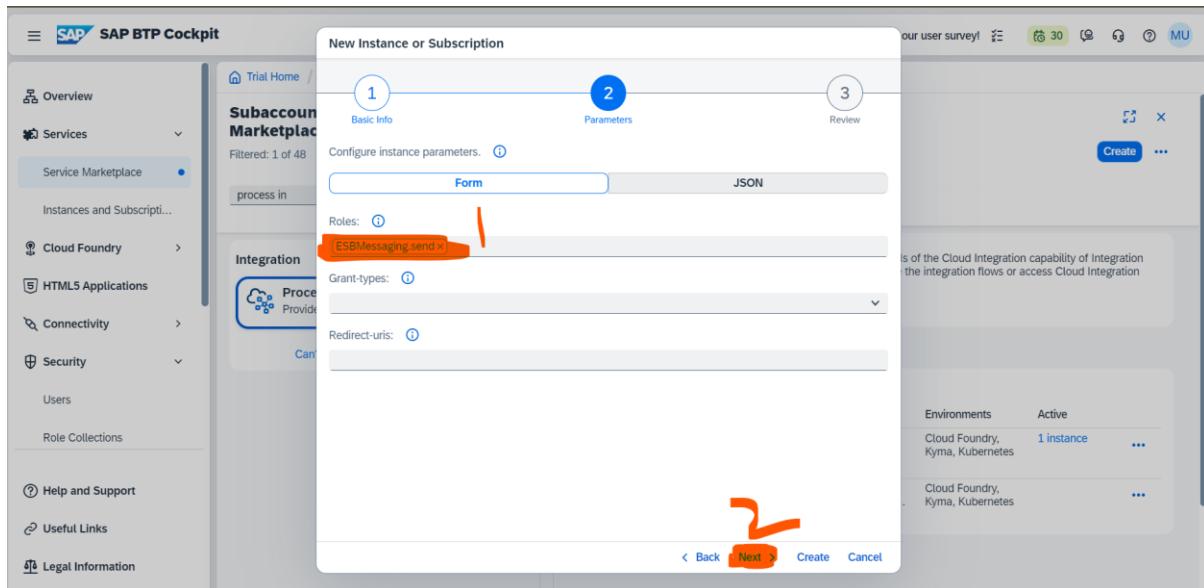
Instance Name: Integrationflow

Parameters

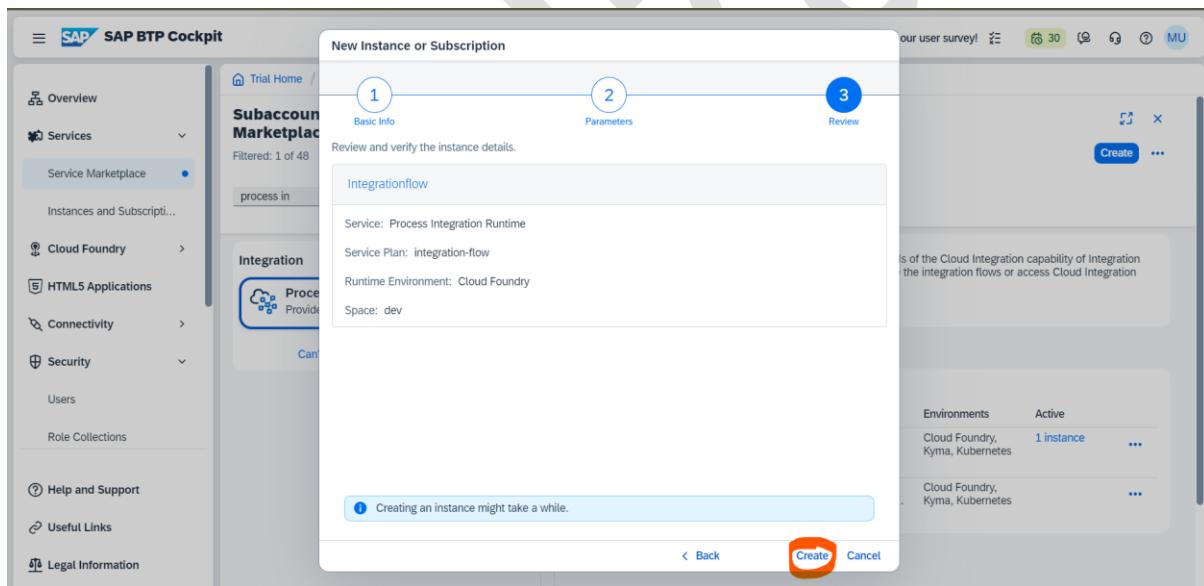
Review

Next > Create Cancel

Select only the marked role and click next.



Now, just click on Create button and It's done.



Again, go to the security drop-down.

1. Select users.
2. Select the last user to whom you assigned roles.
3. Just go to the roles bar.
4. Click on those three dots and select assign role collection.
5. Now again select all available roles. (Note: These roles can be specific but for now we are selecting all).

After the subscription's additions, it will look like:

The screenshot shows the SAP BTP Cockpit interface. The left sidebar has sections for Overview, Services (selected), Service Marketplace, Instances and Subscriptions (selected), Cloud Foundry, HTML5 Applications, Connectivity, Security (selected), Help and Support, Useful Links, and Legal Information. The main content area is titled "Subaccount: trial - Instances and Subscriptions". It shows "All: 4" items. There are tabs for Subscriptions (2), Instances (1), and Environments (1). The Subscriptions table lists two entries: "Integration Suite" and "SAP Business Application Studio", both with status "Subscribed". The Instances table lists one entry: "Integration-flow" with status "Created". The Environments table lists one entry: "Cloud Foundry" with status "dev".

Now, Follow these steps:

1. Select your subscription Integration Flow.
2. Click on three dots at top point # 3.
3. Select Create Service Key.

Write the name same as the servicekey and click Create:

Now, go to the three dots in front of servicekey and select view:

Here are two very important things available.

- "clientid"
- "clientsecret"

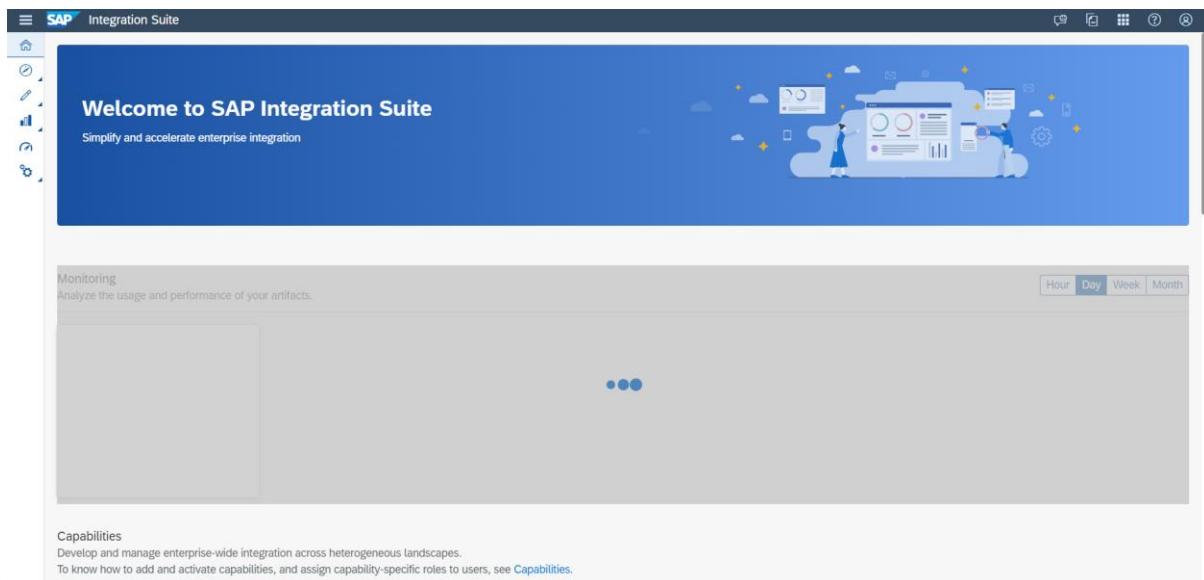
Here the tunnel is created. Client ID and client secret are different for each system. I am hiding it as it's critical information.

The screenshot shows the SAP BTP Cockpit interface. In the center, a modal window titled 'Credentials' is open, showing a JSON configuration for a service key named 'servicekey'. The JSON code includes fields like 'clientid' and 'clientsecret'. Below the modal, there are sections for 'Instances (1)' and 'Service Keys (1)'. The 'Service Keys (1)' section shows a single entry with the name 'servicekey', status 'Created', and a 'Status' button also labeled 'Created'. The entire screenshot is highlighted with a large orange circle.

Now click on Integration Suite and click on Go to application:

The screenshot shows the SAP BTP Cockpit interface. On the left, the navigation bar has 'Cloud Foundry' selected. In the center, the 'Integration Suite' page is displayed. At the top right of the main content area, there is a blue button labeled 'Go to Application' which is circled in red. Below it, the status 'Subscribed' is also circled in red. The page also displays other details like 'Plan: trial', 'Created On: 24 Oct 2023', and 'Changed On: 24 Oct 2023'. The overall interface is highlighted with a large gray swoosh graphic.

It will be redirected to a new window:



Here you can see all the buttons for CPI development.

Note:

If you don't see the left bar for all buttons available, then click on the add capabilities or just capabilities button.

Here you have to select all options. Most important are 1 and 2 mentioned in the image.

The screenshot shows the SAP Integration Suite interface. The main area displays several capabilities:

- Build Integration Scenarios**: Discover, design, and operate scenarios for end-to-end process integration with Cloud Integration.
- Manage APIs**: Discover, design, and govern APIs for API consumers with API Management.
- Manage Trading Partners**: Design and operate B2B scenarios with Trading Partner Management.
- Implement Interfaces and Mappings**: Design interfaces and mappings using crowdsourcing and machine learning with Integration Advisor.
- Extend Non-SAP Connectivity**: Connect to non-SAP cloud applications from your integration scenarios with Open Connectors.
- Manage and Provide Integration Technology Guidance**: Define, document, and govern your integration strategy powered by ISA-M with Integration Assessment.
- Assess Migration Scenarios**: Estimate the migration effort for SAP Process Orchestration scenarios with Migration Assessment.
- Manage Capabilities**: Manage capabilities.

Red arrows point to the first five capabilities listed above.

When you click on Pencil Icon, you will see a page like this. Here you can create packages and I-flows.

The screenshot shows the SAP Integration Suite interface under the 'Integrations and APIs / Design' section. The main area displays a table for 'Packages (0)'. The table has the following columns:

Name	Mode	Version	Created By	Created Date	Description	Action
No data						

A pencil icon is located in the top right corner of the navigation bar.

Finally, our SAP CPI Tennat is created and now we can use our Integration Suite Trial Account for the practice.

