SAP Clean Core Development Installation Tools

1.- Introduction

This guide will present the installation process for all the tools that are required for the Clean Core Enablement Hands On. The detailed installation process will cover:

- CAP Development Suite Installation
  - Visual Studio Code
  - NodeJS Framework Installation
  - SAP Cloud Application Programming Model Framework
  - SAP Fiori Tools for Vs Code
  - Cloud Foundry CLI
- Business Process Automation
  - Local Automation Agent
- ABAP BTP Development
  - Eclipse and additional Tools

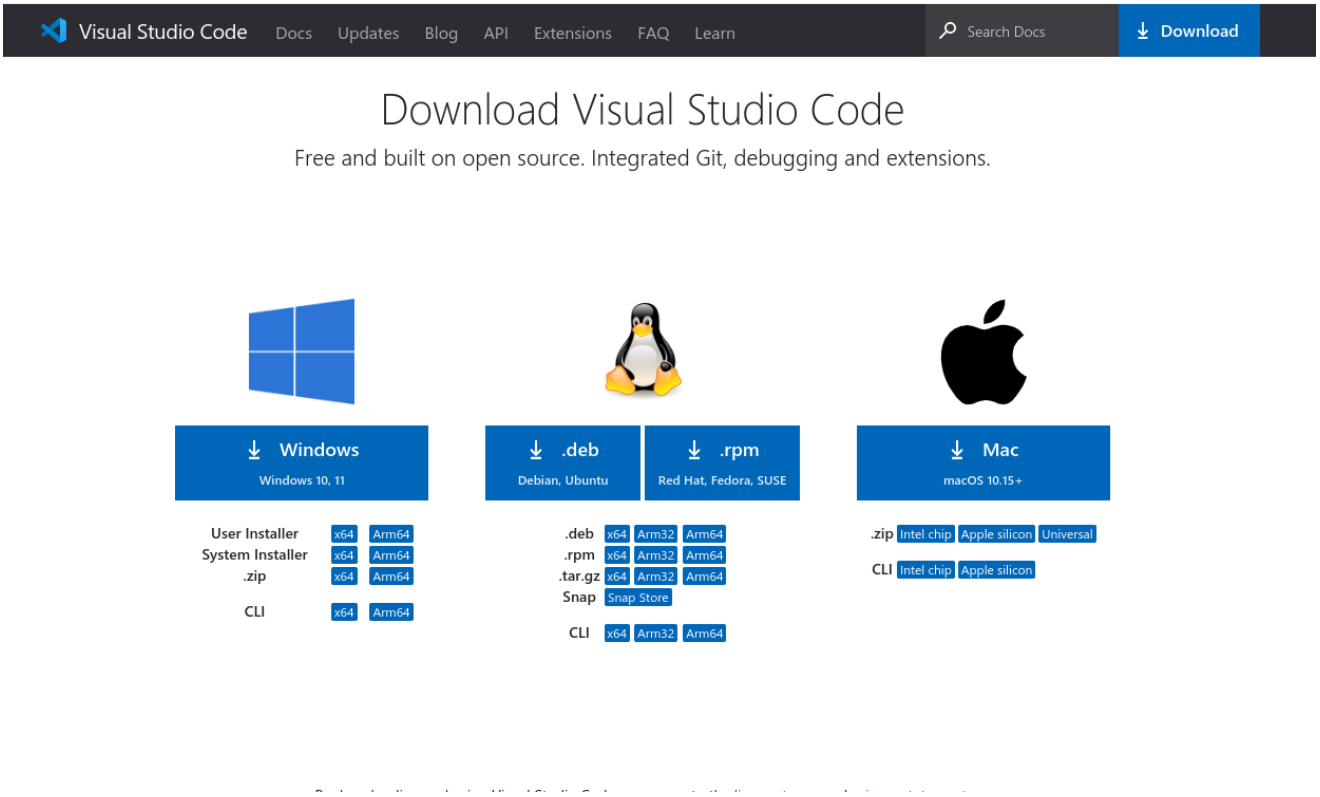
> **The installation process for development tools considers that Vs Code will be used as a development tool instead of SAP Build Code. All the examples that will be covered during the workshop can be executed indistinctly between both IDE's**

2.- CAP Development Suite Installation

> **To support a proper installation process is mandatory to have administrator access to the machine where the enablement will be executed. Even when the CAP Development Tools can be replaced with SAP Build Code on SAP BTP, there are some Business Process Automation tools and ABAP tools that will require install software anyway. Without administrator access to the personal equipment, the workshop can´t be completed.**

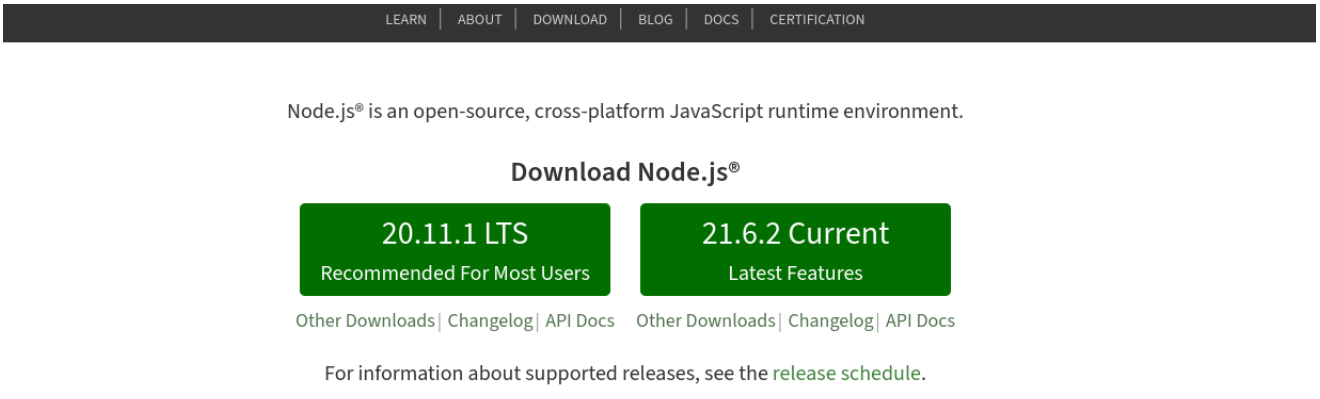
2.1 Visual Studio Code Install

First is required to install Visual Studio Code. In the tool website you can find the installer for all the supported platforms. You can install Vs Code downloading the installer or using your operative system package manager.



2.2 NodeJs Install

NodeJS is a JavaScript framework to create back-end applications. Also is the main platform that supports the **Cloud Application Programming Model (CAP)** so the installation of CAP will require NodeJS installed and the npm **(Node Package Manager)**
tool will be used to install all the SAP Development Packages.
To proceed with the NodeJS installation, go to NodeJS Site and it is recommended to install the LTS version because of stability for our applications.



> ⓘ **For MAC OS X and Windows, the NodeJS installation is an straightforward process running the installer *as Administrator*. For Linux you will have the option to check about the distribution that you are using and if NodeJS LTS is included in the Software Package Manager (like Fedora Workstation) or if you**

> **will need to import specific repositories to get the last LTS version installed (like Ubuntu)**

After the installation we will need to check about the installed version, to do this, open a terminal app (Linux terminal, mac console or windows power shell) and execute the commands:

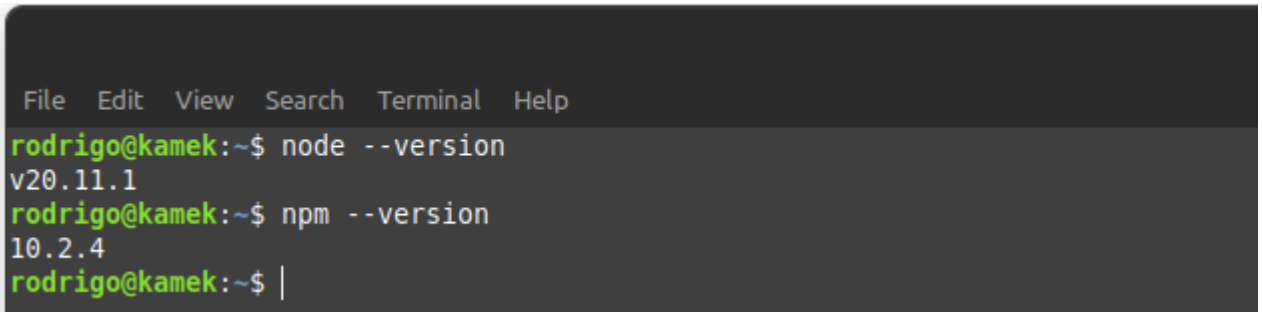
```
node --version
```

and

```
npm --version
```

> **For the installation process in windows, it is recommended to use *PowerShell* as Administrator instead of command (cmd) interface.**

If everything is correct, the answer should looks like:



2.3.- CAP Framework Installation

For the Cloud Application Programming (CAP) Framework, is required to use the Node Package Manager Tool (**npm**).
In the console or terminal (**MAC & Linux use *sudo* command, Windows will need Administrator privileges for the Power Shell**) execute:

```
npm install -g @sap/cds-dk
```

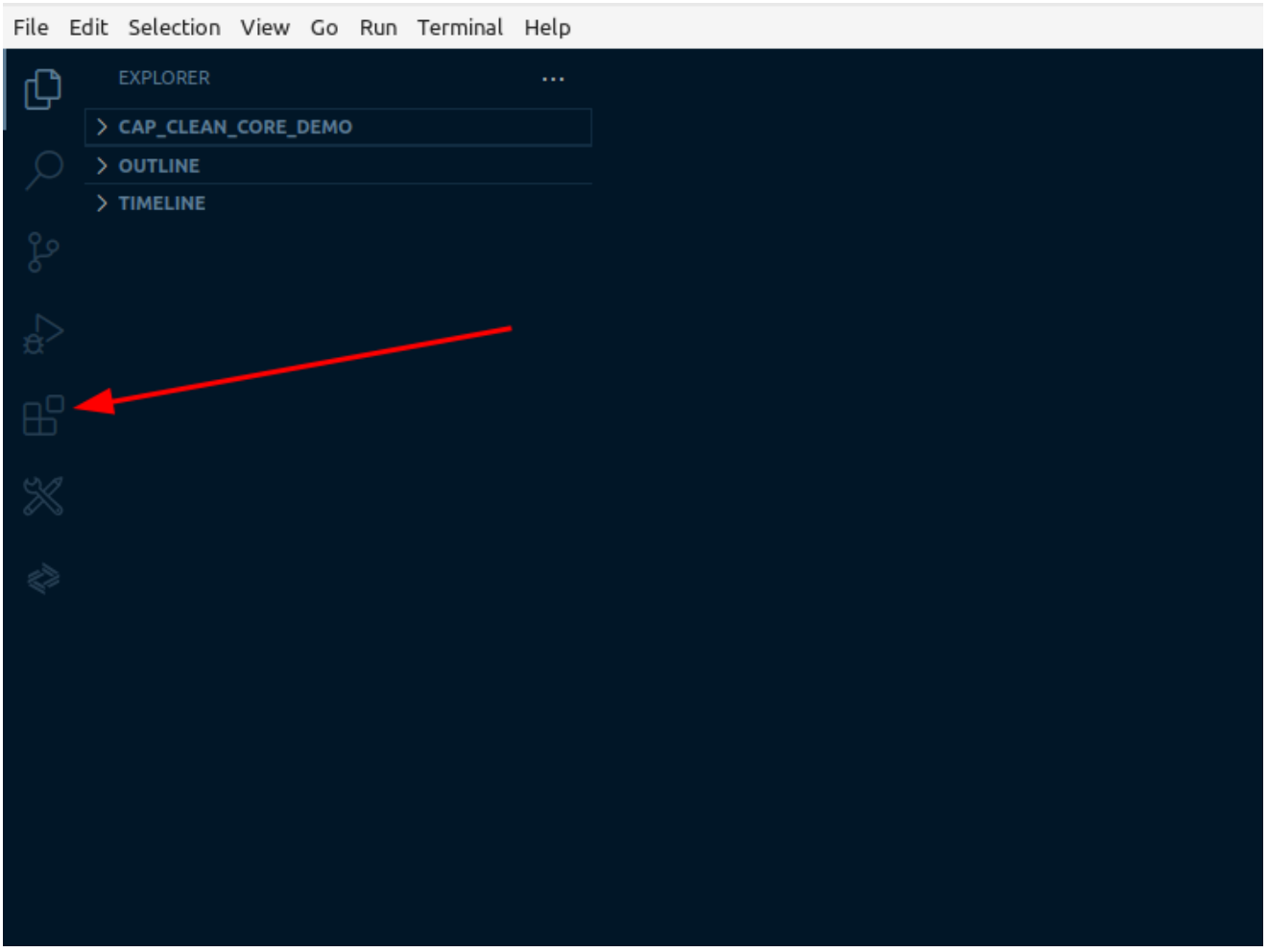
> ⚠ **The use of `-g` parameter implies the global installation, this will make the request for the Administrator privileges**

To check the correct installation for the CDS Framework, execute `cds --version` and the answer should looks like:

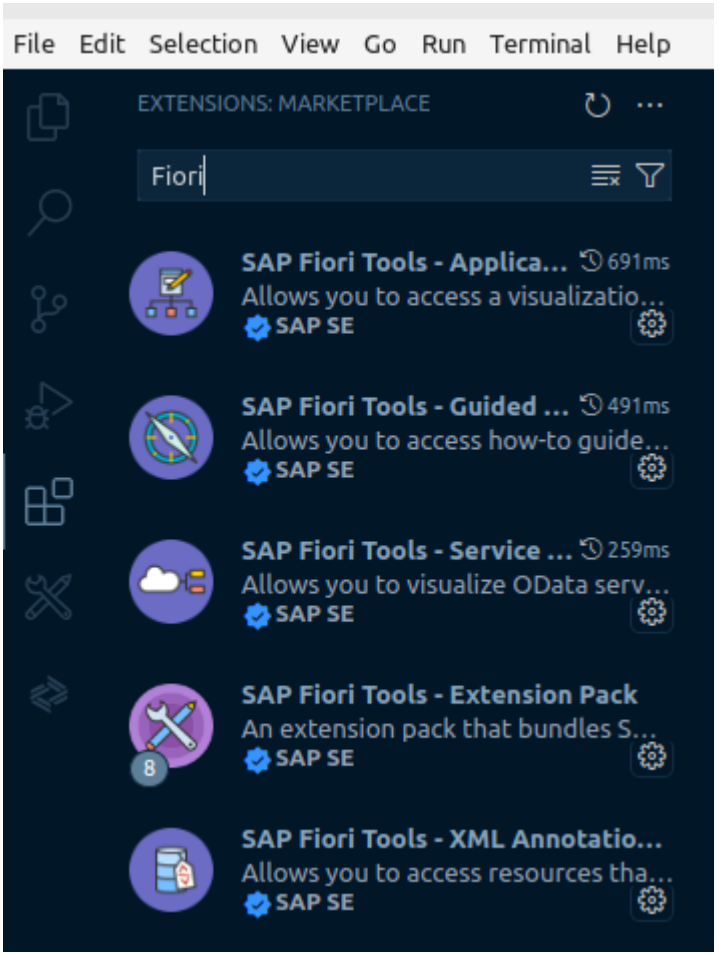
```
rodrigo@kam
File  Edit  View  Search  Terminal  Help
rodrigo@kamek:~$ cds --version
@cap-js/cds-types: 0.1.0
@sap/cds: 7.5.2
@sap/cds-compiler: 4.5.0
@sap/cds-dk (global): 7.5.1
@sap/cds-fiori: 1.2.2
@sap/cds-foss: 5.0.0
@sap/cds-mtxs: 1.14.2
@sap/eslint-plugin-cds: 2.6.4
Node.js: v20.11.1
home: /usr/lib/node_modules/@sap/cds-dk/node_modules/@sap/cds
rodrigo@kamek:~$
```

2.4.- Fiori Tools for VS Code

The installation process for VSCode will be executed directly on the IDE itself. Just go to the Extensions menu in the main bar:



Then, in the search box, write **Fiori** and choose the **SAP Fiori Tools Extension Pack** extension. This package will install all the Fiori Generation and Guided tools, once this is installed os not necessary to install the rest of the apps individually.:

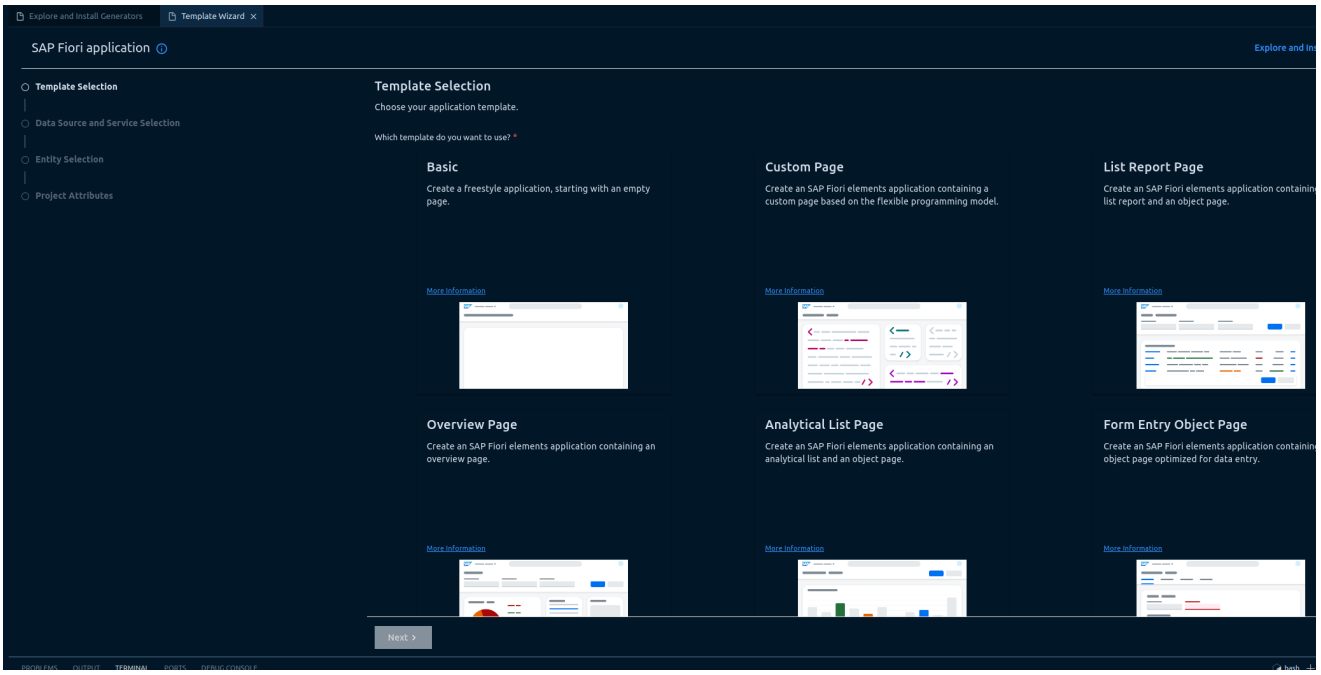


> **As a recomendation, when using SAP solutions in VSCode install only the SAP SE validated extensions, as those are delivered by SAP.**

Additionally search for the **SAP CDS Language Support** Extension to get auto completion and highlighting when work with CDS files.

> **In windows could be necessary to restart VS Code after the installation to get the complete extension functionallity.**

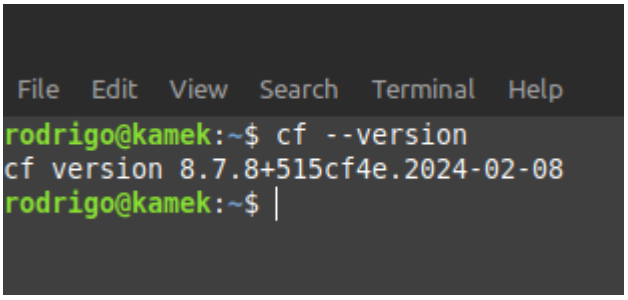
To check the proper installation of the extensions, execute the command palette in VSCode using the `CTRL+SHIFT+P` snippet or go to the menu **View -> Command Palette** and search for the Fiori: **Open Application Generation** feature, as a result some generators will be installed and the template choose screen will be presented:



2.5.- Cloud Foundry CLI Installation

An important part of the development process is the deployment process to Cloud Foundry environment on SAP BTP. To execute that task the Cloud Foundry CLI tools will be required. The installation process offer different alternatives, not only about operative system but about the use of core installers or package manager instead.
Considering there are 2 CLI versions (CLI 7 and CLI 8) for this enablement the CLI 8 version will be used.
The installation instructions can be found on [Cloud Foundry CLI Installation Instructions]

After the installation process executed, run the shell command `cf --version` , and the answer should looks like:



> **The CloudFoundry CLI let to control many aspects of the BTP Cloud Foundry installation. Will be used in detail when work with deployment process after the application development.**

3.- SAP Business Process Automation Desktop Agent

The Desktop Agent needs to be installed to support the SAP Business Process Automation development process as a part of the Clean Core Enablement.

The agent needs to be installed on local machines as will be needed in a real project for process automation.

> **Remember, for this kind of installation is required the administrator credentials to support the complete installation process**

1. Access Hana Development Tools Site
2. Then go to the **SAP Process Automation: Desktop Agent 3 for Trial** section:

SAP Process Automation: Desktop Agent 3 for Trial

SAP Process Automation is a hybrid solution composed of both cloud and desktop components.

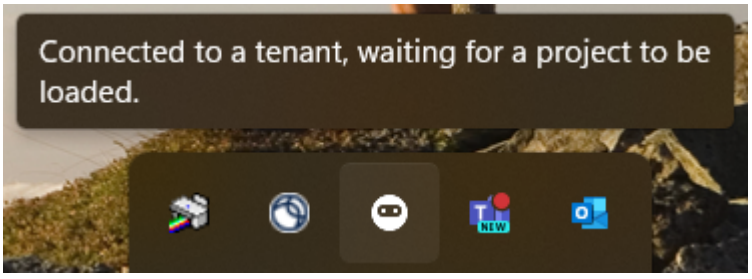
Find below the Desktop Agent 3, that is required to execute your automations.

For more information on how to install and configure the Desktop Agent 3, see the documentation.

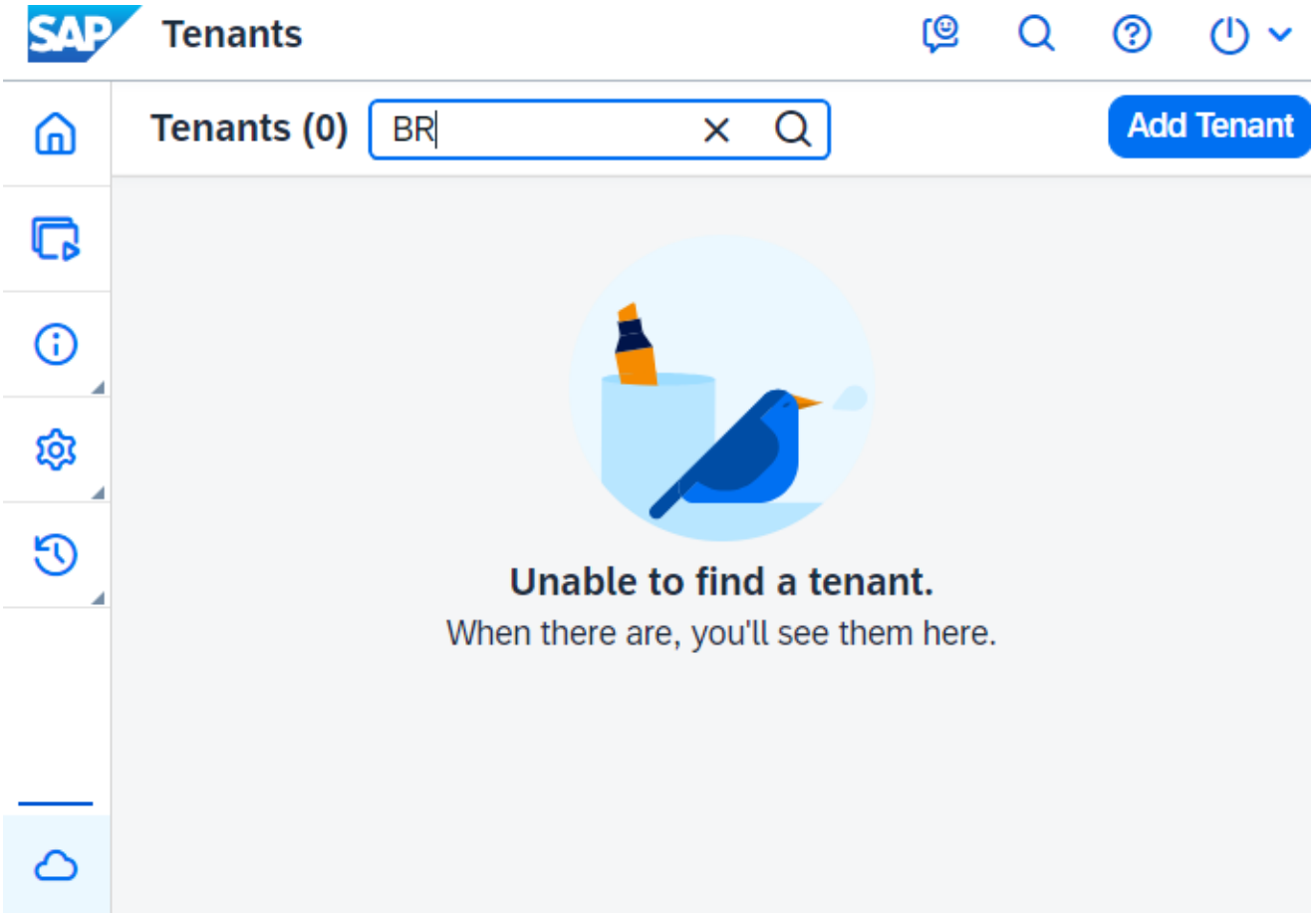
Operating System	Version	File Size	Download
Windows (x86_64)	3.24.54	270.9 MB	sap-process-automation-3.24.54.exe (sha1)
Mac OS X (arm64)	3.24.57	155.2 MB	sap-process-automation-3.24.57_darwin-arm64.pkg (sha1)
Mac OS X (arm64)	3.24.57	157.3 MB	sap-process-automation-3.24.57_darwin-arm64.zip (sha1)
Mac OS X (x64)	3.24.57	161.9 MB	sap-process-automation-3.24.57_darwin-x64.pkg (sha1)
Mac OS X (x64)	3.24.57	164.0 MB	sap-process-automation-3.24.57_darwin-x64.zip (sha1)

There will be options for different operative systems to install the agent.

3. After the installation go to the system icon bar and open the agent.

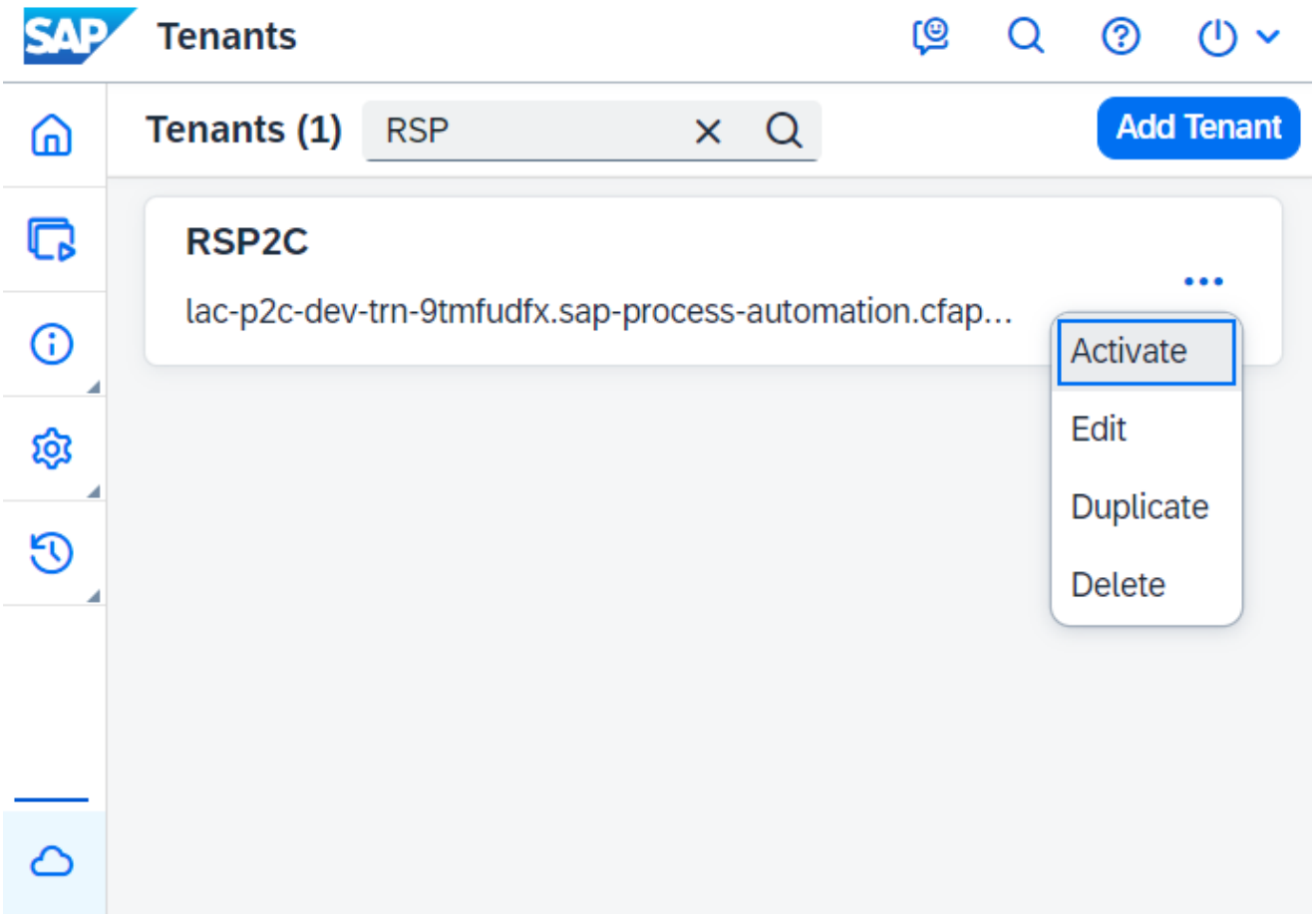


4. In the cloud (tenants Menu), add a tenant with the URL: (https://lac-p2c-dev-trn-9tmfudfx.us10.process-automation.build.cloud.sap/)



In this case we are considering the tutorial URL, if you are following this tutorial for a different BTP installation, the URL must be the sub account where your Build Process Automation instance is running.

5. Add the required tenants
6. Fill the name with your information
7. Use the URL to register the tenant
8. Use the 3 dots configuration to activate your local agent in the created tenant.



4.- ABAP BTP Development Tools Installation

This section details the installation process for the ABAP Development Tools that will support the development process on SAP BTP.

1. Access ABAP Development Tools Site
2. Go to **Procedure** section:

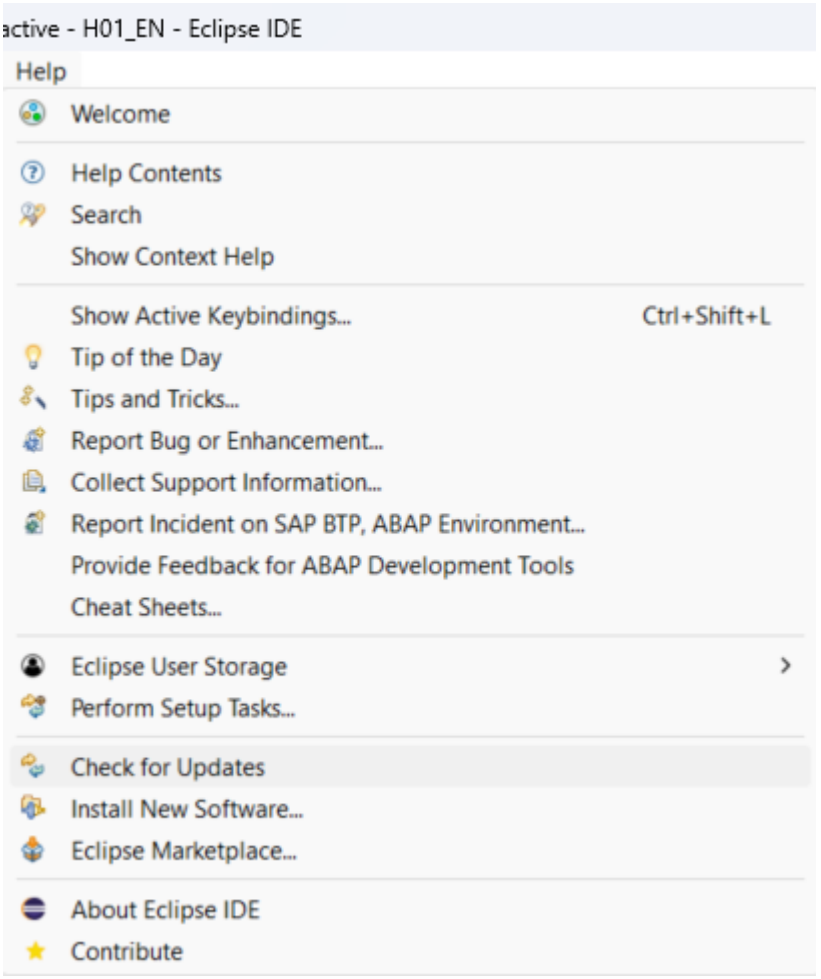
Procedure

To install the front-end component of ADT, proceed as follows:

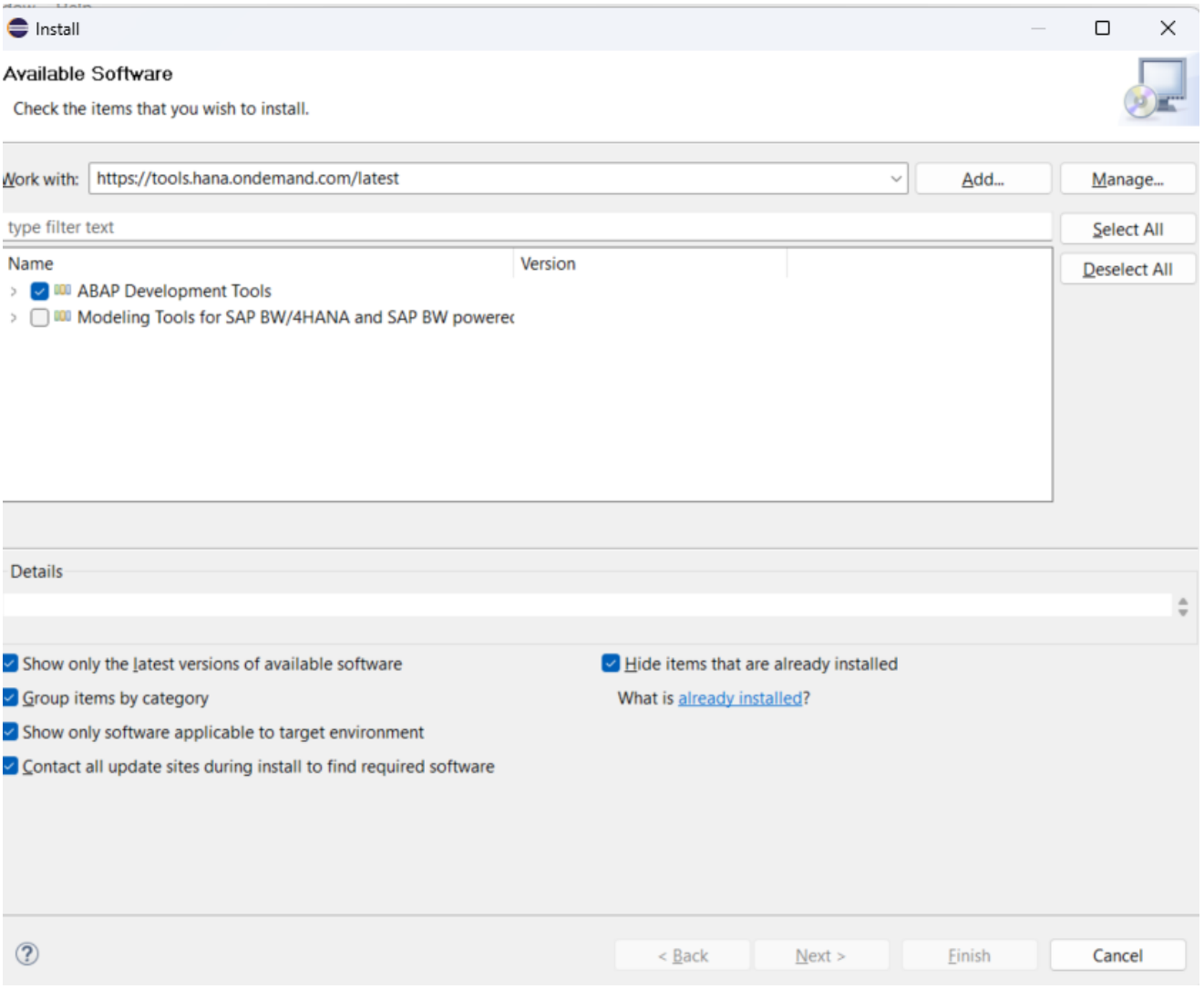
1. Get an installation of Eclipse 2023-12 (x86_64) (e.g. Eclipse IDE for Java Developers)
2. In Eclipse, choose in the menu bar **Help > Install New Software...**
3. Enter the URL **https://tools.hana.ondemand.com/latest**
4. Press **Enter** to display the available features.
5. Select **ABAP Development Tools** and choose **Next**.
6. On the next wizard page, you get an overview of the features to be installed. Choose **Next**.
7. Confirm the **license agreements** and choose **Finish** to start the installation.

You can also check out this interactive tutorial: Install ABAP Development Tools (ADT).

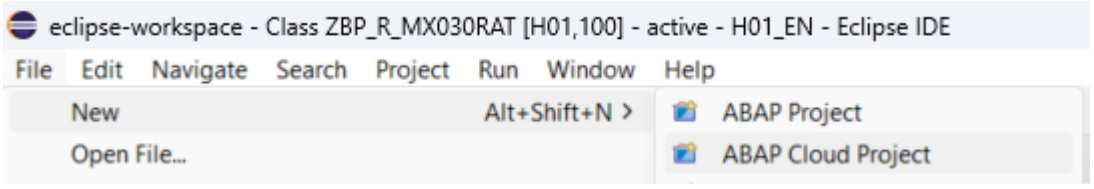
3. Download Eclipse 2023-12 from the url Eclipse Download
4. After the installation, open Eclipse and go to **Help-> Install New Software**



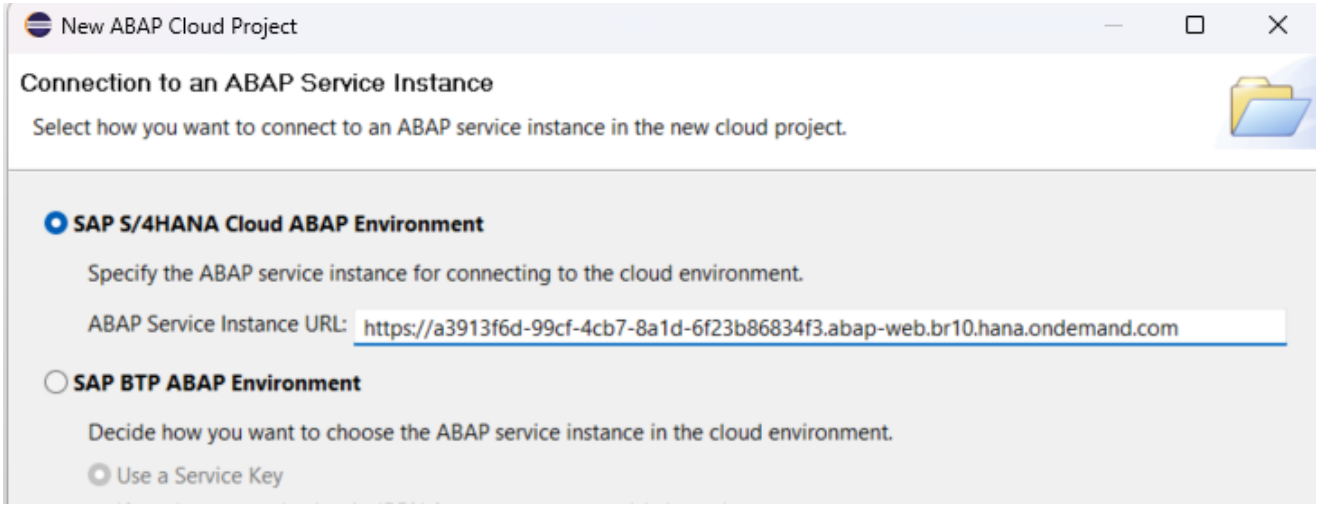
5. To update the tools, use the url: **https://tools.hana.ondemand.com/latest**



6. Install **ABAP Development Tools**
7. Create a new ABAP Cloud Project



8. For the service instance URL, use: https://a3913f6d-99cf-4cb7-8a1d-6f23b86834f3.abap-web.br10.hana.ondemand.com



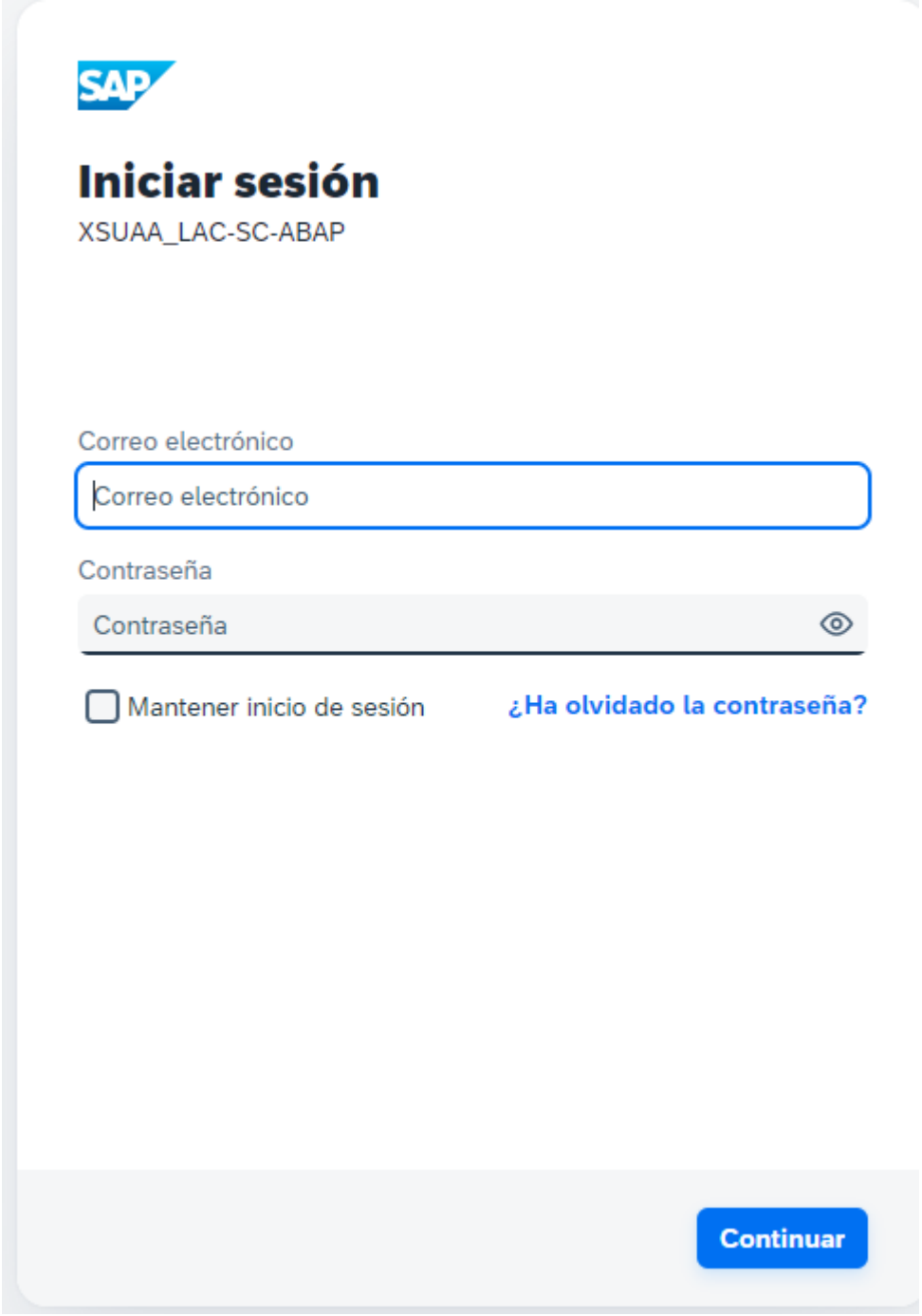
⚠ **Remember this credentials are for the Clean Core Enablement, if you are doing this in a different installation, you will need to check your URL and access credentials**

9. Choose the **Servicce Key** option, and fill with the following service key:


```
{
  "binding": {
    "env": "cf",
    "id": "6bf064d6-8bb7-47ff-afc8-bf4545f56a11",
    "type": "oauth",
    "version": "1.0.1.1"
  },
  "catalogs": {
    "abap": {
      "path": "/sap/opu/odata/IWFND/CATALOGSERVICE;v=2",
      "type": "sap_abap_catalog_v1"
    }
  },
  "endpoints": {
    "abap": "https://a3913f6d-99cf-4cb7-8a1d-
6f23b86834f3.abap.br10.hana.ondemand.com"
  },
  "preserve_host_header": true,
  "sap.cloud.service": "com.sap.cloud.abap",
  "systemid": "H01",
  "uaa": {
    "apiurl": "https://api.authentication.br10.hana.ondemand.com",
    "clientid": "sb-xs-a3913f6d-99cf-4cb7-8a1d-6f23b86834f3!b2621|xsuaa-
abapcp-prod-br10!b1439",
    "clientsecret": "6bf064d6-8bb7-47ff-afc8-
bf4545f56a11$kwYA17wcCFEpPpIQpCay8tS-OUr4q8-PT280pNGtjao=",
    "credential-type": "binding-secret",
    "identityzone": "lac-sc-abap",
    "identityzoneid": "30aeb1a4-b365-4dde-8a8c-ddd26a0d00e3",
```

```
    "sburl": "https://internal-
xsuaa.authentication.br10.hana.ondemand.com",
    "subaccountid": "30aeb1a4-b365-4dde-8a8c-ddd26a0d00e3",
    "tenantid": "30aeb1a4-b365-4dde-8a8c-ddd26a0d00e3",
    "tenantmode": "dedicated",
    "uaadomain": "authentication.br10.hana.ondemand.com",
    "url": "https://lac-sc-abap.authentication.br10.hana.ondemand.com",
    "verificationkey": "-----BEGIN PUBLIC KEY-----
\nMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAk/QYqzfyDLA91bX2T3bK\ndsqxXx
gfUZmCJmEHpCkBKVbkeZPq1EoDgXeq/I3IDIzcd1qK/bNP0839Xs+fdEmE\n3lgtEnm+jdvUHU
SScVUCX4WNsjQqzZGSblGh6FcvgIiFsULUxqpqaZS09PRnV/4M\nXMEYhDNZwOK68MR+wPAiGp
66c5yz6ybsfeahjkqnDjZsd3b7EmEN4Aa/SKPF0Omw\nvPlR3rKSBCuVntD6o+4AXNQxsCXRg5
yH8py2FDop5uYwXFUMukWntoqqzDNO+Kcp\n4hp67pmTcgJpDT5d1GPSeiE8XtUx+b4l/nRj+s
iUS5FNtiSt/9h1tISHOWcC+Dmb\nLwIDAQAB\n-----END PUBLIC KEY-----",
    "xsappname": "xs-a3913f6d-99cf-4cb7-8a1d-6f23b86834f3!b2621|xsuaa-
abapcp-prod-br10!b1439",
    "zoneid": "30aeb1a4-b365-4dde-8a8c-ddd26a0d00e3"
  },
  "url": "https://a3913f6d-99cf-4cb7-8a1d-
6f23b86834f3.abap.br10.hana.ondemand.com"
}
```


10. Use the user that will assign you to log in to the ABAP environment.


Iniciar sesión
XSUAA_LAC-SC-ABAP
Correo electrónico
Correo electrónico
Contraseña
Contraseña
Mantener inicio de sesión
¿Ha olvidado la contraseña?
Continuar