IBM Business Automation Manager Open Editions
Demos and Labs 2025

IBM BAMOE on Windows 11 - Bring-up Lab

V 1.1 (for IBM BAMOE 9.2)

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Table of Contents

1 Overview

Install and configure a deployment of IBM Business Automation Manager Open Editions (IBAMOE v9.2) on your local machine using Podman and a Minikube cluster. You can also configure VS Code to create and explore IBM BAMOE applications.

Remember that this is only one way to install the product on your local machine. Throughout the instructions, I will be pointing out the official documentation of the product, so that you can verify other configurations and other possible scenarios.

So, access here, and always have the official documentation of IBM Business Automation Manager Open Editions at hand.

Note:

This tutorial was built and tested for machines with Windows 11 and IBAMOE v9.2.1. If you have a different environment or versions, check the product documentation to certify necessary actions.

Furthermore, I'm assuming that you have no experience with BAMOE, and your machine does not have any necessary configuration or application.

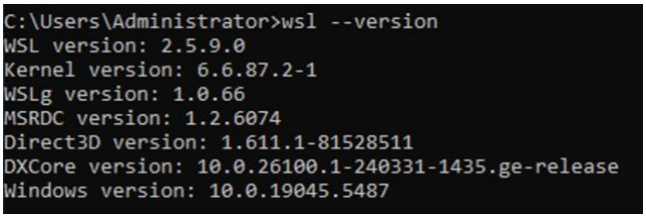
2 Install Podman Desktop

A prerequisite for using Podman on Windows is to install WSL v2. Check if you already have it installed, otherwise, follow these steps:

2.1 Verify WSL v2 installation:

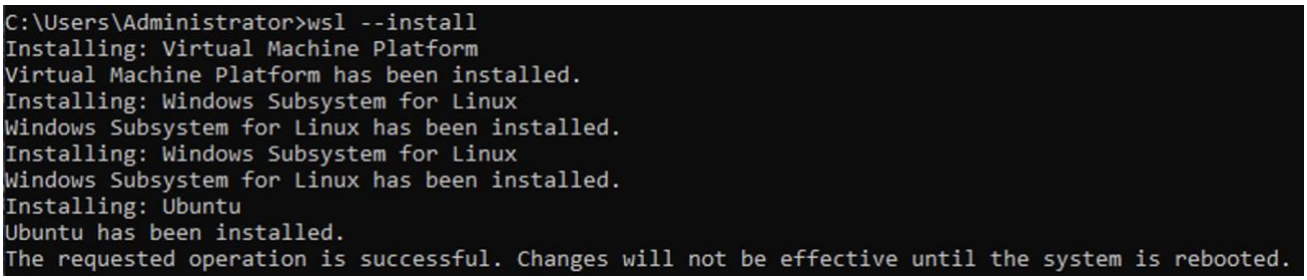
- Open CMD and check if you have WSL installed and if the version is 2.x

```
wsl --version
```

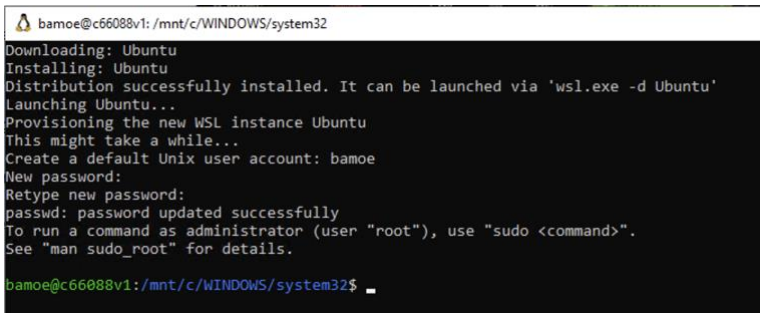


- If you did not get the same result as the image, run this command to install:

```
wsl --install
```



- Restart your computer to finish installing WSL.
- After your computer restarts, wait a while and note that you must create a username and password of your choice:



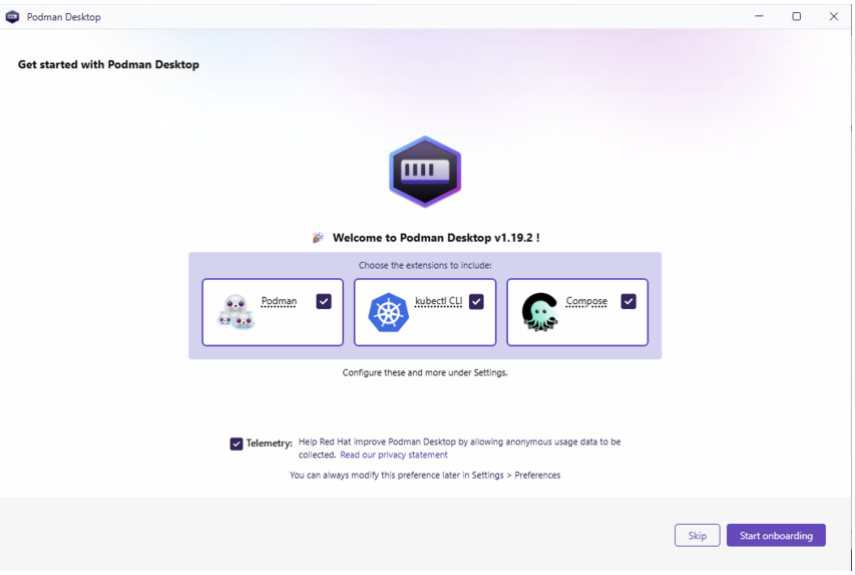
- Now you can try the `wsl --version` command again and then close everything (about WSL) if you want.

2.2 Download and Install Podman Desktop:

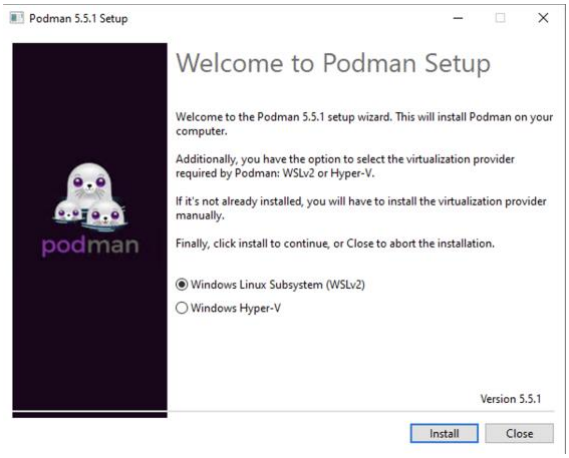
Visit the official Podman website and download the latest version of Podman Desktop:

https://podman-desktop.io/

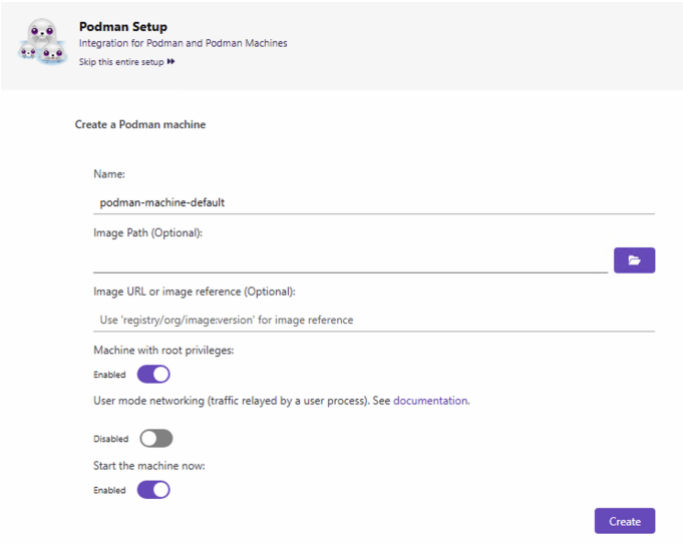
- After downloading, run and follow the installation wizard.
- Keep Podman, Kubectl CLI, and Compose Extension selected:



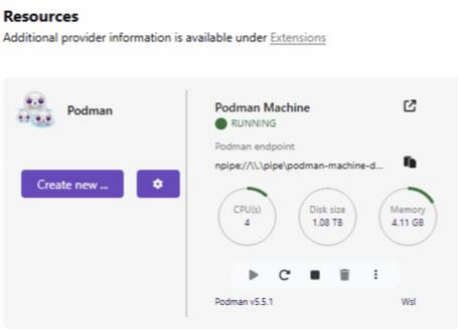
- For the Podman, keep the WSLv2 option selected:



- You can keep the default settings for the Podman Machine:



- This may take a few minutes. Check that your Podman Machine is running:

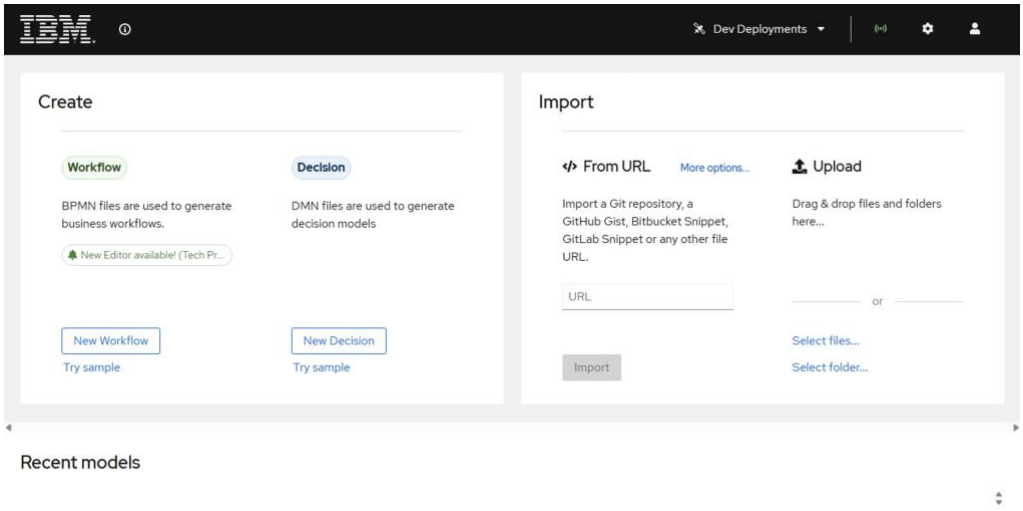


3 Pulling and running container images in Podman:

In this section we will build all the containers for our purpose, I will separate them so you understand what each of them is:

3.1 BAMOE Canvas

BAMOE Canvas is a web application that provides authoring tools for Decisions and Workflows, directly in the browser. It depends on two backend applications to provide full functionality: BAMOE Extended Services and BAMOE CORS proxy.



BAMOE Canvas Doc

- In total there will be 3 containers, open your PowerShell and run the commands to pull and run each container image:
    - BAMOE Extended Services:

```
podman run -p 21345:21345 -d -it quay.io/bamoe/extended-services:9.2.1-ibm-0005
```

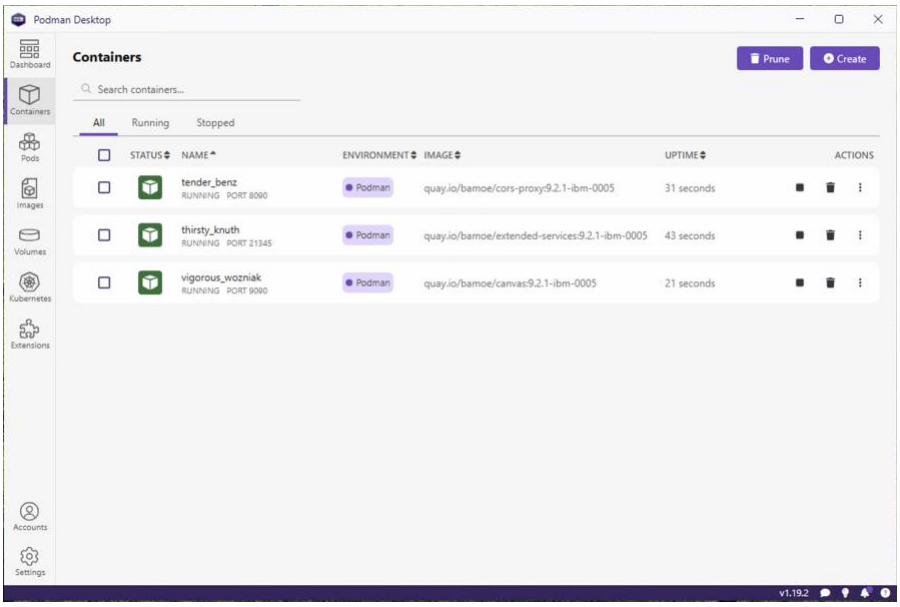
    - BAMOE CORS proxy:

```
podman run -p 8090:8080 -d -it quay.io/bamoe/cors-proxy:9.2.1-ibm-0005
```

    - BAMOE Canvas:

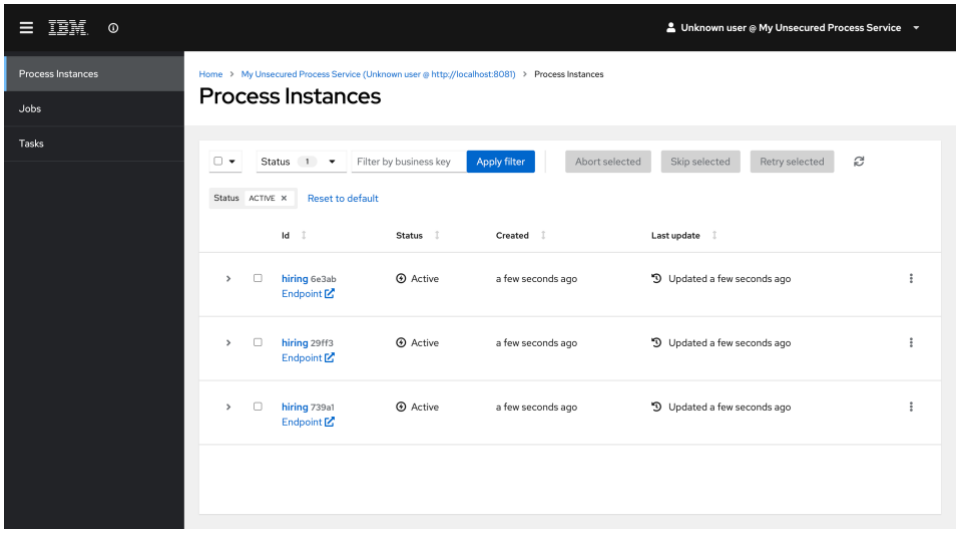
```
podman run -p 9090:8080 -d -it -e KIE_SANDBOX_EXTENDED_SERVICES_URL=http://localhost:21345 -e KIE_SANDBOX_CORS_PROXY_URL=http://localhost:8090 quay.io/bamoe/canvas:9.2.1-ibm-0005
```

- In Podman Desktop, you can see the 3 running containers. You can access BAMOE Canvas via Chrome Browser: http://localhost:9090/



3.2 BAMOE Management Console

BAMOE Management Console is a web application for viewing the state of all available Business Services and managing and interacting with process instances:



BAMOE Management Console Doc

- Back in PowerShell, run the commands to pull and run the container image:

```
podman run -d -p 7070:8080 quay.io/bamoe/management-console:9.2.1-ibm-0005
```

- You can access BAMOE Management Console via Chrome Browser: http://localhost:7070/

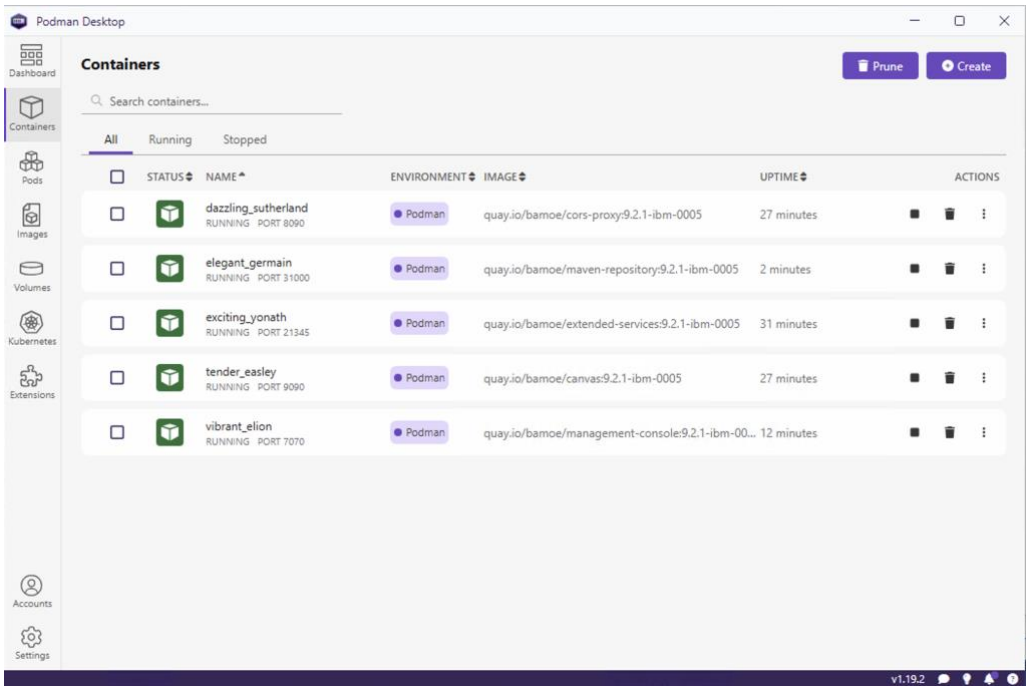
3.3 BAMOE Maven Repository

With IBM Business Automation Manager Open Editions version 9.2.1 aligning with BAMOE version 8.0 in the downstream build model, the artifacts are no longer available in Maven Central. Instead, the Maven libraries are shipped in the Maven repository format as a `.zip` file or via HTTP through a Container image you can deploy to your infrastructure. [BAMOE Maven Repository Doc].

- In our case we will deploy it as a container image. Same as the others, run this command:

```
podman run -d -p 31000:8080 quay.io/bamoe/maven-repository:9.2.1-ibm-0005
```

Done, all the containers needed to use BAMOE are already running, open your Podman Desktop to check:

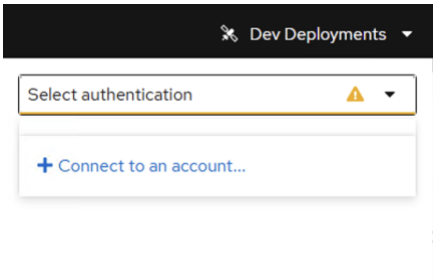


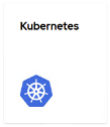
4 BAMOE Canvas Dev Deployments on Minikube

BAMOE Canvas allows for Dev Deployments targeting OpenShift or simple Kubernetes clusters. This is achieved by applying pre-defined Kubernetes or OpenShift resources, depending on the selected authentication provider. [BAMOE Canvas Dev Deployments Doc].

In this tutorial, we'll use Minikube. Within the BAMOE Canvas itself, you'll find the steps to create and configure your provider. However, in the next steps, I'll rewrite them to include more details to suit our environment (Win 11).

- Open BAMOE Canvas `localhost:9090` in your Chrome browser.
- In the top bar, access "Dev Deployments" and the "Connect to an account..." button.

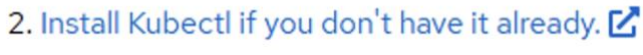


- Select "Kubernetes" 

- Select 

- Note that you can use Kind or Minikube, but in our case we will use Minikube. Then select 

, and we will follow each step of this tutorial:
- Follow the instructions in this link to install Minikube if you don't have it already 

- Check if Kubectl was installed during the Podman Desktop installation, if not follow these tutorials to install it 

- Before we create a Minikube Cluster, run this command to point the Podman drive as default:

```
minikube config set driver podman
```

- Run the first command as per the tutorial, in my case, I don't have much memory available, I will follow the recommendation of `--memory=2200`

a. Create your cluster:

```
$ minikube start --extra-config "apiserver.cors-allowed-origins=[http…
```

```
minikube start --extra-config "apiserver.cors-allowed-
origins=[https://*]"  --ports 80:80,443:443,8443:8443 --listen-address
0.0.0.0 --memory 2200
```

- For the second command, we will have to split it to execute it correctly in PowerShell. That is, execute the commands separated by semicolons (;).

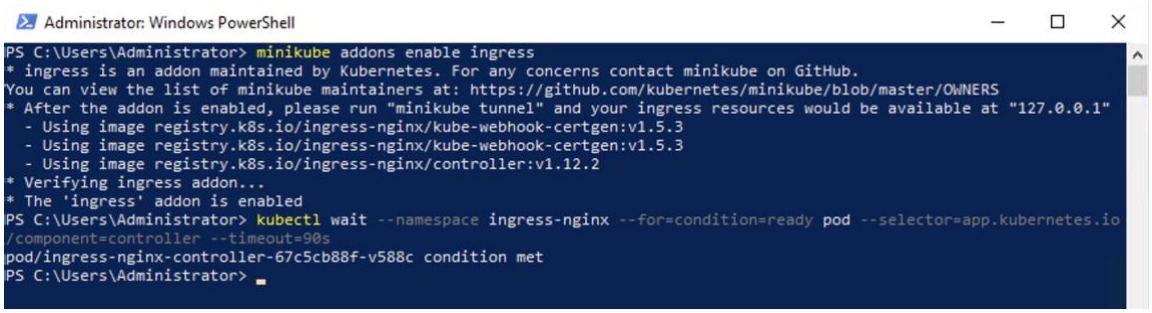
b. Install the Ingress Controller and wait for it to be ready:

```
$ minikube addons enable ingress; sleep 10; kubectl wait --namespace …
```

```
minikube addons enable ingress
```

- Wait a few seconds and run:

```
kubectl wait --namespace ingress-nginx --for=condition=ready pod --
selector=app.kubernetes.io/component=controller --timeout=90s
```



- In the last command, we also need to separate it, where one of the commands we will execute in *CMD* and the others in PowerShell:

c. Install a proxy for the Kubernetes API Server and create the required Service Accounts:

```
$ curl -k http://localhost:9090/dev-deployments/kubernetes/cluster-co…
```

- Run this in *CMD* (make sure you are in the same PowerShell and CMD folder):

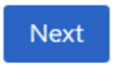
```
curl -k http://localhost:9090/dev-deployments/kubernetes/cluster-
config/kie-sandbox-dev-deployments-resources.yaml -o kie-sandbox-
resources.yaml
```

- In PowerShell execute the following:

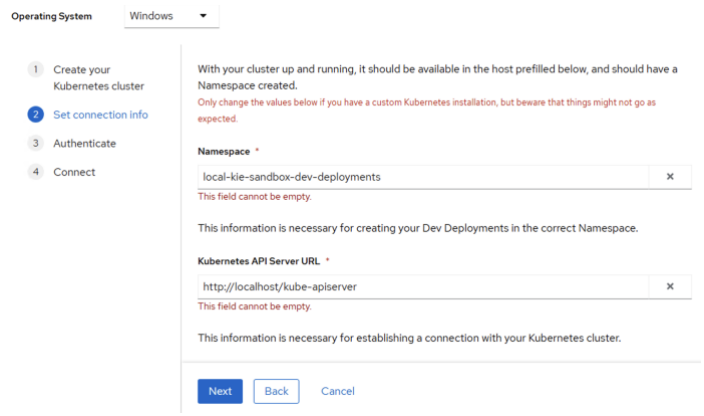
```
kubectl apply -f kie-sandbox-resources.yaml
```

- If you prefer, run this command in PowerShell to delete the file:

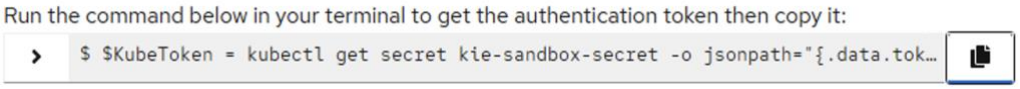
```
rm kie-sandbox-resources.yaml
```

- If all commands are executed successfully, select to the next screen 

- Let's keep the default connection information

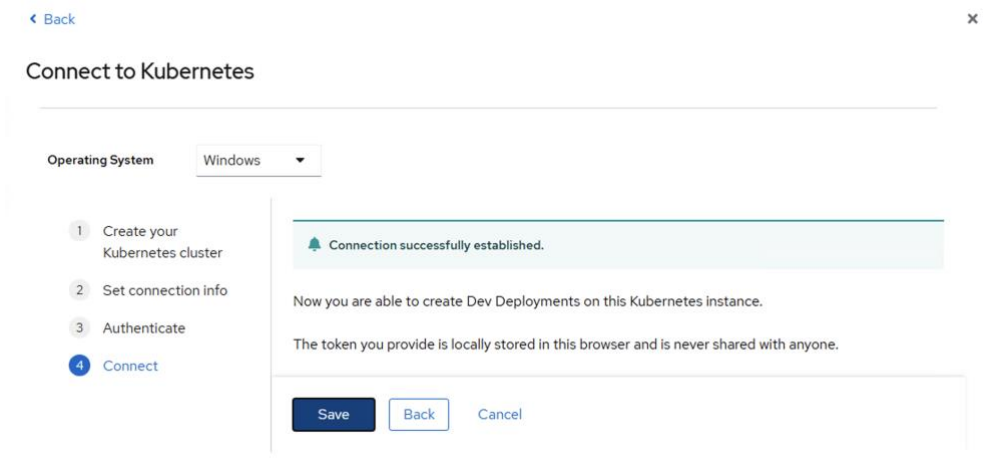


- Copy the command and run it in PowerShell to get the Token

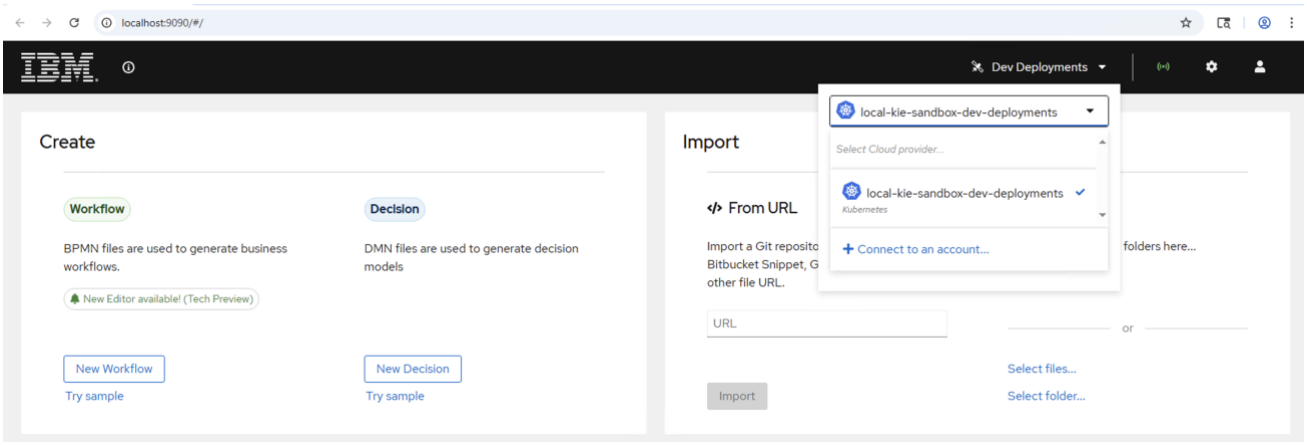


- Paste the Token and click Next to validate the connection.

- I hope your message looks like this, click Save:

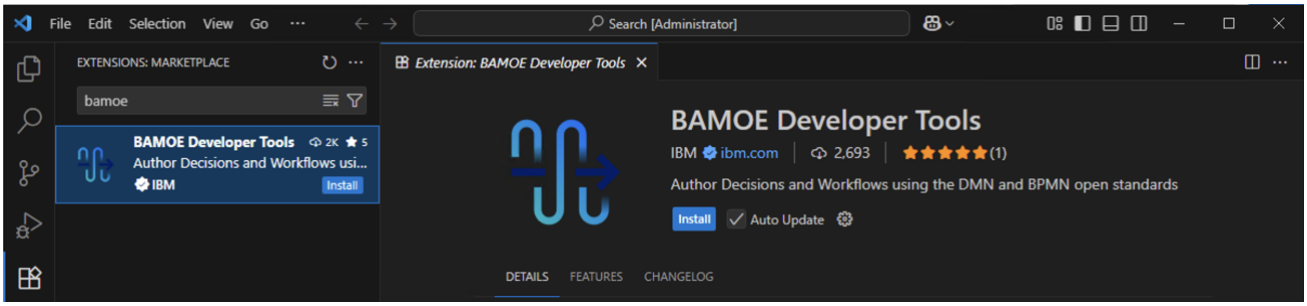


- Done, now you can create your models and do Dev Deployments on the Minikube cluster.


localhost:9090/#/
Dev Deployments
local-kie-sandbox-dev-deployments
Select Cloud provider...
local-kie-sandbox-dev-deployments
Kubernetes
+ Connect to an account...
Create
Workflow
BPMN files are used to generate business workflows.
New Editor available! (Tech Preview)
New Workflow
Try sample
Decision
DMN files are used to generate decision models
New Decision
Try sample
Import
From URL
folders here...
URL
or
Select files...
Select folder...
Import

5 BAMOE Developer Tools for VS Code

BAMOE provides a useful VS Code extension that combines graphical editors for BPMN, DMN, and SCESIM files. To run and test applications through VS Code, you need to have the [BAMOE Maven Repository] running and perform the following steps:



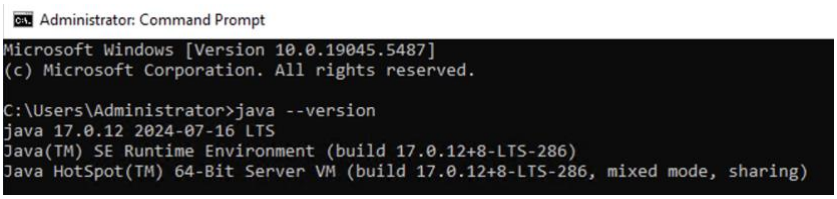
BAMOE Developer Tools for VS Code Doc

- Install VS Code on your computer.
- Search and install the IBM BAMOE Developer Tools extension – VS Code Marketplace.

Now we need to install Java 17:

- JDK 17 - https://www.oracle.com/java/technologies/javase/jdk17-archive-downloads.html
- It is important to check and configure a JAVA_HOME environment variable on Windows.
- To ensure that the JDK settings are correct, run the command in CMD:

```
java --version
```



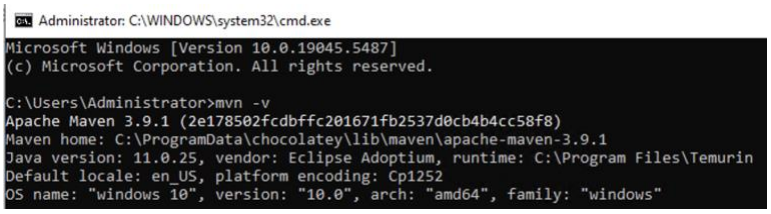
Now we need to download and configure Apache Maven:

- Access and follow the instructions to download Apache Maven 3.9.x https://maven.apache.org/index.html
- Save the folder in the path you want, in my case, I extracted Maven in:

```
C:\maven\apache-maven-3.9.10
```

- It is important to create M2_HOME in the Windows environment variables, just as we did with JAVA_HOME.
- Now that everything is configured, run this command to verify your Maven configuration:

```
mvn -v
```



Now that Apache Maven is configured, we need to configure the `settings.xml` file pointing to our Maven Repository available in the container. To see more details about this configuration, go to: Configure Maven with the container image URL.

- You need to create a file called `settings.xml` and insert it into your `~/.m2/` folder, see my example: `C:\Users\Administrator\.m2`
- Now insert this content into the `settings.xml` file and save it.

```
<?xml version="1.0" encoding="UTF-8"?>
<settings xmlns="http://maven.apache.org/SETTINGS/1.2.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/SETTINGS/1.2.0
https://maven.apache.org/xsd/settings-1.2.0.xsd">
  <pluginGroups>
  </pluginGroups>
  <proxies>
  </proxies>
  <servers>
  </servers>
  <profiles>
    <profile>
      <id>ibm-bamoe-enterprise-maven-repository</id>
      <repositories>
        <repository>
          <id>ibm-bamoe-enterprise-maven-repository</id>
          <url>http://localhost:31000/</url>
          <releases>
            <enabled>true</enabled>
          </releases>
          <snapshots>
            <enabled>false</enabled>
          </snapshots>
        </repository>
      </repositories>
      <pluginRepositories>
        <pluginRepository>
          <id>ibm-bamoe-enterprise-maven-repository</id>
          <url>http://localhost:31000/</url>
          <releases>
            <enabled>true</enabled>
          </releases>
          <snapshots>
            <enabled>false</enabled>
          </snapshots>
        </pluginRepository>
      </pluginRepositories>
    </profile>
  </profiles>
  <activeProfiles>
    <activeProfile>ibm-bamoe-enterprise-maven-repository</activeProfile>
  </activeProfiles>
</settings>
```

Congratulations, your environment is ready!

You now have everything you need to explore IBM Business Automation Manager Open Editions 9.2 on your local machine.

6 Reference Documentation and Communities

- IBM BAMOE Official Documentation
- IBM Business Automation Community: Open Editions