Environment Configuration
watsonx.governance

Hands-on Lab Guide

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Environment configuration

Introduction

This hands-on lab will guide you through provisioning and configuring an environment for the different hands-on labs that make up the Configuration section of the watsonx.governance Level 4 for Practitioners course, including:

- User management
- Risks and risk assessments
- Building and customizing workflows

These instructions were written for OpenPages 9.1.0.1, running on Cloud Pak for Data 5.2.0 as provisioned in TechZone. Note that subsequent versions of the watsonx governance console (OpenPages), Cloud Pak for Data, and IBM Software Hub may alter the terminology and screens involved with the product. Please contact the lab authors with any major discrepancies. Every effort will be made to keep the lab updated.

Provision the environment

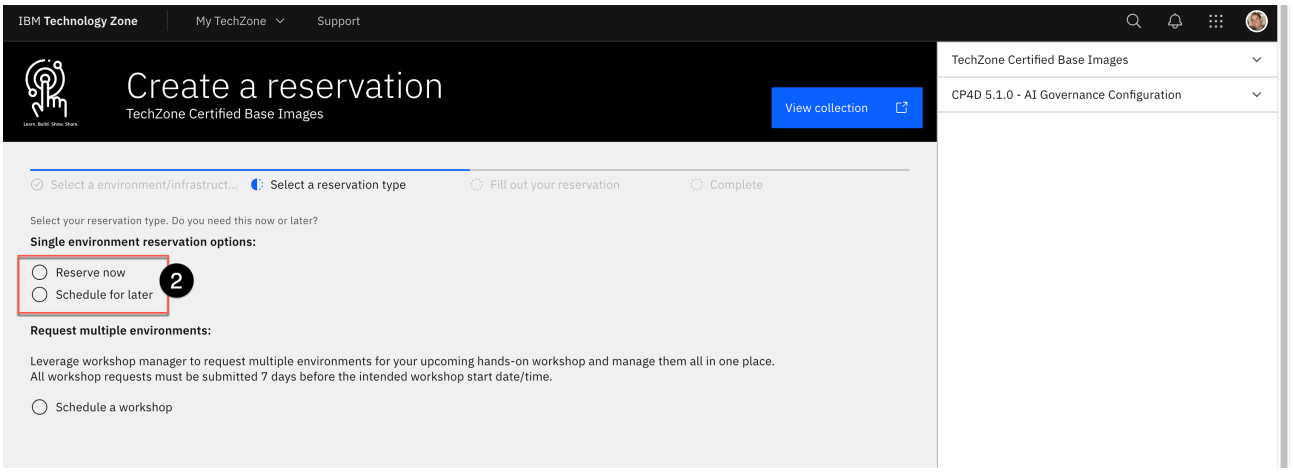
In this section, you will provision an environment in IBM TechZone. Note that environments can take up to eight hours to provision, and are available only for a specified amount of time for education purposes. Environment reservations can be extended on request, particularly if you have an opportunity number associated with the reservation.

1. Provision the environment in TechZone

Environments are provisioned in IBM TechZone. Once you submit a request, the environment will be created. When the environment is ready, software will be installed.

1. In your browser, navigate to the environment in IBM TechZone.

2. In the form, click on the appropriate radio button to either Reserve now or Schedule for later.

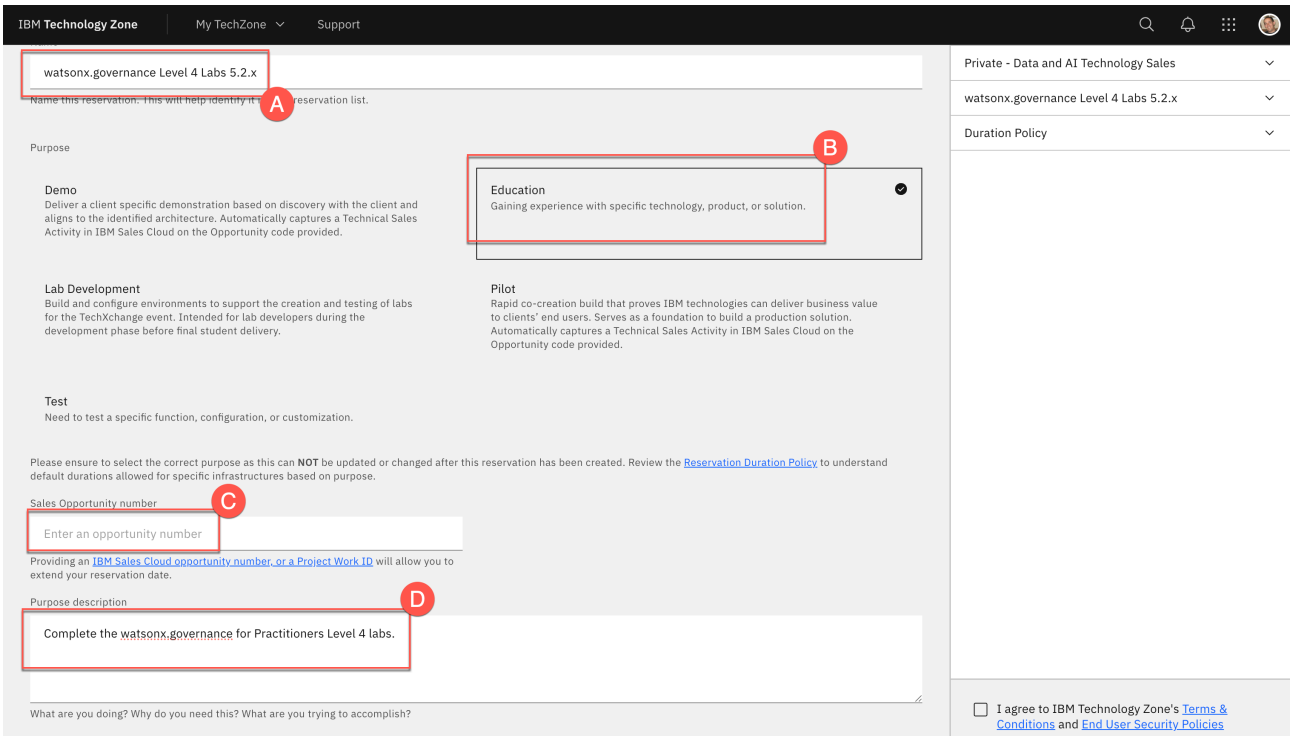


3. Fill out the form. Give your reservation a name (A), or leave the default name in place.

Click on the appropriate tile for Purpose (B). Note that the length of the reservation may differ based on the purpose you select, and that purposes are subject to certain restrictions. For example, most users are allowed to have two different Education reservations at any given time.

Enter a Sales Opportunity number (C) if you have one associated with your reservation. This is not required, but will increase the default duration of the reservation.

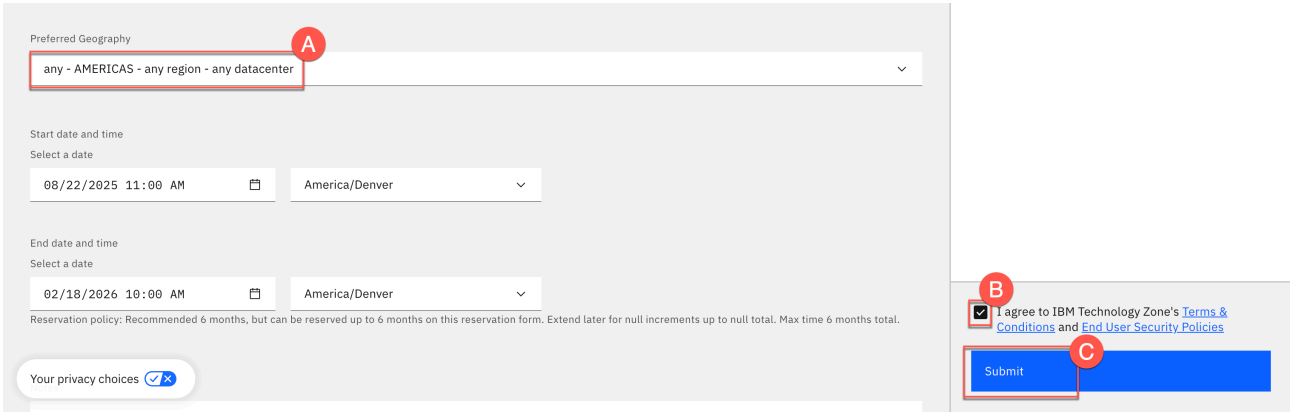
Provide a Purpose description (D) for the reservation.



4. Click on the Preferred Geography dropdown (A) and select a geography. Your choice here will not affect the lab, so feel free to choose any available. Note that capacity issues can occasionally affect the geographies; if your reservation fails due to capacity issues, select a different geography with your next request.

Check the box in the lower right of the screen (B) to agree to the TechZone terms and conditions.

Click on the Submit button (C) to submit your reservation request.



Your environment will begin provisioning. You will receive email notifications from IBM TechZone about the status of your request.

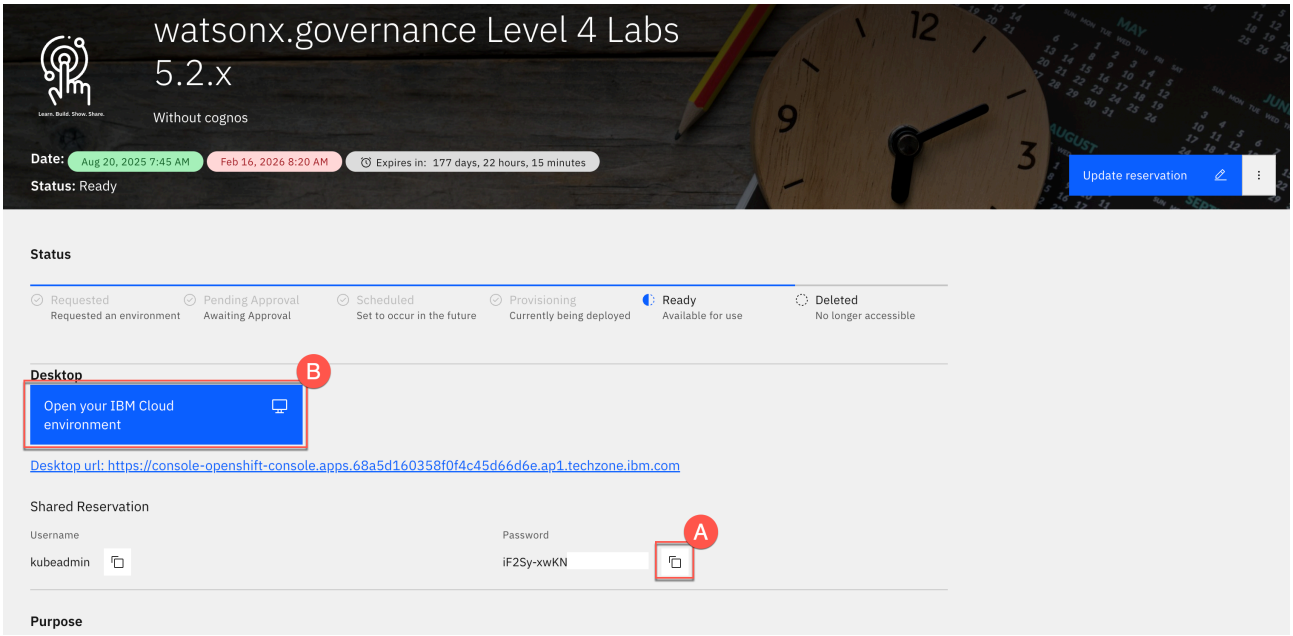
Note that when you receive a notification that your environment is ready, this only indicates that it has been created and can be accessed. The software installation step can take up to four additional hours before the environment is ready to be used for completing the labs.

If your environment fails to provision, you can typically delete your reservation if necessary, then attempt to provision another one. Frequently, selecting a different region will be enough to complete the reservation successfully. In the case of continued failures, contact TechZone support.

2. Log into the environment

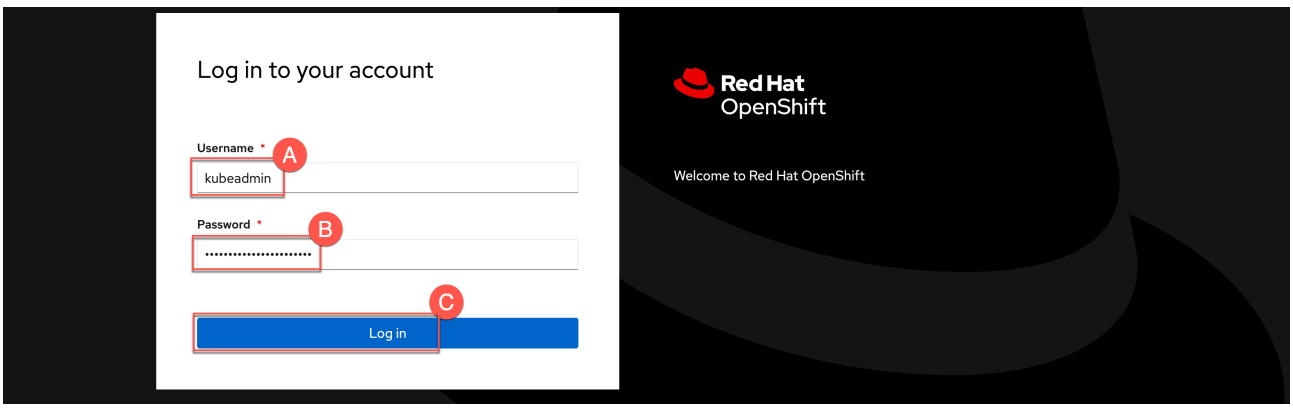
When your environment has finished provisioning, you can attempt to log into it.

1. Navigate to the My reservations page in TechZone.
2. Click on the Open this environment button on the tile for your reservation.
3. Locate the Password field, and click on the Copy button (A) to copy it to your clipboard. Click on the Open your IBM Cloud environment button (B). A new browser tab for RedHat OpenShift opens.



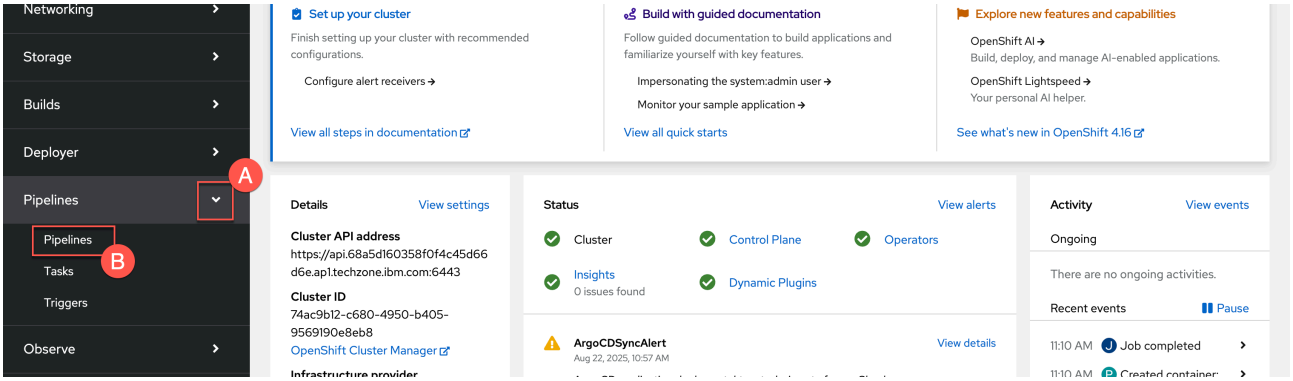
Note that, at this point, if a web page fails to open or you receive an error message saying the server cannot be reached, your environment is likely not useable. You may contact TechZone support, or simply delete your reservation and create a new one.

5. Click on the kube:admin button.
6. Enter kubeadmin in the Username field (A). Paste the password you copied in step 3 into the Password field (B). Click on the Log in button (C) to log into RedHat OpenShift.



The software installer runs in OpenShift as a pipeline. It must complete before you can proceed with the lab.

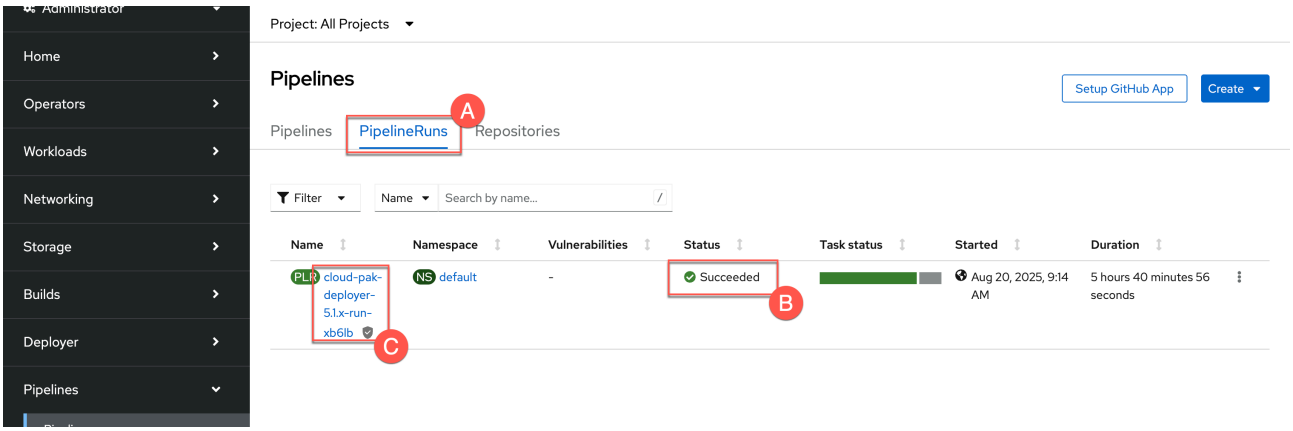
7. From the OpenShift menu, click on the Pipelines menu section (A) to expand it. Click on the Pipelines menu item (B). The Pipelines screen opens.



8. Click on the PipelineRuns tab (A) to open the list of pipeline runs.

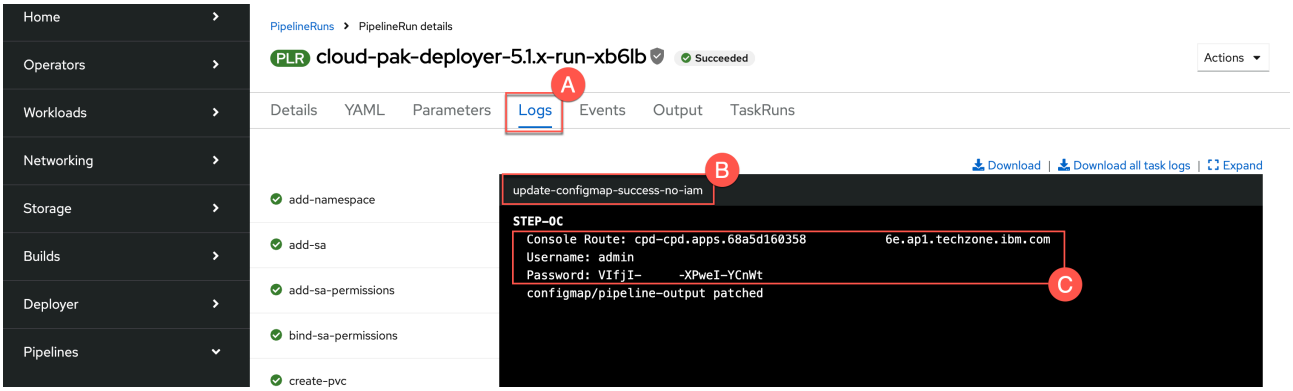
Locate the cloud-pak-deployer... run from the list, and verify that Succeeded appears in the Status column (B). If the status shows Failed, you will likely need to delete your environment reservation and create a new one. If it is still in progress, check the Duration column. The pipeline frequently takes five hours or more to complete. If it has been running for more than eight hours, it is unlikely to complete successfully and you may need to delete your reservation and provision another.

If the run has successfully completed, click on the cloud-pak-deployer... link (C). The run details screen opens.



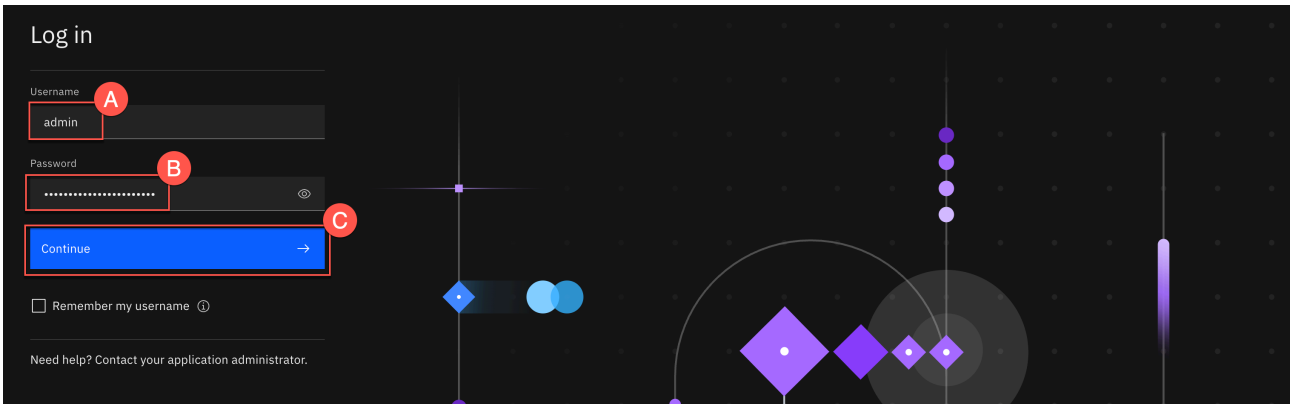
9. Click on the Logs tab (A). The log for the update-configmap-success-no-aim or similar should open as the default (B). If it does not, locate it from the list on the left and click on it.

Copy and paste the Console Route, Username, and Password information from the log screen (C) into a text file. You will use this URL and these credentials to sign into IBM Software Hub and access the watsonx governance console.



10. Paste the Console Route URL into a new browser window. The login screen for the environment will load.

11. Enter admin in the Username field (A). Enter the password in the Password field (B). Click on the Continue button (C) to log into the IBM Software Hub. The IBM Software Hub home screen opens.



⚠ This URL and these credentials will be referenced in the other hands-on labs for this Level 4 course. When you are asked to log into the Cloud Pak for Data or the watsonx environment, use this URL and these credentials.

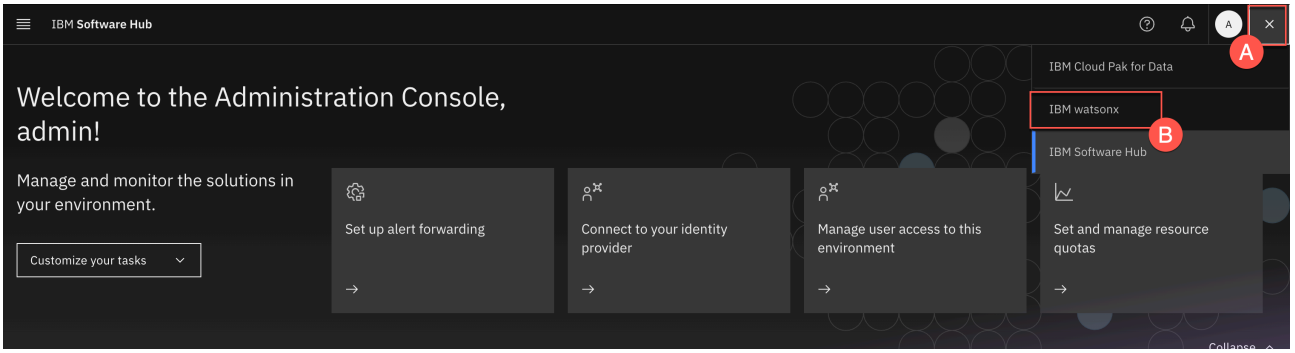
Configure the environment

In the next section, you will perform initial configuration steps. The environment can be viewed in different contexts. For the configuration, the most useful context will be the IBM watsonx context.

1. Create an AI inventory

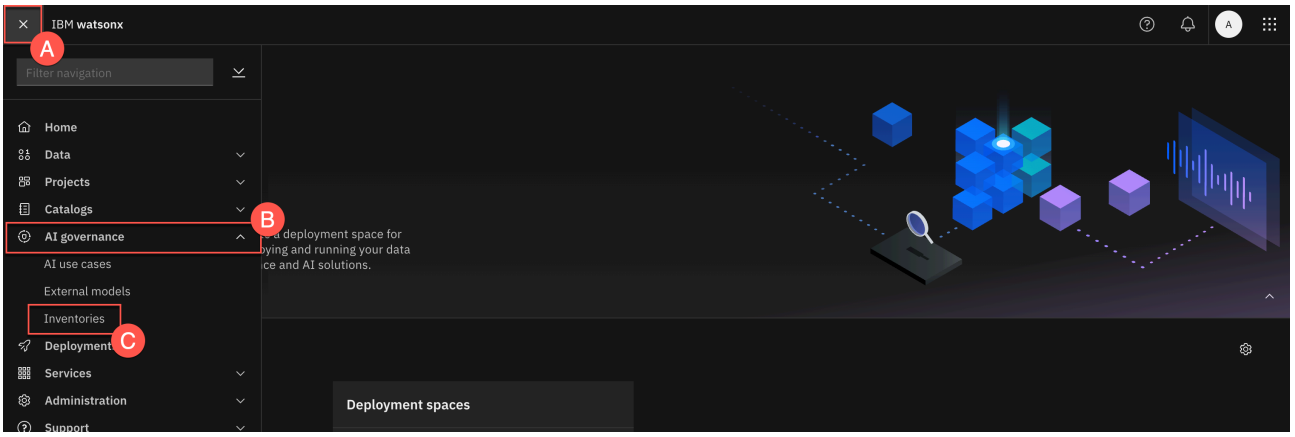
First, you will create an AI inventory in the environment that will contain use cases for the organization, and be integrated with the watsonx governance console.

1. Click on the Switch locations button in the upper right (A) to open the context menu. Click on the IBM watsonx context (B) from the list. The home screen will change to the watsonx console.

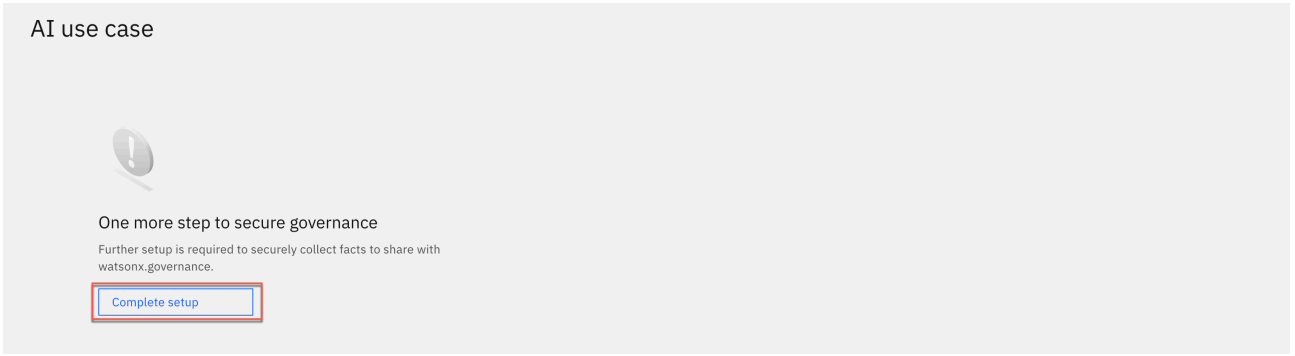


The first time you log into the environment, you may see a popup window offering a tour of watsonx. You may choose to take the tour by following the prompts on the screen, or you can simply close the popup window and continue with the lab.

2. Click on the Navigation menu in the upper left (A) to open the menu. Click on the AI governance menu item (B) to expand it. Click on the Inventories menu item (C). The AI use case screen opens.



3. Information on AI use cases is stored in an inventory. Click on the Complete setup button to create a default inventory for the environment.

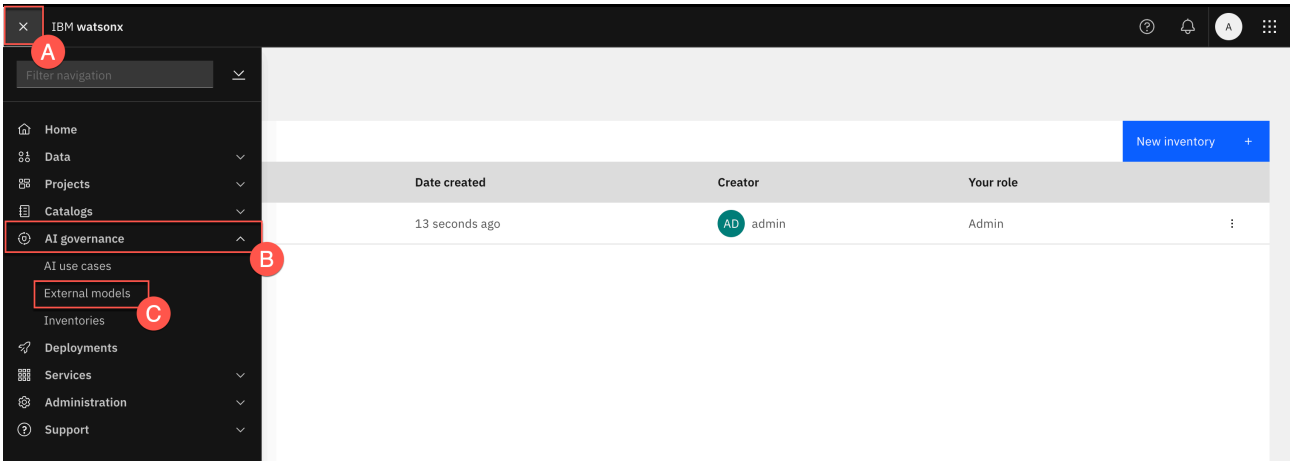


Next, you will turn on integration with the governance console and link it to the new inventory.

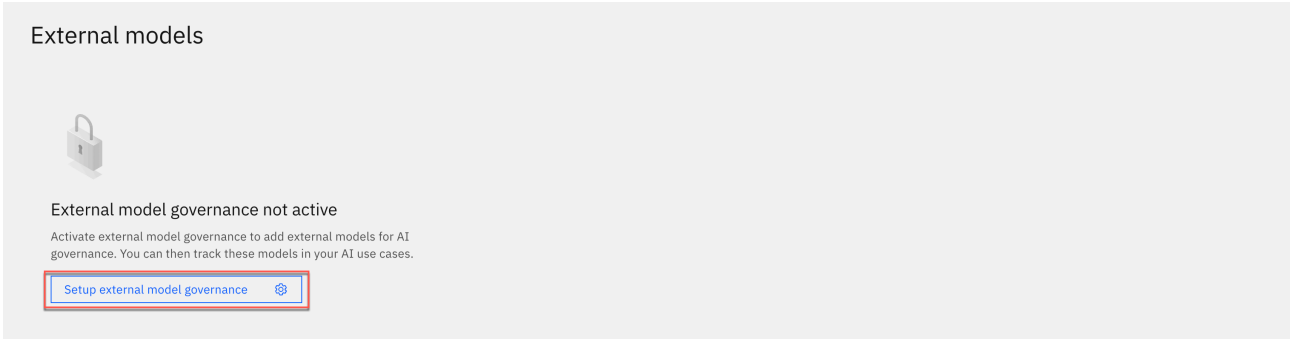
2. Enable governance console integration

In this step, you will turn on the integration between the Software Hub or Cloud Pak for Data and the watsonx governance console. Once you enable this integration, any additions, deletions, or changes to AI use cases will be managed by the governance console, and will not be available via the other interfaces. You will also enable external model governance.

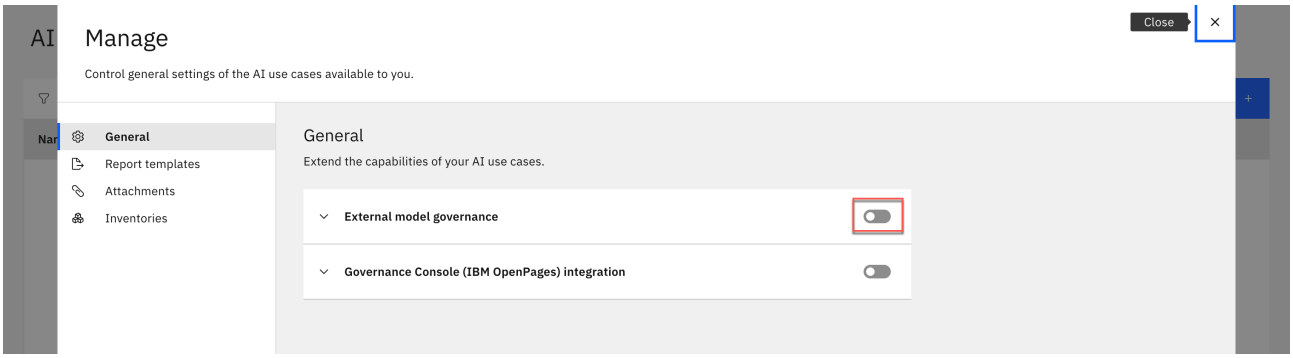
1. Click on the Navigation menu in the upper left (A) to open the menu. Then, if necessary, click on the AI governance menu item (B) to expand it. Finally, click on the External models menu item. The External models screen opens.



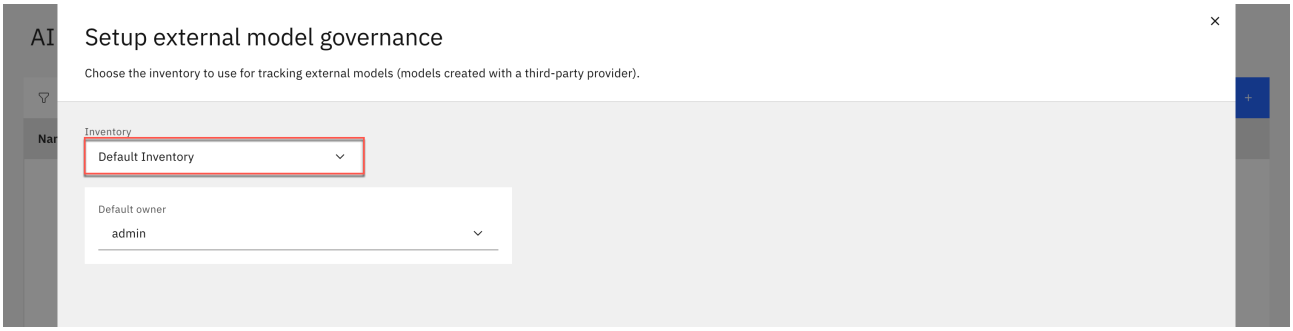
2. Click on the Setup external model governance button.



3. Click on the toggle button in the External model governance tile. The Setup external model governance window opens.



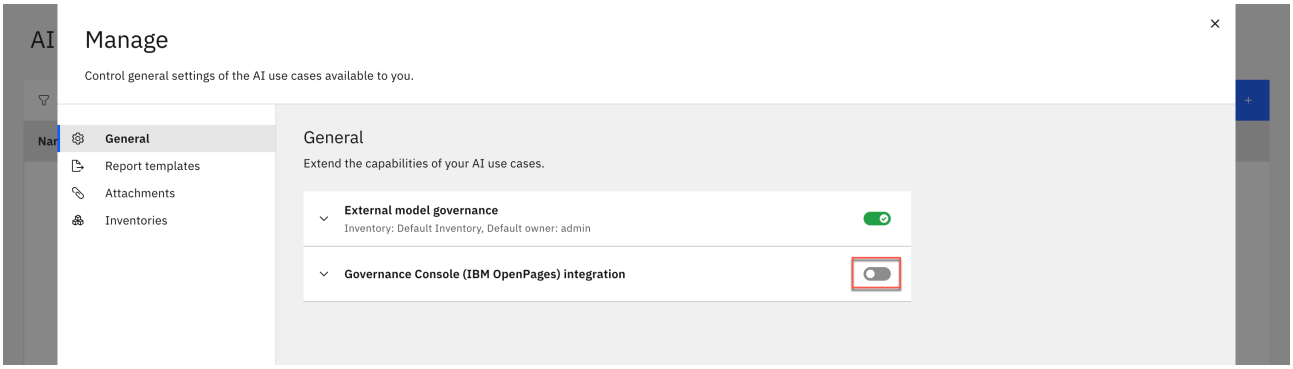
3. Click on the Inventory dropdown (A) and select the Default inventory that was created in the previous step.



4. The Default owner field should default to the admin user. Leave this selected, and click on the Apply button to save your changes. You will be returned to the Manage window once again.

You may see a warning in the External model governance panel saying "The selected owner is unknown or does not have administrator rights." You can ignore this warning.

5. Click on the toggle button in the Governance console (IBM OpenPages) integration tile. The Setup Governance Console integration window opens.



Note that you can use the Deployment node dropdown to specify a connection to an instance of the governance console in the same environment (the Platform integrated option) or in another location (the Standalone option). For the labs in this course, leave it set to Platform integrated.

The configuration should default to admin for the User and Default owner fields, and the Inventory should default to the inventory you created in the previous section.

7. Click on the Apply button to save your configuration. You will be returned once again to the Manage window, and a notification will appear confirming that the governance console integration is now active. Click on the close button to close the Manage window.

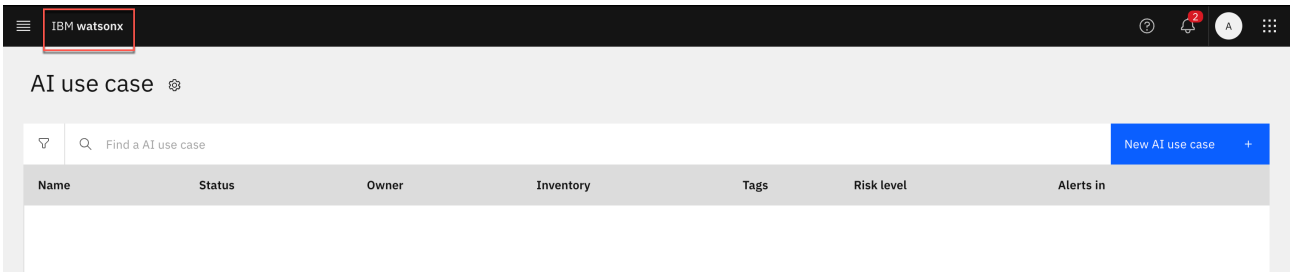
Configure monitoring

In this step, you will configure the watsonx.governance monitoring service, formerly known as OpenScale. The monitoring service provides metrics by capturing model input and output in a database known as a datamart. The datamart also holds information about the models being monitored, as well as the complete history of the metrics gathered.

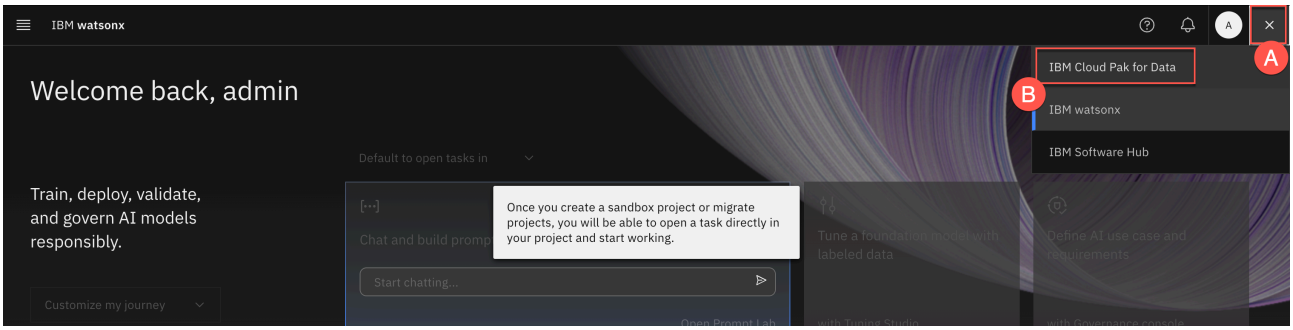
The datamart requires either a Db2 or PostgreSQL database.

1. Create a database

1. Log back into the watsonx home screen, or return to it by clicking the link in the upper left.

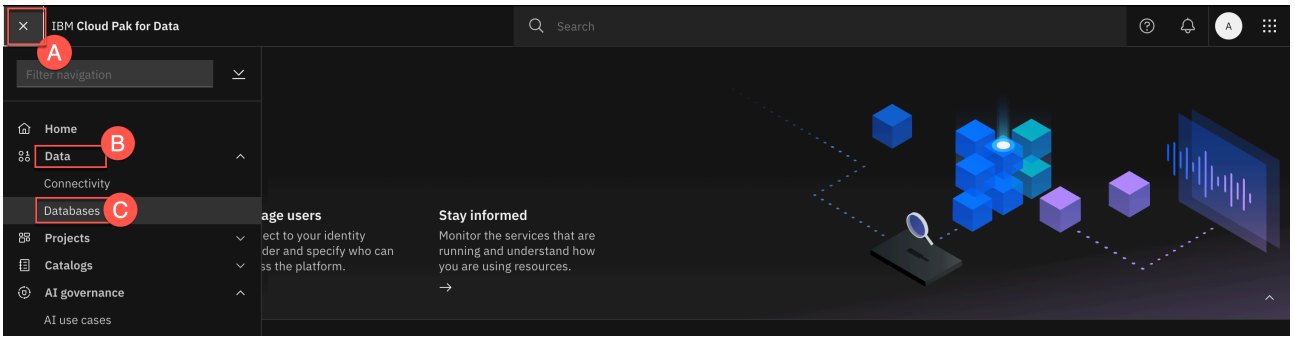


2. From the home screen, click on the Switch locations button in the upper right (A) to open the locations list. Click on the IBM Cloud Pak for Data location (B) to switch to that context, which will allow you to access and create databases in the environment.

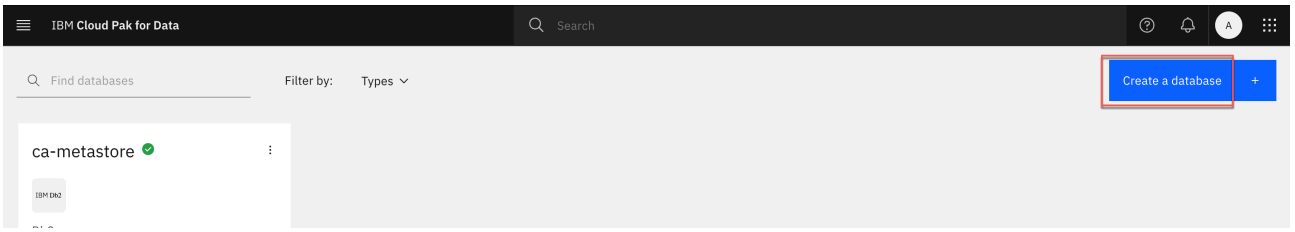


When the page reloads, you should see IBM Cloud Pak for Data displayed in the upper left.

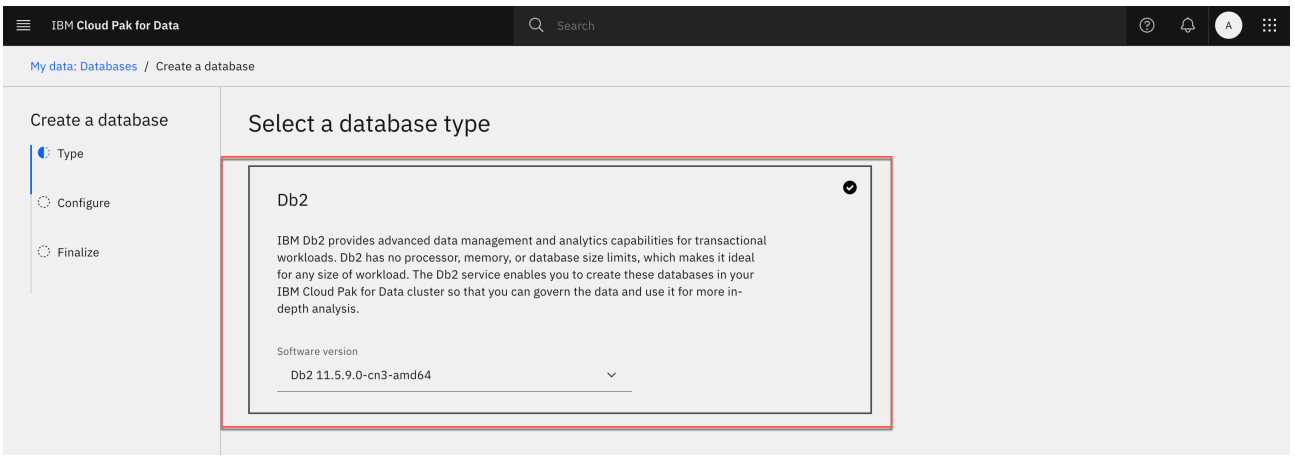
3. Click on the Navigation menu in the upper left (A) to open it. Click on the Data menu item (B) to expand it. Finally, click on the Databases menu item (C). The databases screen opens.



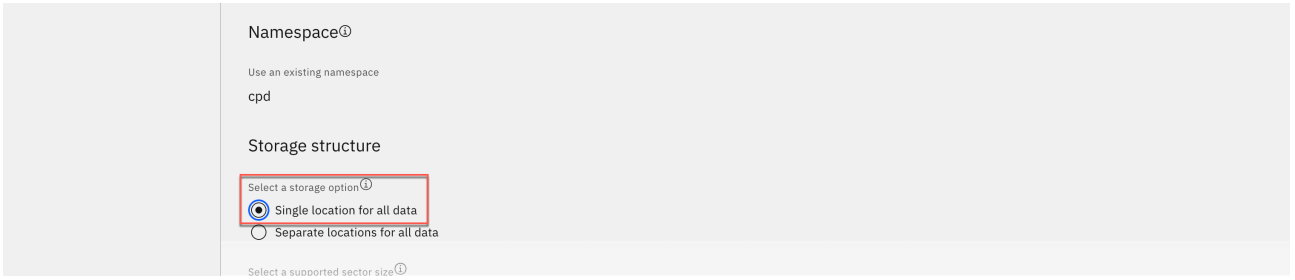
4. Click on the blue Create a database button.



5. Verify that the Db2 tile is selected as the database type, with the most recent software version selected in the dropdown. Click on the Next button to continue.

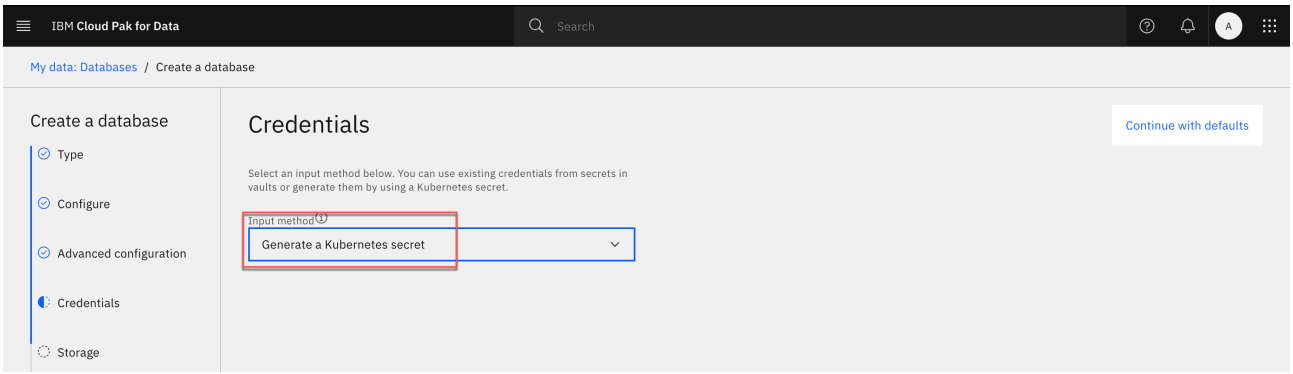


6. Scroll down to the Storage structure section of the configuration screen and click on Single location for all data. Click on the Next button to continue.



7. Leave the settings on the Advanced configuration screen unchanged and click Next to continue.

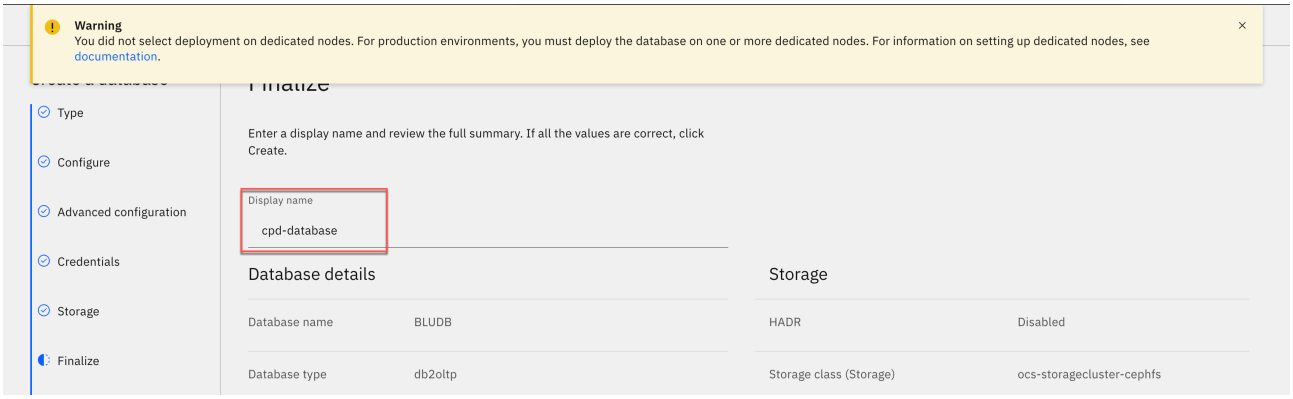
8. On the Credentials screen, use the Input method dropdown to select Generate a Kubernetes secret and click Next to continue.



10. On the Storage screen, use the Storage class dropdown (A) to select the ocs-storagecluster-cephfs option. Set the Size to 50 GiB (B) and click Next to continue.

> ⚠ If you do not select the ocs-storagecluster-cephfs option, your database will not complete the creation step. Ensure that you select this option.

11. On the Finalize screen, you can safely ignore the warning message. Set the Display name to cpd-database and click Create.

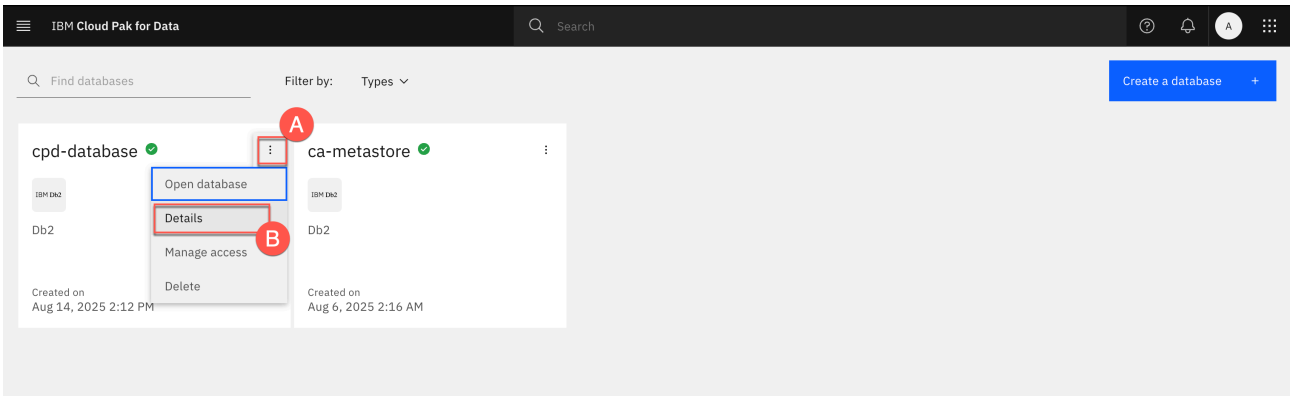


The database will take roughly 30 minutes to create. When it is finished, you can proceed to the next step.

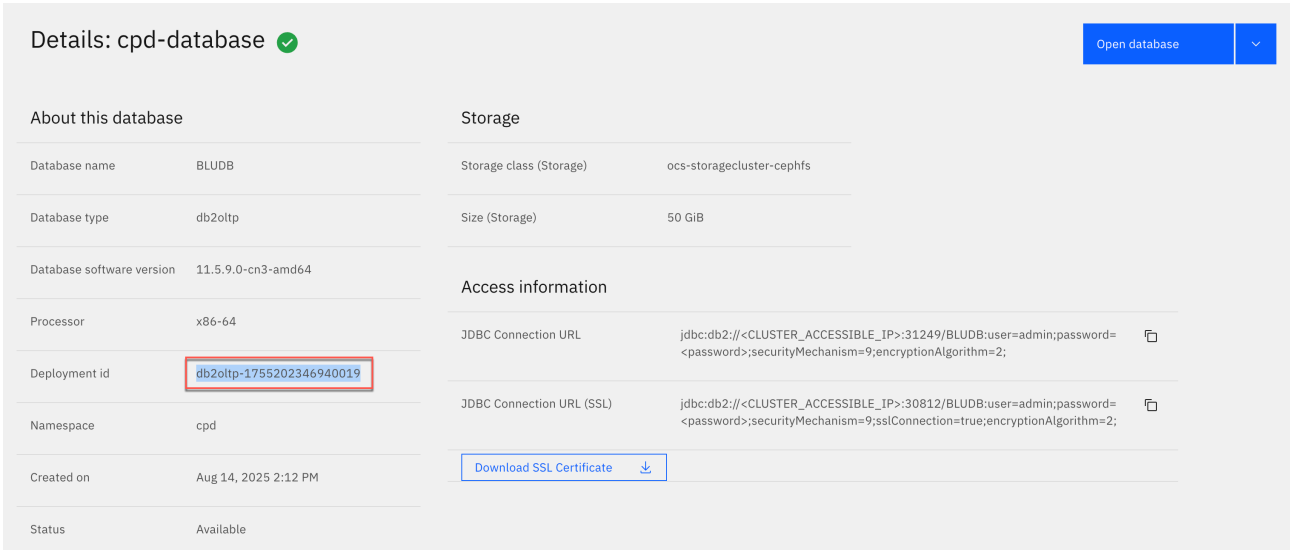
2. Gather database credentials

The watsonx.governance service will need to connect to the database you created in order to create and update the datamart. In this step, you will gather the credentials necessary for that connection.

1. From your list of databases, locate the tile for the newly-created database and click the three dots in the upper right of the tile (A) to open the context menu. Click on the Details menu item (B).



2. Locate the Deployment id in the details towards the bottom of the page. Select and copy the value into a text editor.



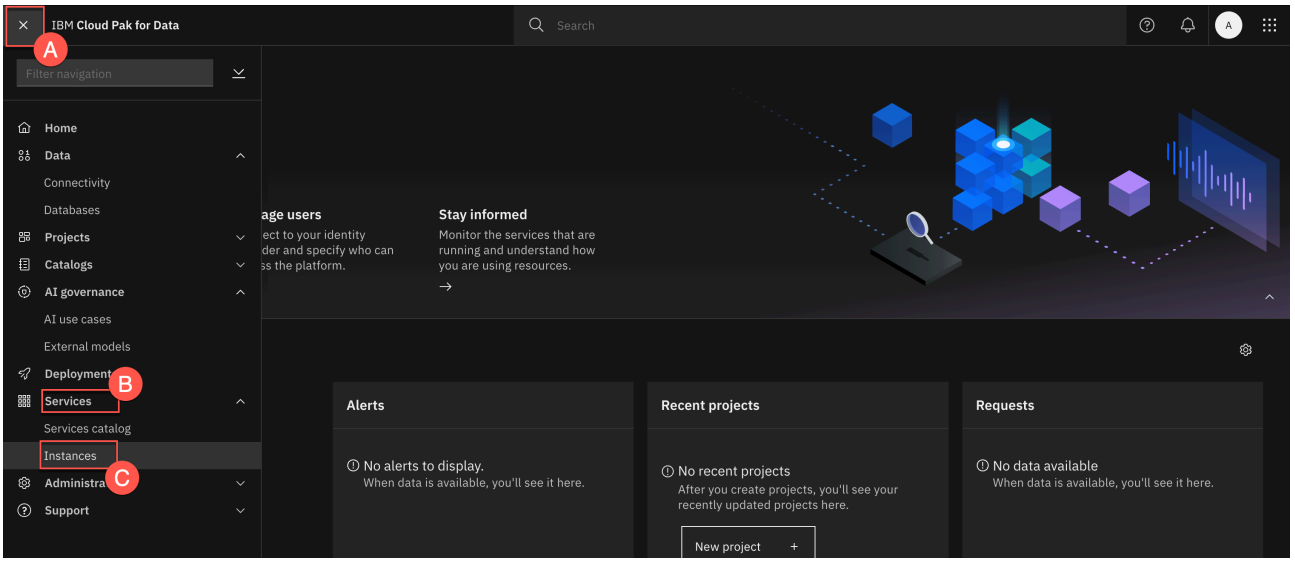
3. In the text editor, add a prefix of c- and a suffix of -db2u to the deployment ID value from the previous step to create the database host name. For example, in the screenshot below, the database has a deployment ID of db2oltp-1755202346940019. The corresponding host name would be c-db2oltp-1755202346940019-db2u.

4. Click on the IBM Cloud Pak for Data button in the upper left to return to the home screen.

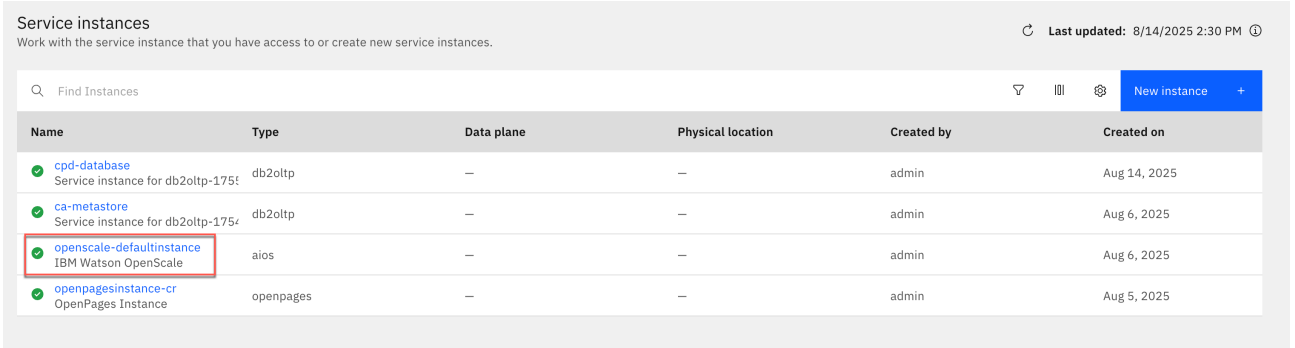
3. Configure the monitoring service

You have created a database and added a user to the monitoring service. You are now ready to connect the database to the watsonx.governance monitoring service.

1. Click on the Navigation menu in the upper left of the screen (A). Click on the Services menu item (B) to expand it. Click on Instances (C) from the menu.

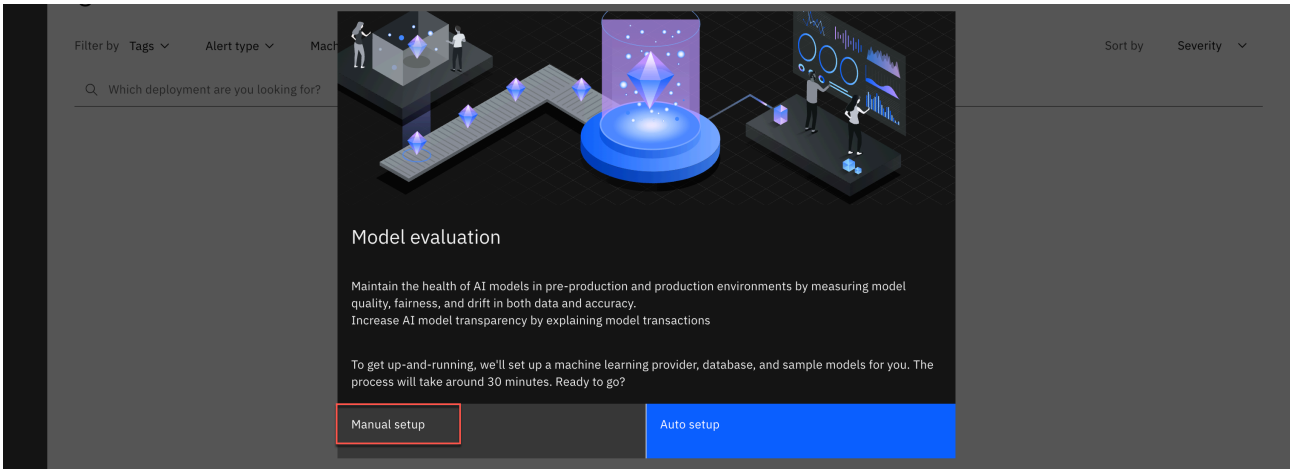


2. Locate the IBM Watson OpenScale instance from the list and click on it. Note that, on IBM Cloud, this service has been renamed to watsonx.governance. Future software releases will likely incorporate this change as well, so this screen may change to reflect the new name.

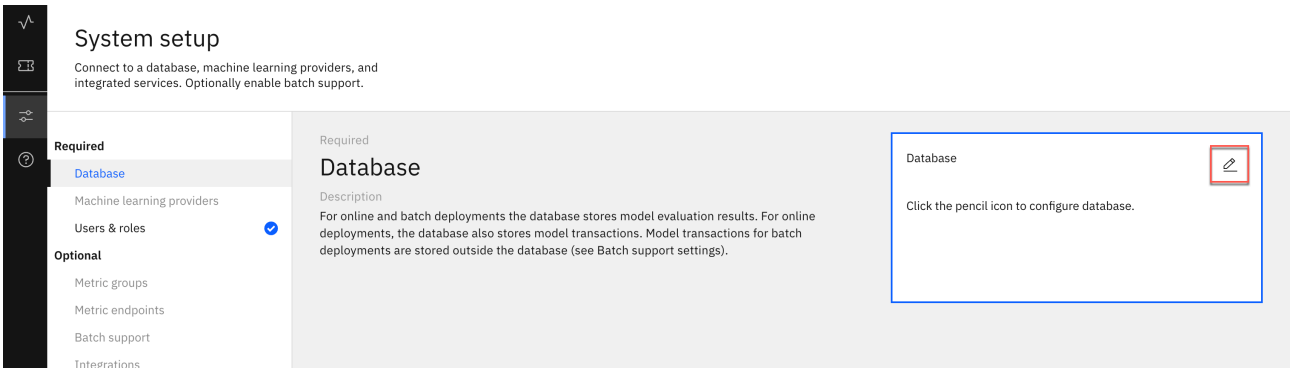


3. Click on the Open button in the upper right. A new browser tab opens for the watsonx monitoring service.

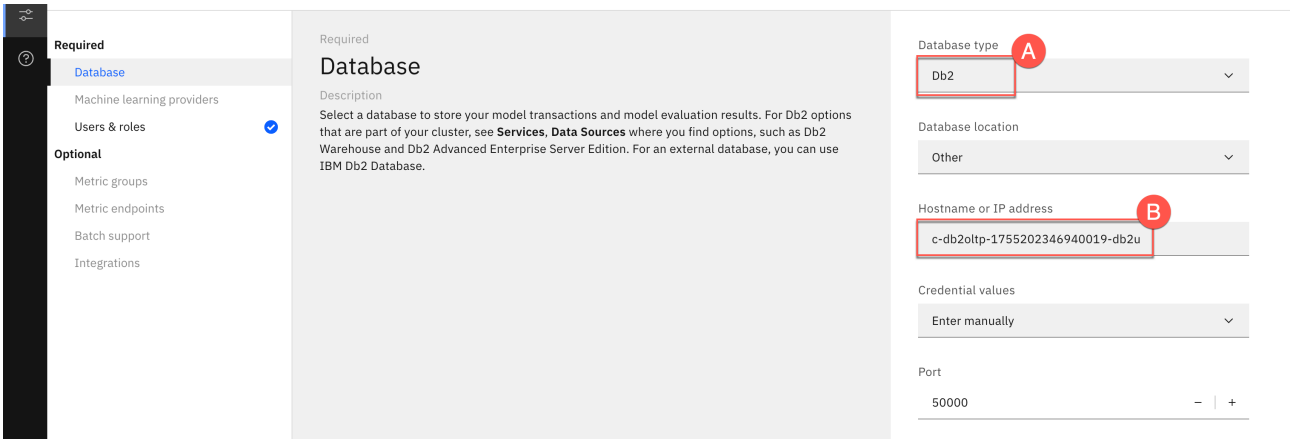
4. If this is the first time you have opened the watsonx.governance monitoring tool, you will see the Model evaluation modal window. Click Manual setup. Note that you can do an auto setup using the same credentials and database information as the steps below to fill out the dashboard with some example models, but the process will take up to 20 minutes longer.



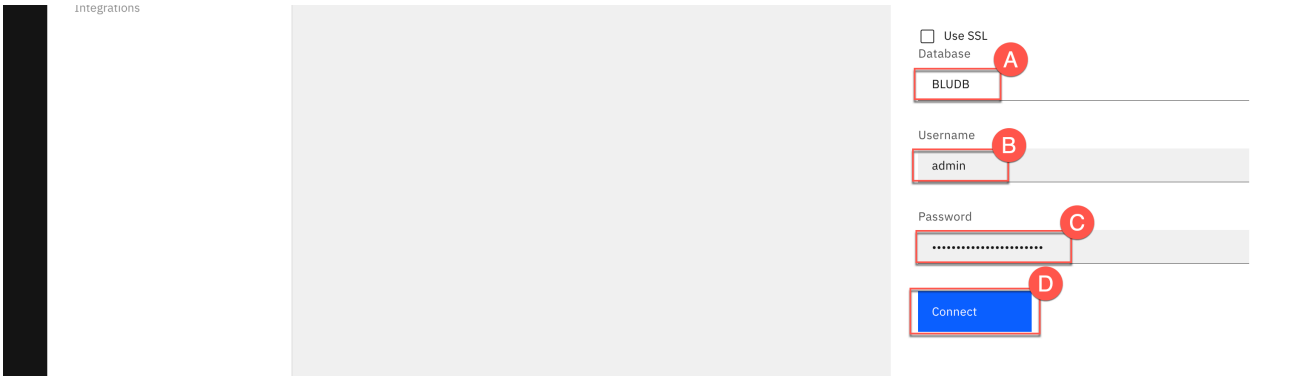
5. From the System setup screen, click the Pencil icon on the Database tile to edit database information.



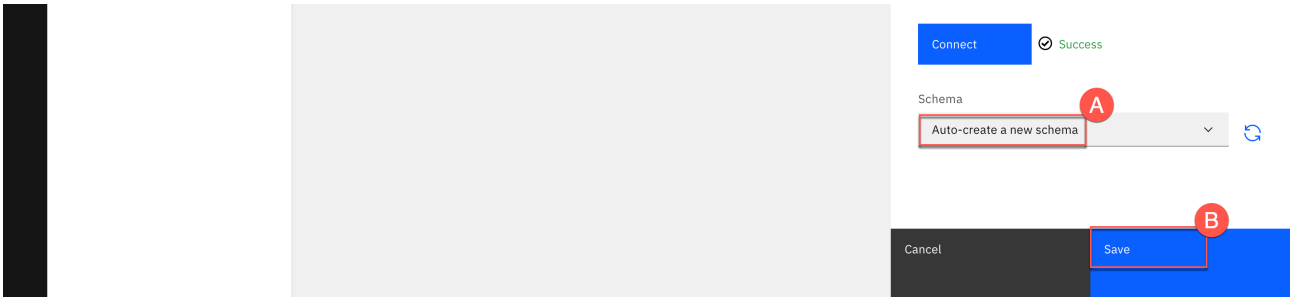
6. Use the dropdown to set the Database type (A) to Db2. Paste the database host name value you constructed in the previous section into the Hostname or IP address field (B).



7. Enter BLUDB in the Database field (A). Enter admin in the Username field (B). Enter the Cloud Pak for Data admin password in the Password field (C). Click on the Connect button (D). The monitoring service will attempt to connect to the database using the credentials you supplied. If the connection fails, double-check that you have constructed the hostname correctly, and that you are using the admin username and password that you use to log into the Cloud Pak for Data or watsonx home screen.



8. Use the dropdown to set Schema to Auto-create a new schema (A). Click on the Save button (B).



When the changes have successfully saved, the watsonx.governance monitoring service will be configured and operational. You can close the monitoring service browser tab.

Conclusion

Congratulations! You have successfully configured your environment, which will allow you to complete the remaining governance console configuration and monitoring labs.