

# Part 0 : Preparation

Create deployment space by clicking the '+' sign inside this red square in watsonx.ai homepage

The screenshot shows the IBM WatsonX AI homepage. On the right side, there is a 'Featured' section with a purple background containing a 'New' button and a link to 'Import custom foundation models'. Below this is a 'Deployment spaces' section with a red box drawn around it. This section contains a rocket ship icon and the text 'After you create or join spaces, they will appear here.' To the left of the 'Deployment spaces' section is a 'Recent work' section listing several projects: 'tutorial' (28 min ago), 'demo' (2 d ago), 'chananop's sandbox' (7 d ago), and 'chananop's sandbox' (7 d ago). At the top of the page, there is a navigation bar with 'Discover', 'Resource hub', 'Upgrade', '2814571 - itz-watsonx-19', 'Dallas', and a CW icon.

Insert deployment space name, select storage and select watson machine learning as machine learning service. Then, once finish continue with create the deployment space

The screenshot shows the 'Create a deployment space' dialog box. It is divided into two main sections: 'Define details' on the left and 'Select services' on the right. The 'Define details' section has a red box around the 'Deployment space name' field, which is labeled '1.'. The 'Select services' section has a red box around the 'Select storage service' dropdown, which is set to 'CloudObjectStorage', and the 'Select machine learning service (optional)' dropdown, which is labeled '2.'. At the bottom right of the dialog box is a 'Create' button, which is also highlighted with a red box and labeled '3.'

Once the deployment space has been created you should be able to see this page

The screenshot shows the 'Deployment' tab selected in the top navigation bar. The main area displays deployment statistics: 0 Deployed and 0 Failed. Below this are sections for 'Job runs' (0 Active, 0 Failed last 24 hours) and 'AI governance'. A sidebar on the left titled 'Jump back in' lists assets promoted or added to the space. A 'Space history' panel on the right shows no notifications.

## Part 1 : Creating pipeline canvas

Enter the project which was created previously and click on assets. Once you enter assets page then click new asset.

The screenshot shows the 'Assets' tab selected in the top navigation bar. The main area displays a list of assets, including a CSV file named 'dataset\_loan\_example.csv' last modified 'Now' by 'Modified by you'. A red box highlights the 'New asset +' button in the top right corner of the asset list area.

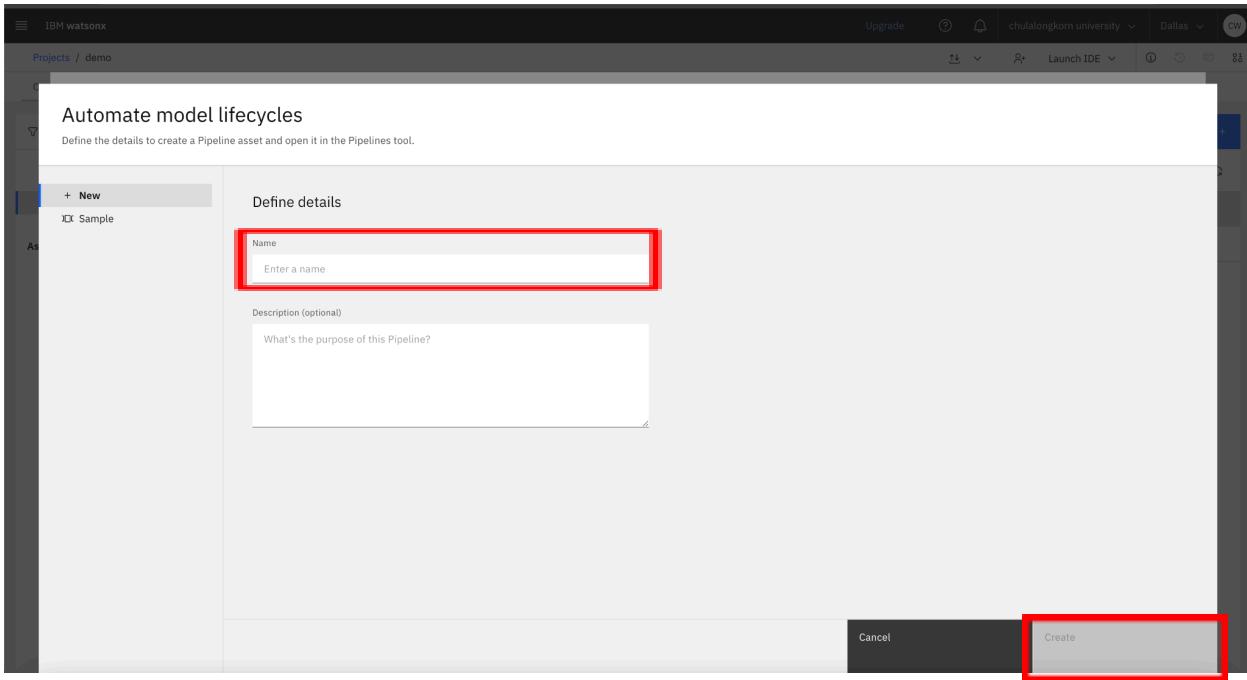
Once you click new asset, you should be entering this page.

The screenshot shows the IBM Watsonx interface with the title bar "IBM watsonx" and "Projects / demo". The main area is titled "What do you want to do?" with the sub-instruction "Select a task based on your goal. You'll use a tool to create an asset for that goal." A search bar "Search for a task or tool" is at the top. On the left, a sidebar lists "All", "Prepare data", "Work with models", and "Automate model lifecycles". The "Prepare data" section is expanded, showing four categories: "with Connection", "with Vector indexes", "with Data Refinery", and "with Parameter set". Each category has a corresponding icon and a brief description. Below these is a section titled "Generate synthetic tabular data" with the sub-instruction "with Synthetic Data Generator". At the bottom of the "Prepare data" section is a link "Work with models".

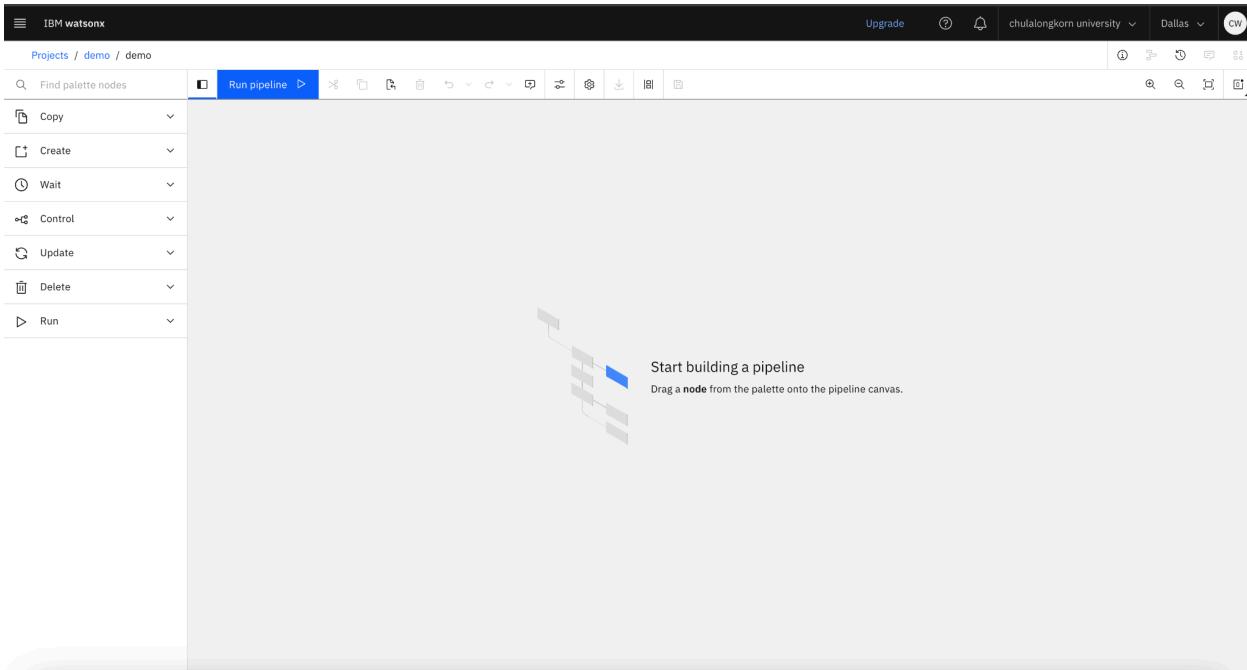
Then scroll down until you find Automate model lifecycle. Click on Automate model lifecycle

The screenshot shows the same IBM Watsonx interface as the previous one, but the "Automate model lifecycles" section is now highlighted with a red box. The main area is titled "What do you want to do?" with the sub-instruction "Select a task based on your goal. You'll use a tool to create an asset for that goal." A search bar "Search for a task or tool" is at the top. On the left, a sidebar lists "All", "Prepare data", "Work with models", and "Automate model lifecycles". The "Automate model lifecycles" section is expanded, showing four categories: "with AutoAI", "with Prompt Lab", "with Tuning Studio", and "with SPSS Modeler". Each category has a corresponding icon and a brief description. Below these is a section titled "Automate model lifecycles" with the sub-instruction "with Pipelines".

Then set name and create

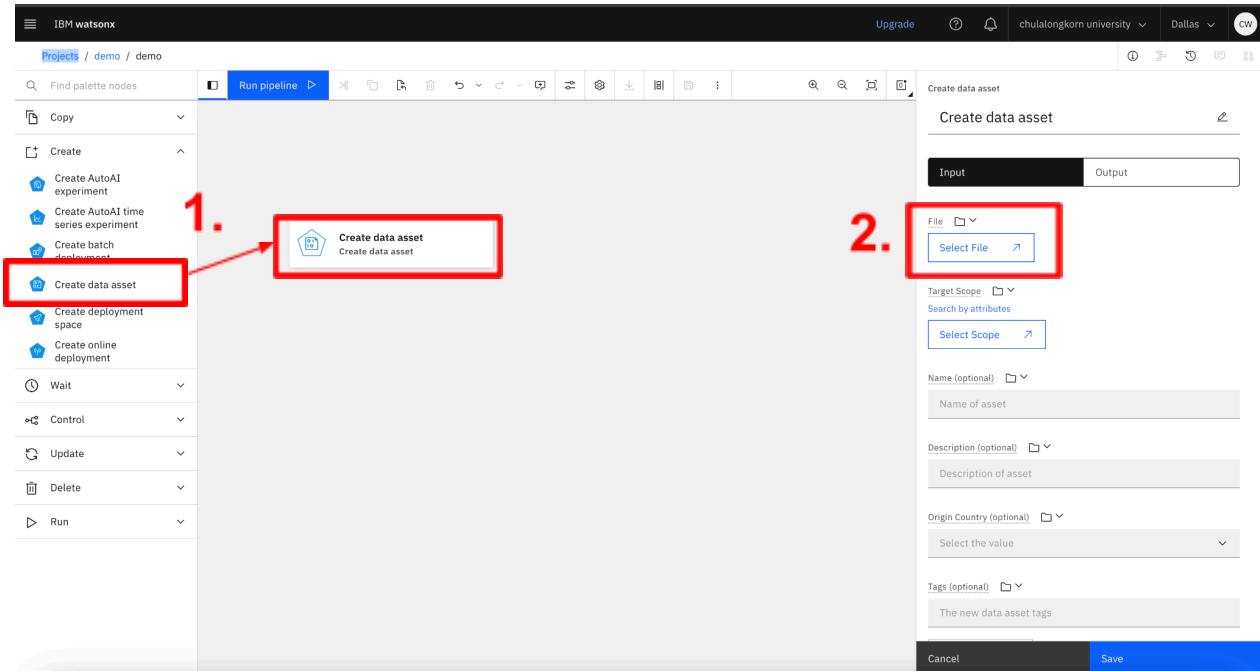


Once you create Automate model lifecycles you can enter the pipeline building canvas page

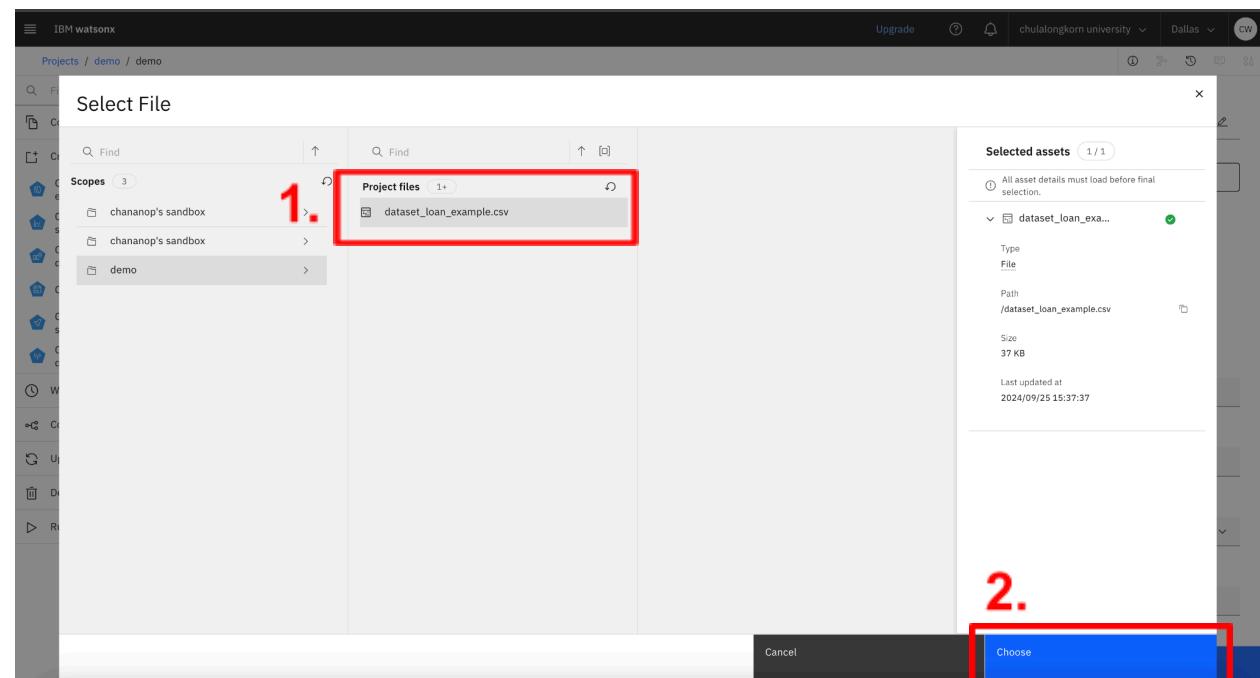


## Part 2 : Adding Create data asset element

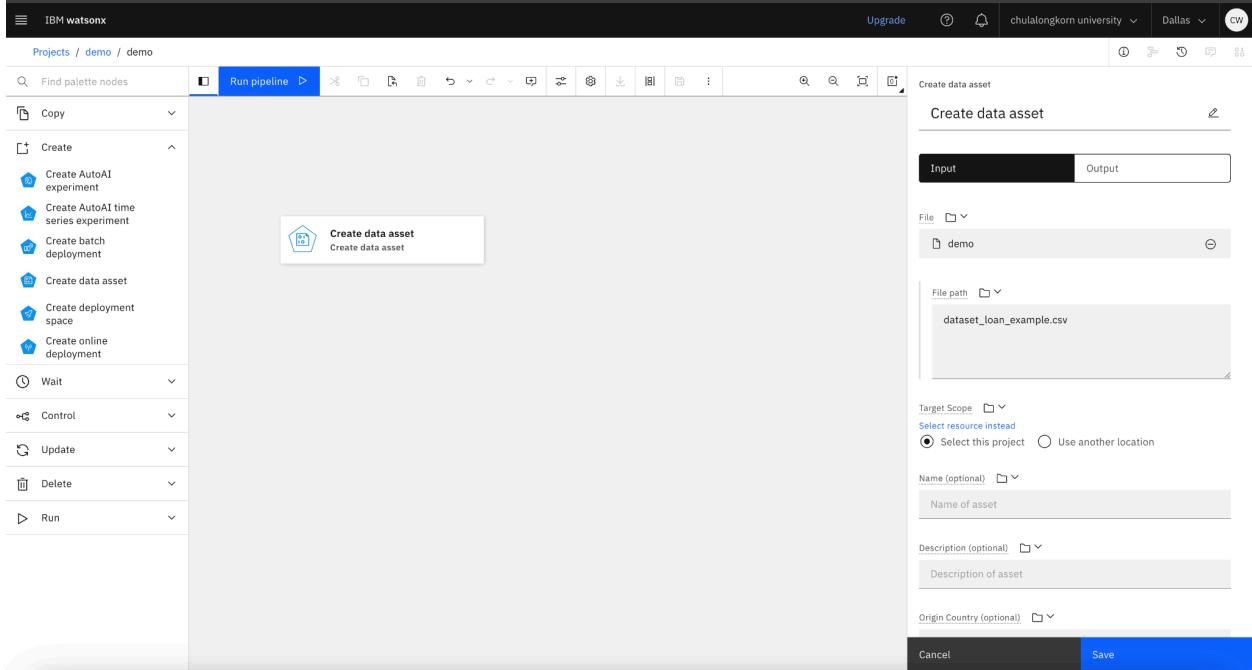
Drag create data asset element into the pipeline building canvas. Then click on select file.



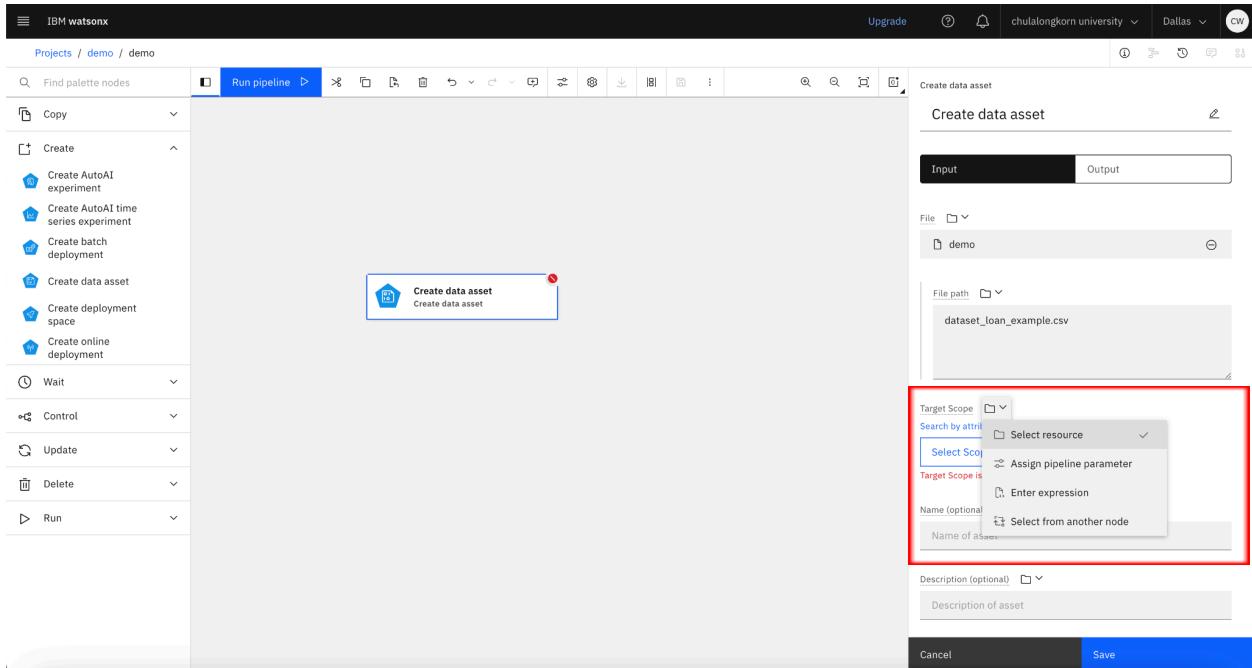
Choose dataset\_loan\_example.csv



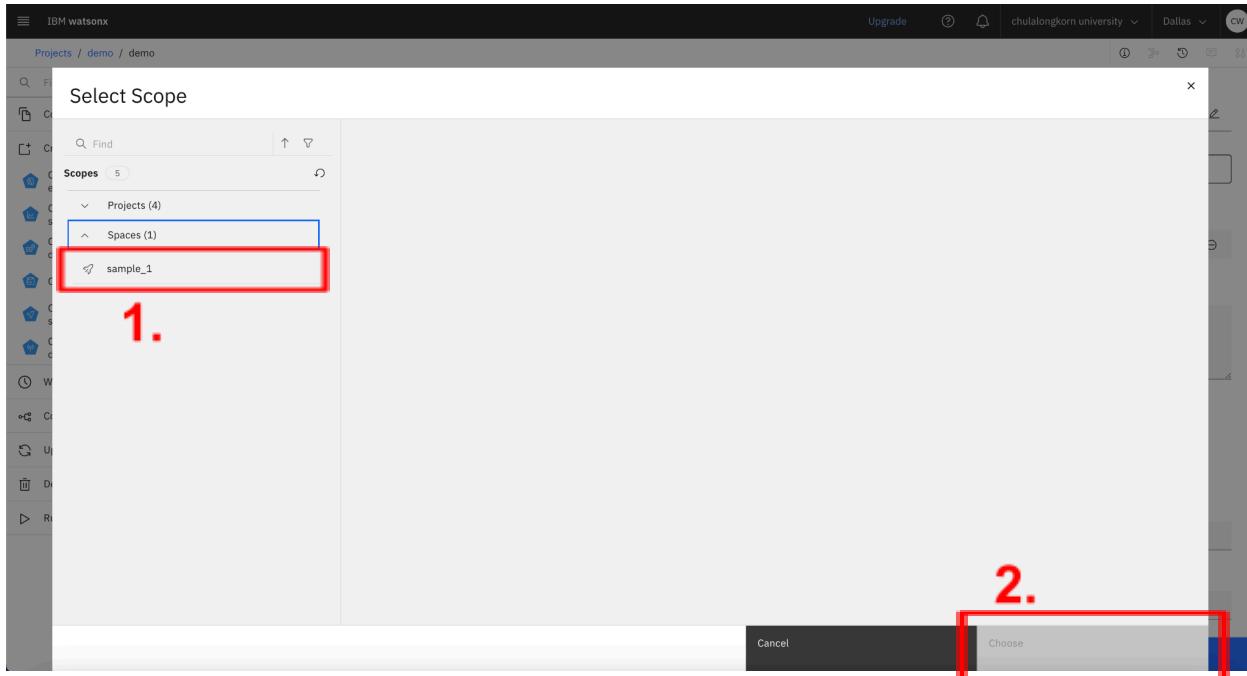
Then it should appear like this



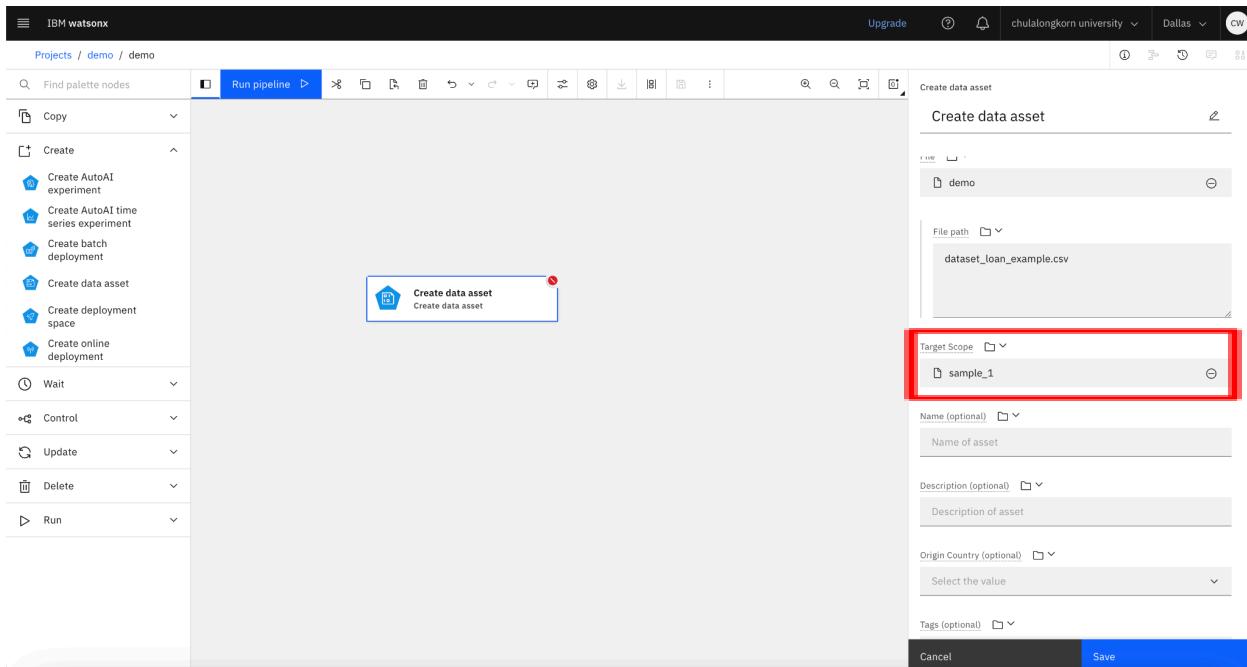
After that, config the target scope to be select resource



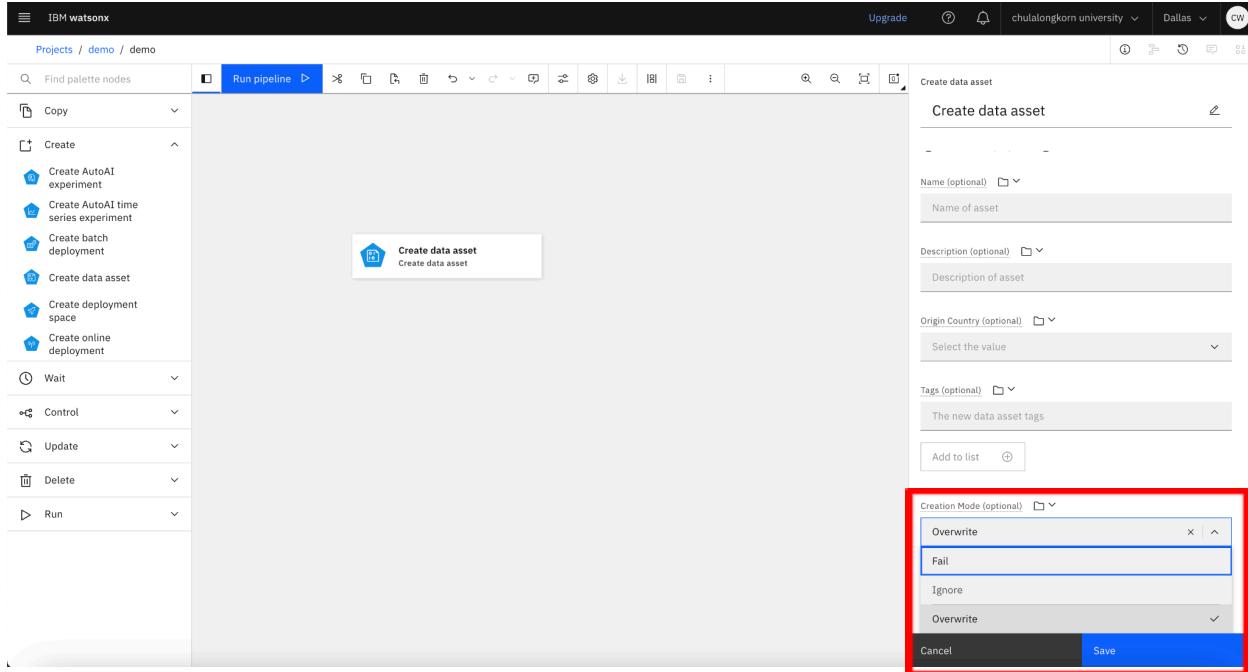
Select the deployment space which was created previously in **part 0** as a target scope



Then it should appear like this

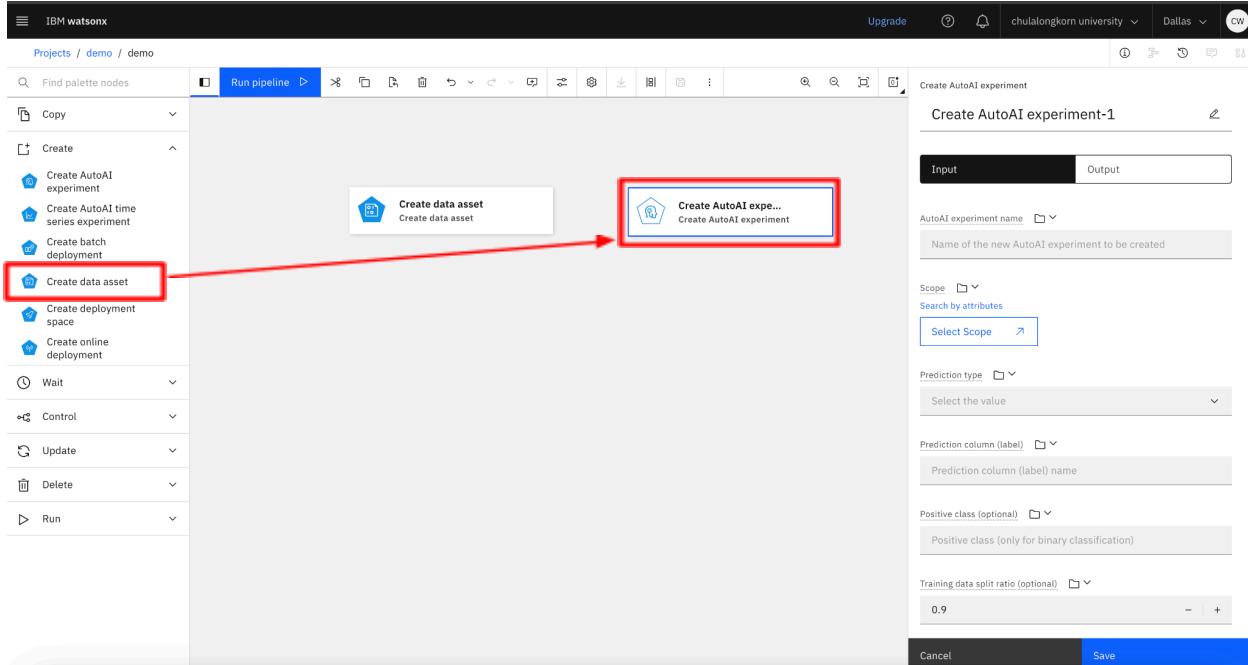


Then select creation mode to overwrite and click save

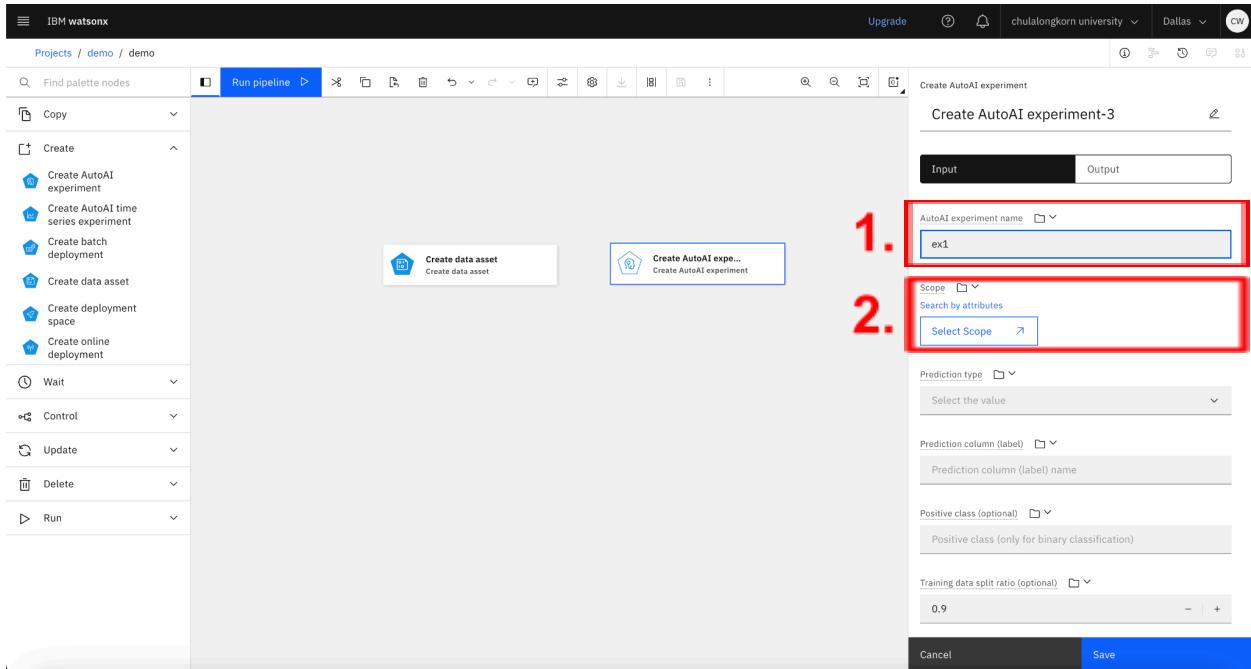


## Part 3 : Adding Create AutoAI experiment element

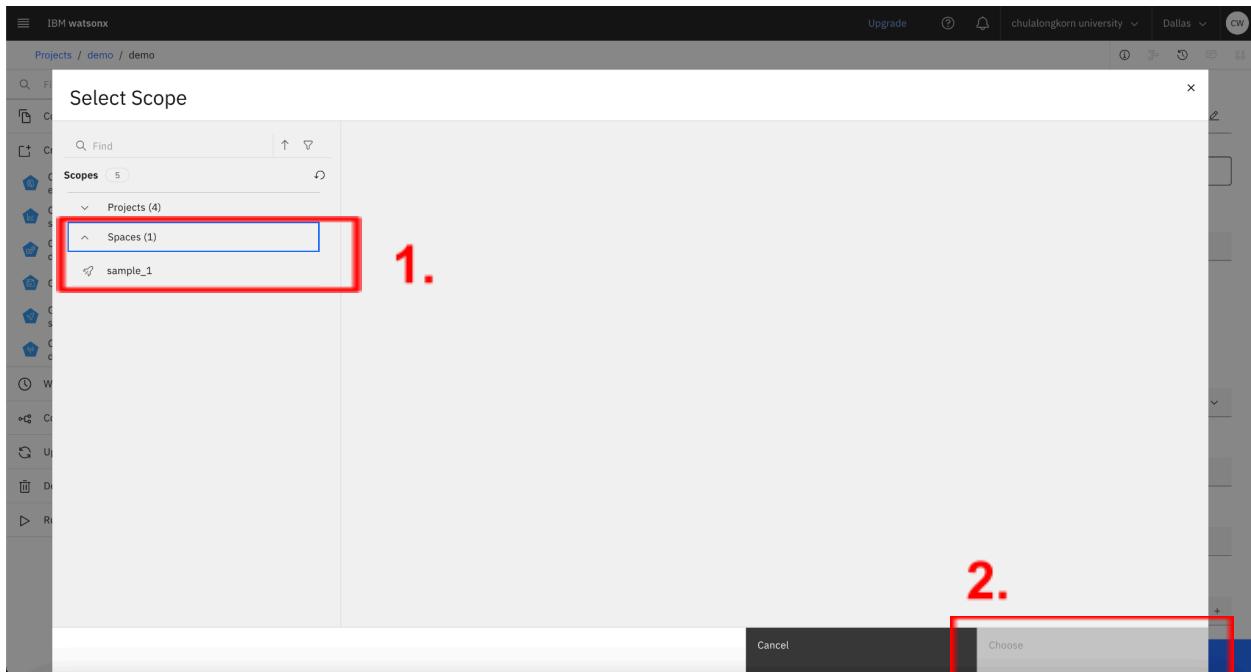
Drag create AutoAI experiment on to the pipeline canvas



insert AutoAI experiment name and then click select scope



Select scope as the deployment space we created in **part 0** and click choose



Select prediction type according to our input dataset which is binary classification

The screenshot shows the IBM Watson Studio interface. On the left, there's a palette with various icons for creating nodes like 'Create AutoAI experiment', 'Create data asset', etc. In the center, a pipeline editor shows two nodes: 'Create data asset' and 'Create AutoAI exp...'. On the right, a modal window titled 'Create AutoAI experiment-3' is open. Inside, under 'Prediction type', 'Binary classification' is selected. A red box highlights this selection. Other options like 'Multiclass classification' and 'Regression' are also listed. At the bottom of the modal are 'Cancel' and 'Save' buttons.

Insert prediction column as the name of column which we want the model to predict and insert positive class which is the positive value of the prediction column

This screenshot continues from the previous one, showing the 'Create AutoAI experiment-3' modal. The 'Prediction column (label)' field contains 'Loan\_Status' and the 'Positive class (optional)' field contains 'Y'. Both of these fields are highlighted with a red box. The rest of the modal includes sections for 'Input' (selected), 'Output', 'AutoAI experiment name' (set to 'ex1'), 'Scope' (set to 'sample\_1'), and 'Training data split ratio (optional)' (set to 0.9). At the bottom are 'Cancel' and 'Save' buttons.

## Part 3 : Optional

1. you can select the algorithm you want to include when the experiment is run. By default all relevant algorithms are used.
2. You can select the amount of algorithms which you decide to apply. AutoAI will test the specified algorithms and use the top performers (1-4) to create model pipelines. Each algorithm generates 4 pipelines and more algorithms increase the runtime
3. Choose the metric to optimize for the experiment. Default: 'accuracy' for multiclass classification, 'roc\_auc' for binary classification and 'neg\_root\_mean\_squared\_error' for regression problems

**1.** The first screenshot shows the 'Algorithms to include (optional)' dropdown menu open, listing various estimator types. The 'Decision Tree Classifier Estimator' is selected and highlighted with a red box.

**2.** The second screenshot shows the 'Algorithms to use' input field, which contains the number '4'. This field is also highlighted with a red box.

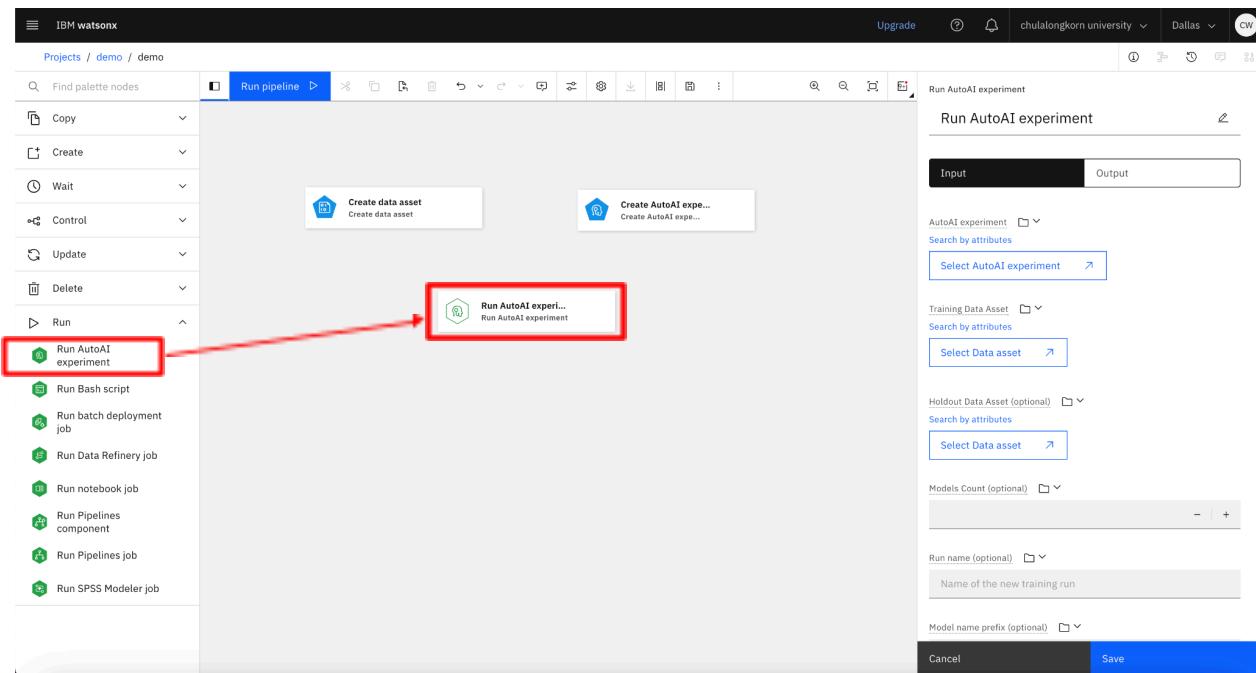
**3.** The third screenshot shows the 'Optimize metric (optional)' dropdown menu open, with 'Accuracy' selected and highlighted with a red box. Other options listed include Average Precision, Explained Variance, F1, and F1 Macro.

Then select creation mode to overwrite

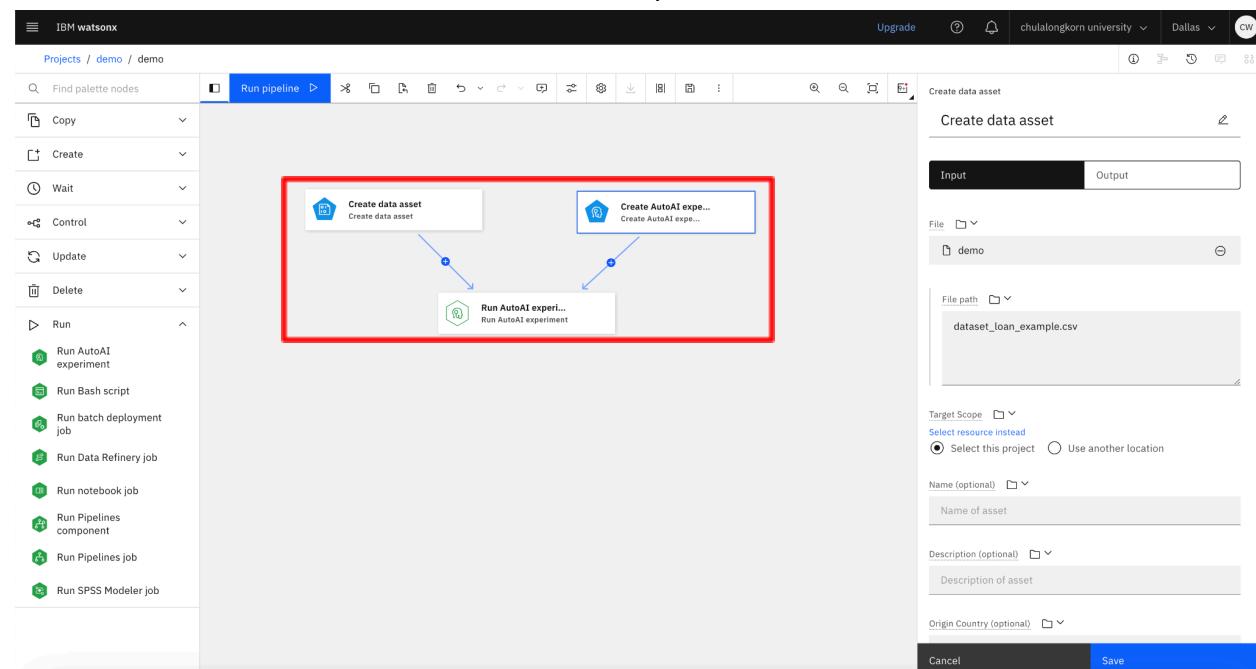
The screenshot shows the Watson Studio interface with a 'Create AutoAI experiment' dialog open. On the left, the 'Create' section of the palette is visible, showing options like 'Create AutoAI experiment' and 'Create data asset'. The 'Create AutoAI experiment' option is highlighted with a blue box. On the right, the 'Create AutoAI experiment' dialog is shown with its fields filled out. At the bottom of the dialog, a 'Creation Mode (optional)' dropdown is open, displaying several options: Overwrite, Fail, Ignore, and Overwrite. The 'Overwrite' option is selected and highlighted with a red box.

## Part 4 : Adding Run AutoAI experiment element

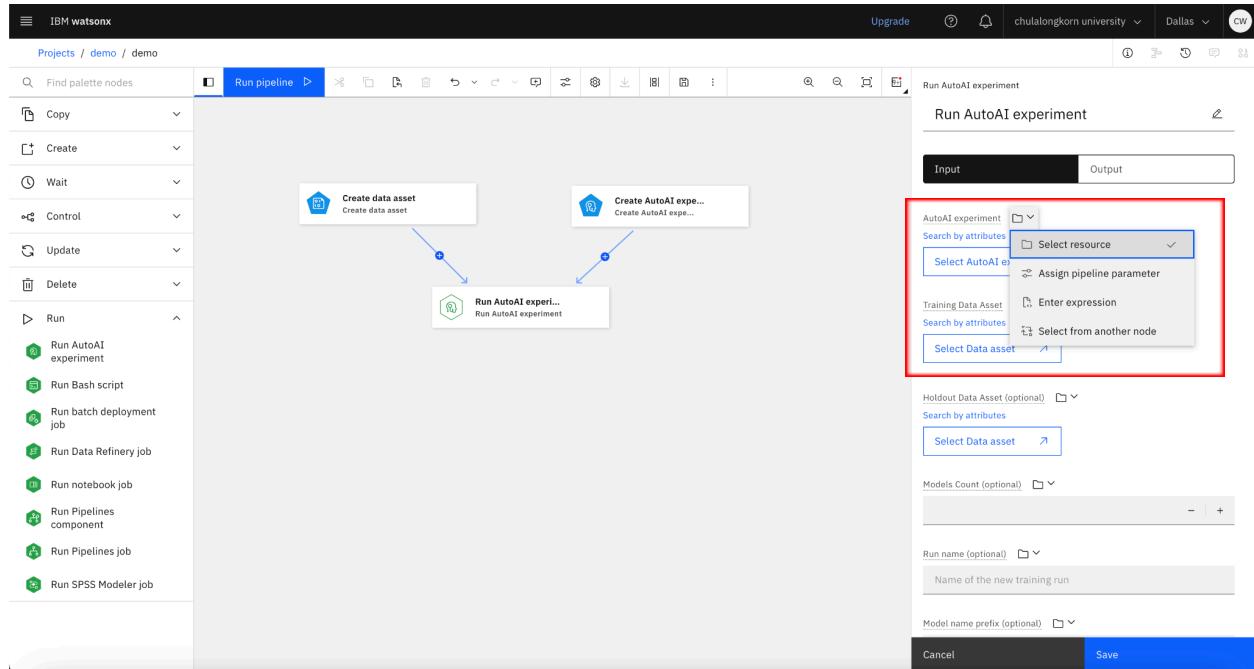
Drag and drop run AutoAi experiment element onto pipeline canvas



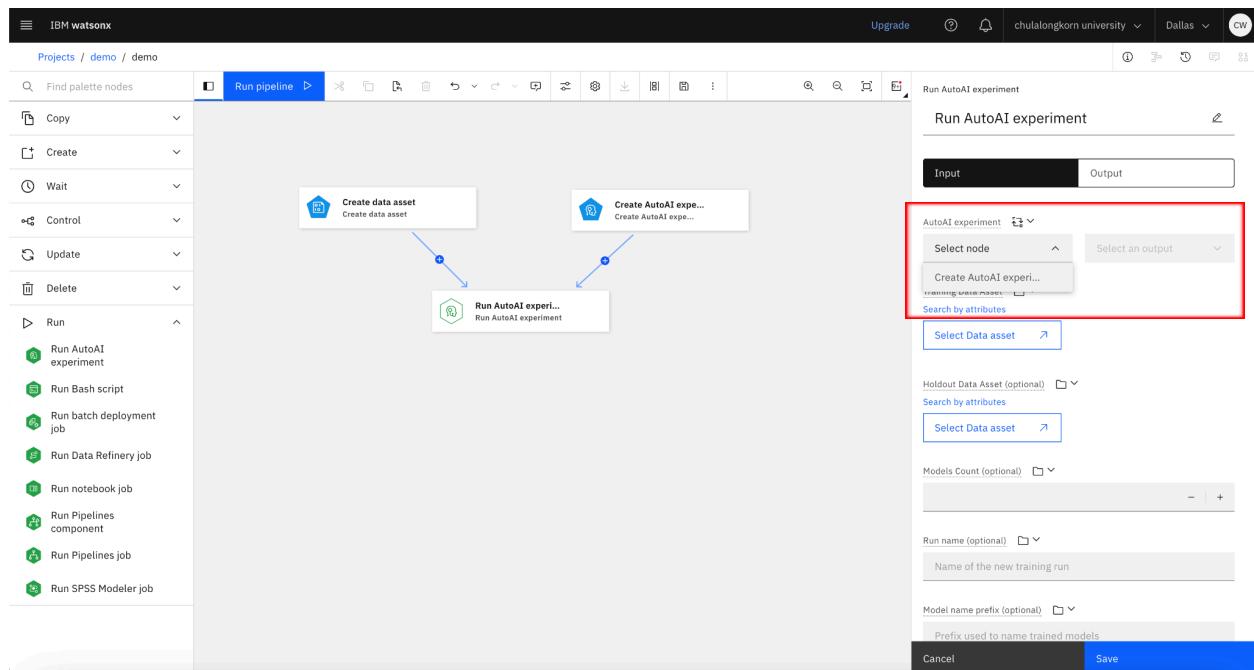
Create connection arrow between elements as in picture below



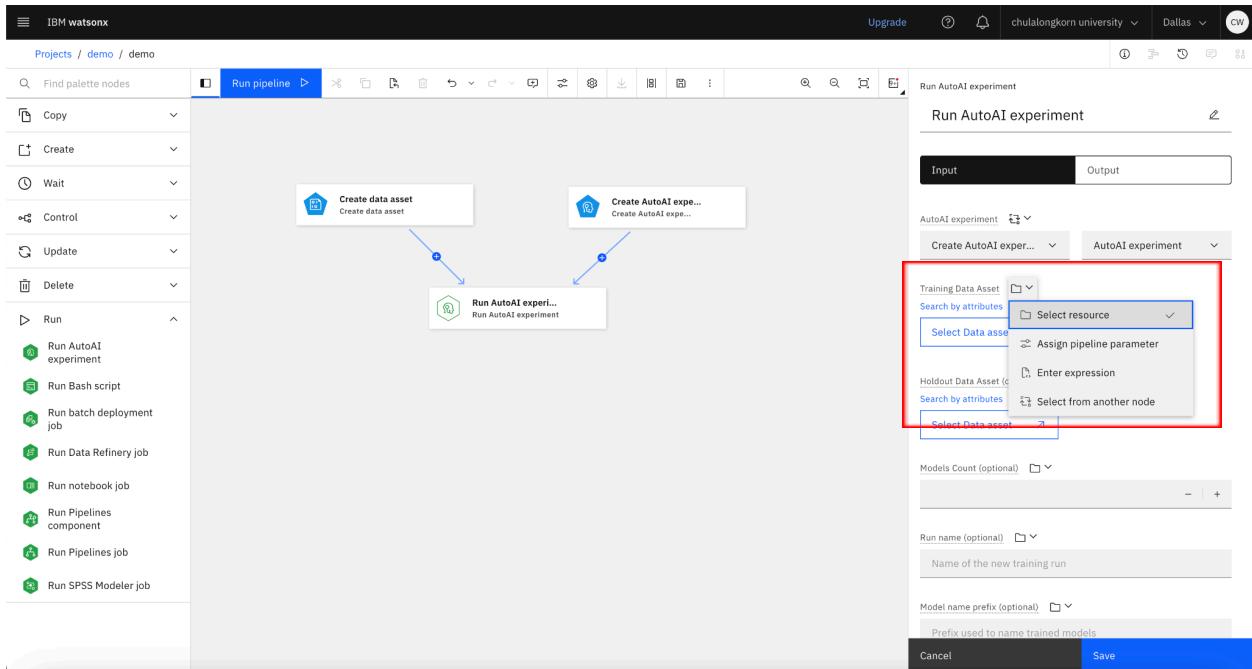
Click on run AutoAI experiment element. Then, config AutoAI experiment to be select from another node



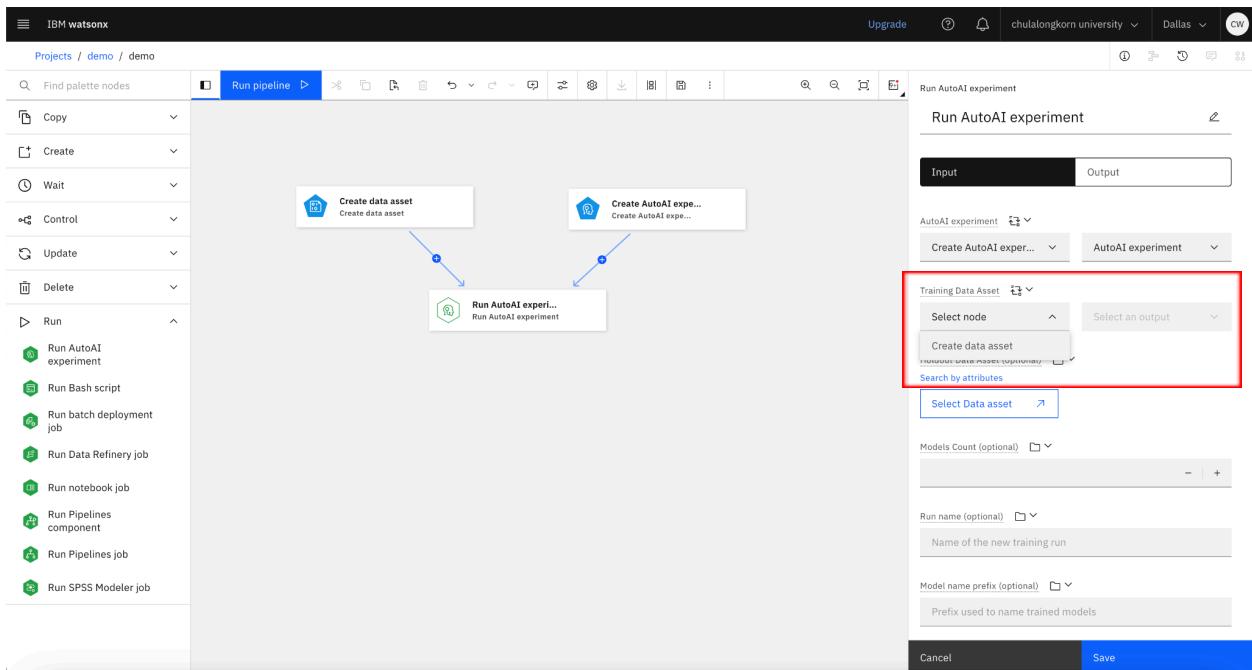
Then select node to be create AutoAI experiment



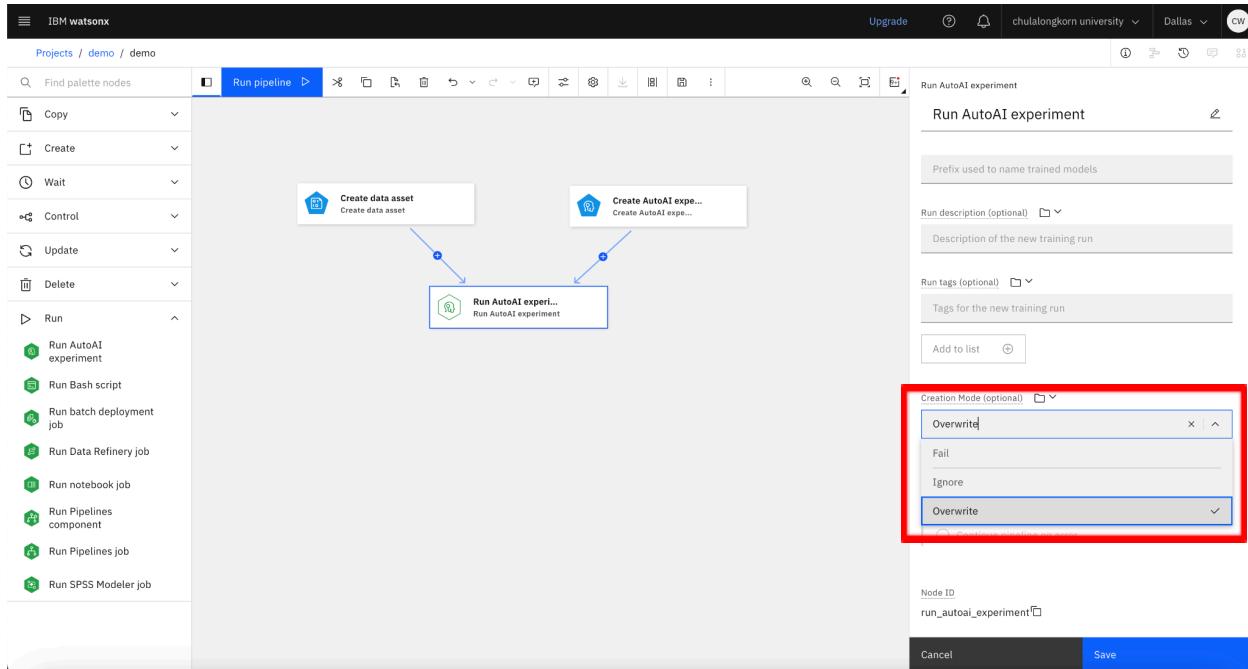
Config Training data asset to be select from another node as well.



Then select node to be create dataset

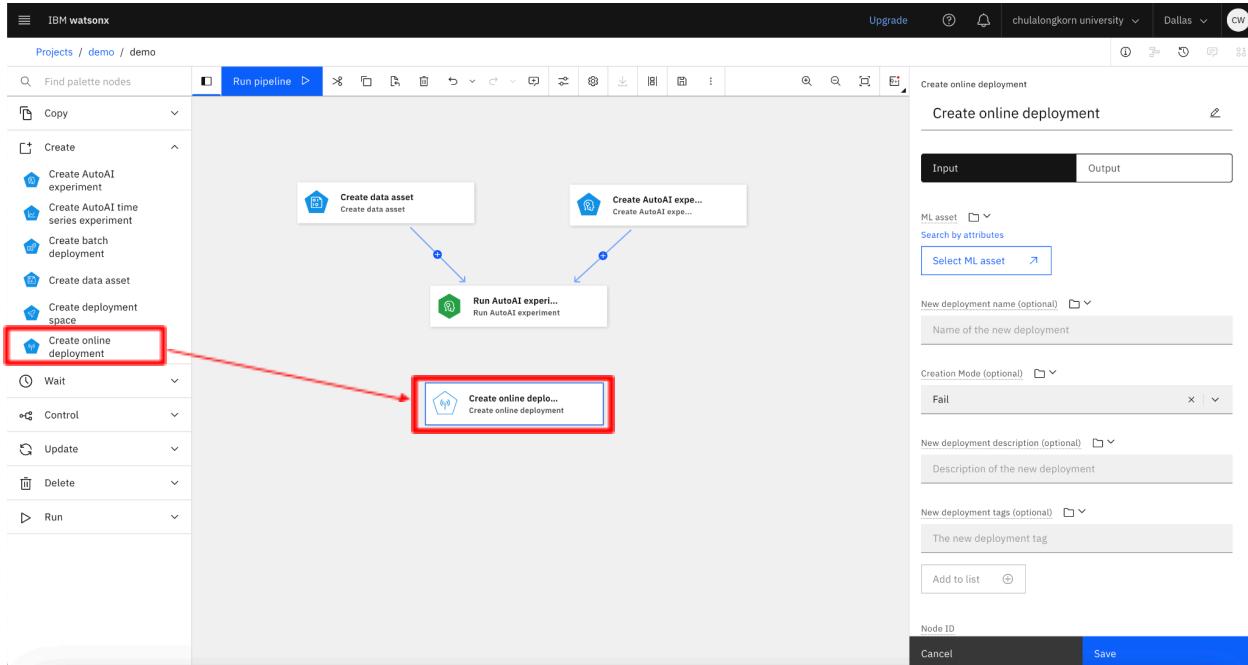


## Select creation mode to be overwrite

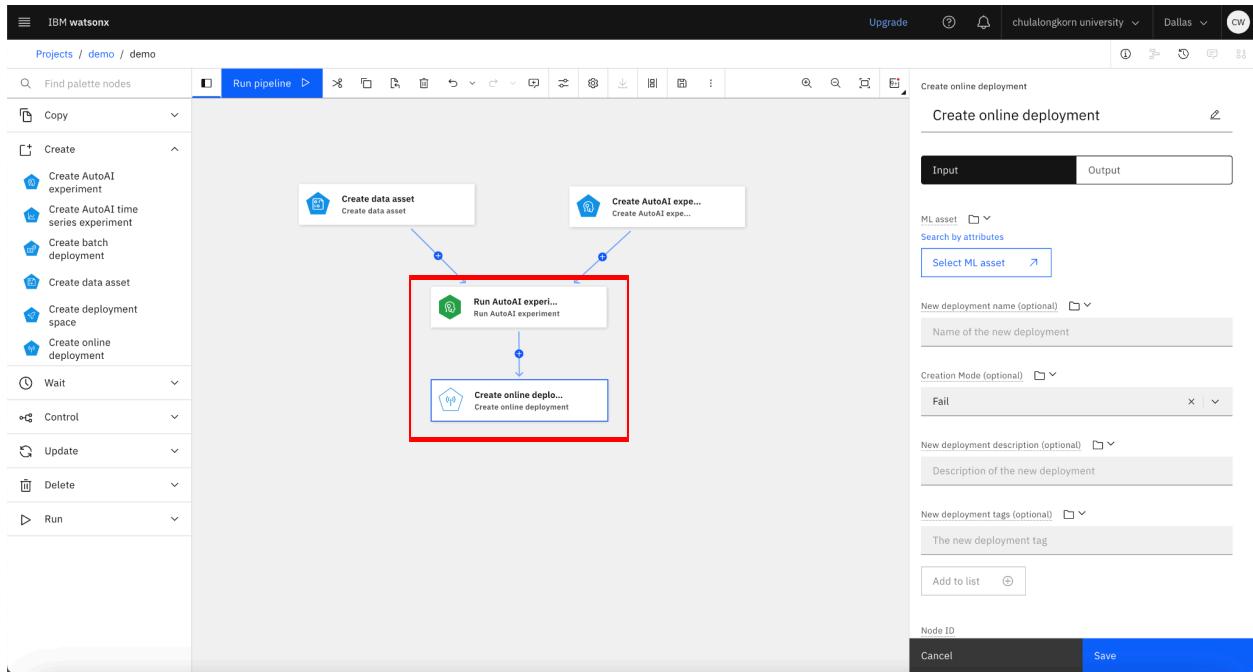


## Part 5 : Adding Create online deployment element

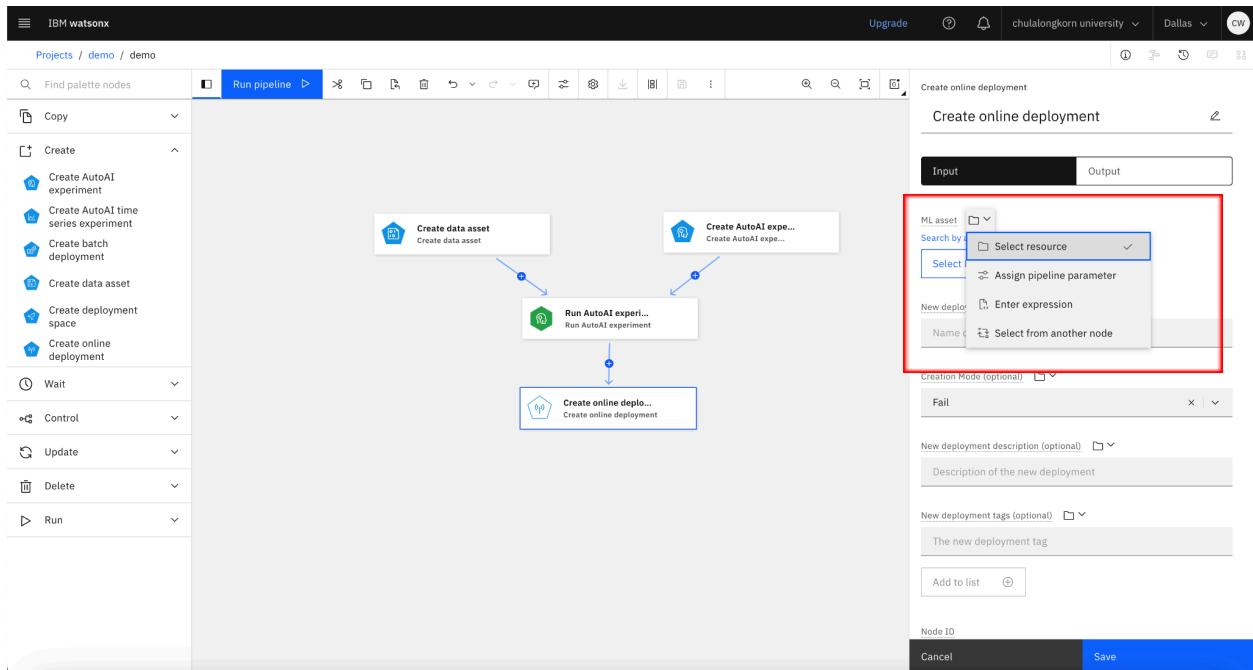
Drag and drop create online deployment element onto pipeline canvas



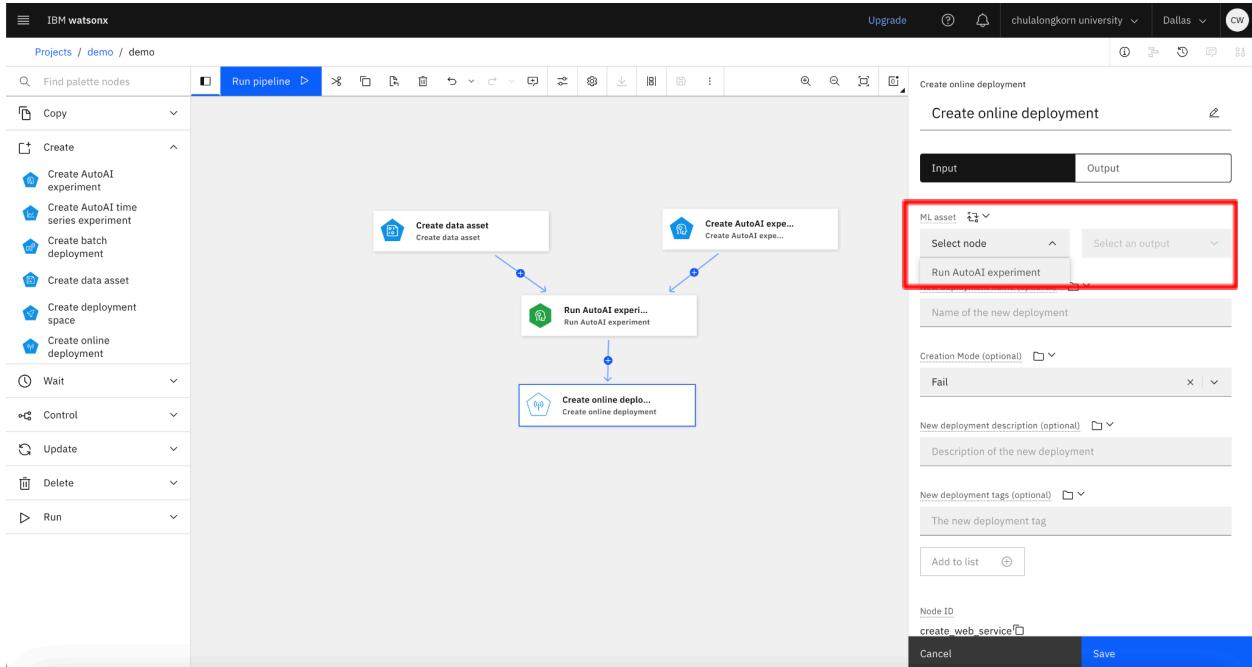
Create connection arrow between elements as in picture below



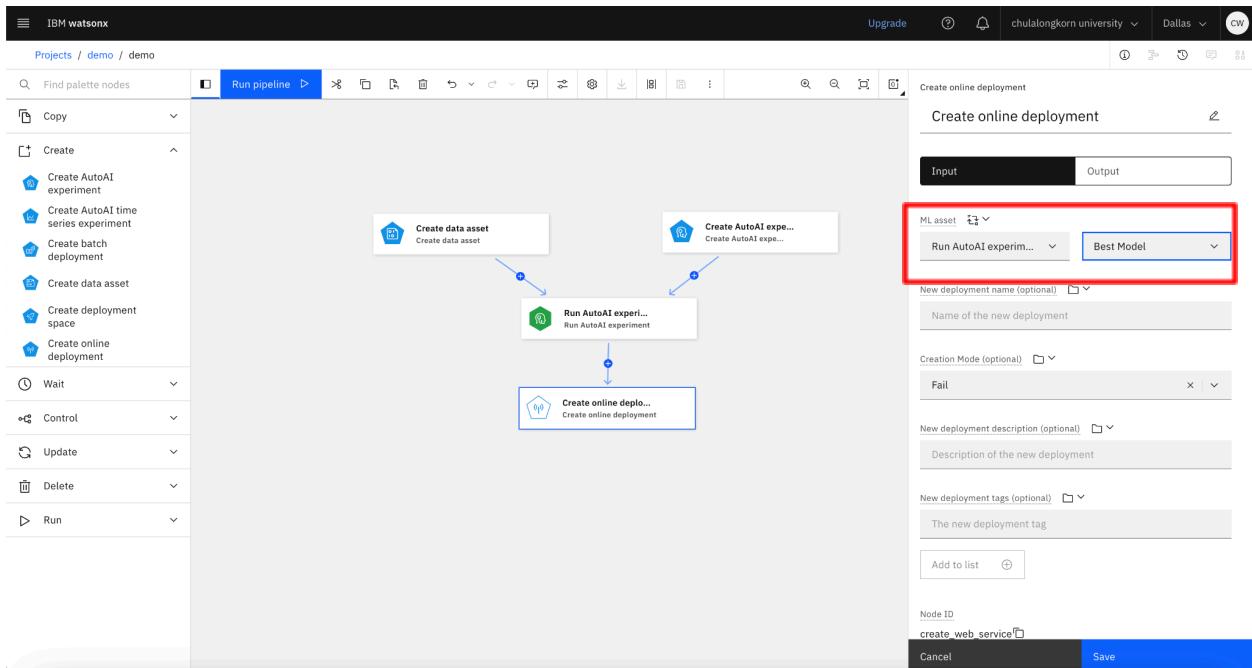
Then config ML asset to be select from other node



Then select node to be Run AutoAI experiment



Select best model



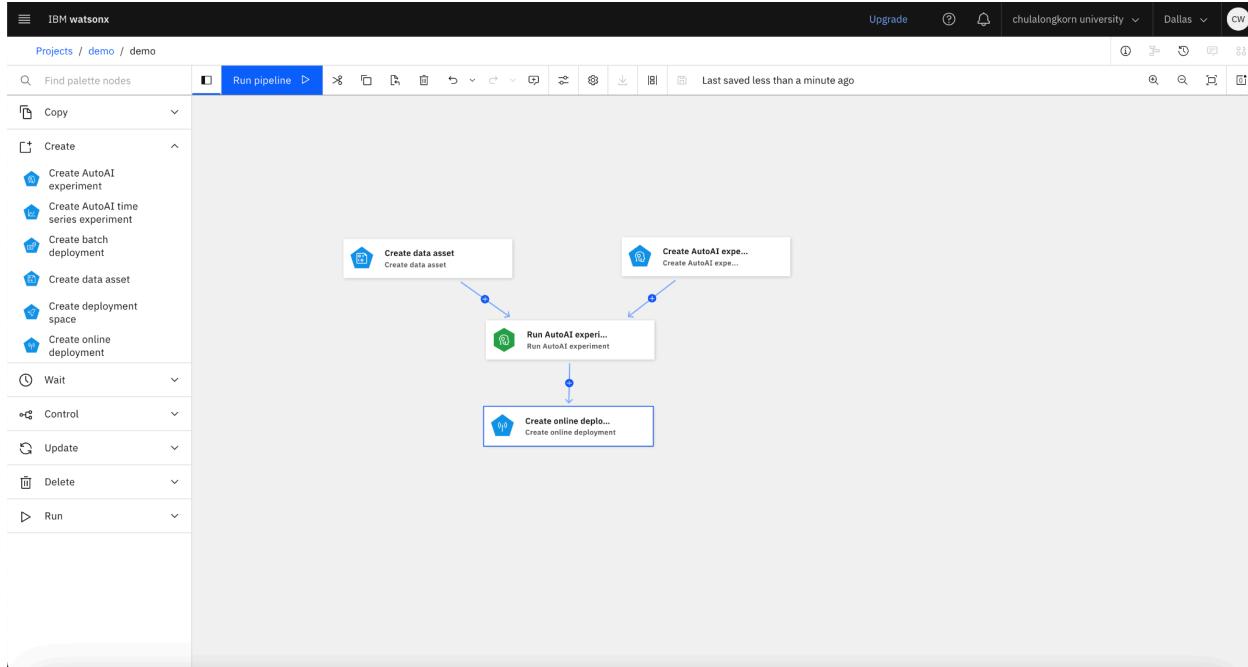
## Set deployment name (optional)

The screenshot shows the IBM Watsonx interface. On the left, there's a palette with various nodes: Create AutoAI experiment, Create AutoAI time series experiment, Create batch deployment, Create data asset, Create deployment space, Create online deployment, Wait, Control, Update, Delete, and Run. A pipeline is visible on the canvas with nodes: Create data asset, Create AutoAI experiment, Run AutoAI experiment, and Create online deployment. On the right, a 'Create online deployment' dialog is open. It has fields for 'ML asset' (Run AutoAI experiment...), 'Best Model' (selected), 'New deployment name (optional)' (deployment\_1, highlighted with a red box), 'Creation Mode (optional)' (Fail), 'New deployment description (optional)', 'New deployment tags (optional)', and 'Node ID' (create\_web\_service). At the bottom are 'Cancel' and 'Save' buttons.

Select creation mode to be overwrite. Then press save.

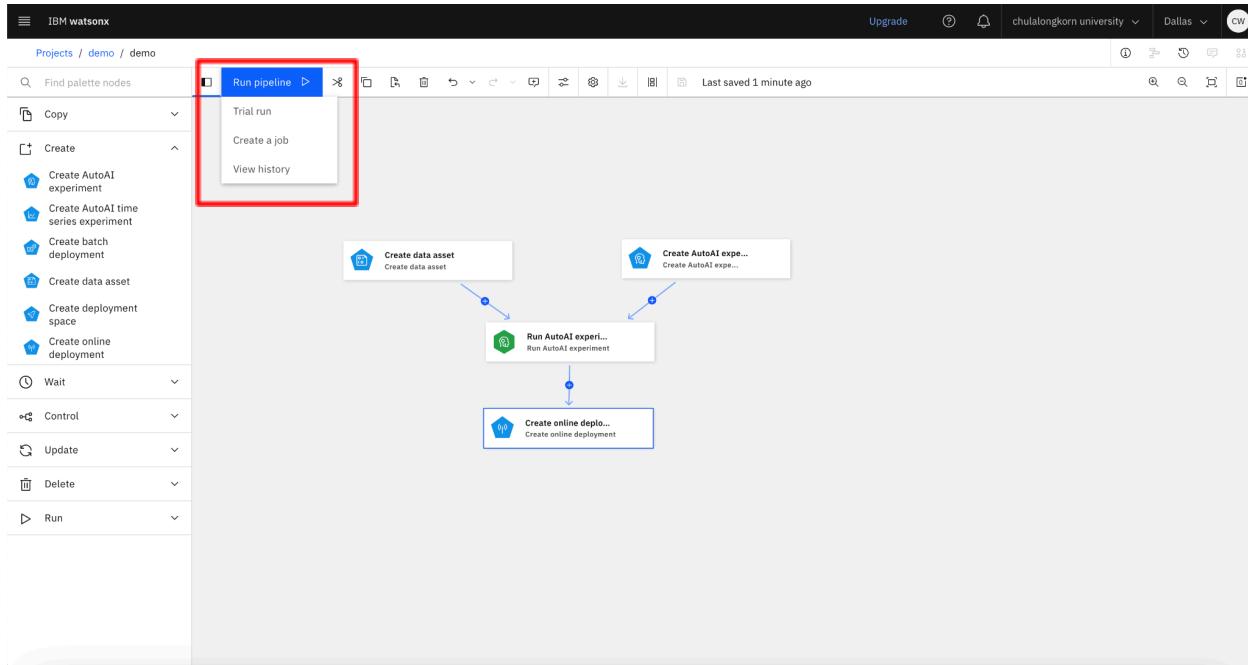
This screenshot is similar to the previous one, showing the same interface and pipeline. The 'Create online deployment' dialog is open again, but the 'Creation Mode (optional)' dropdown is now set to 'Overwrite' (highlighted with a blue box). The other fields are identical to the first screenshot. The 'Save' button at the bottom is highlighted.

Your pipeline building canvas should appear like this.

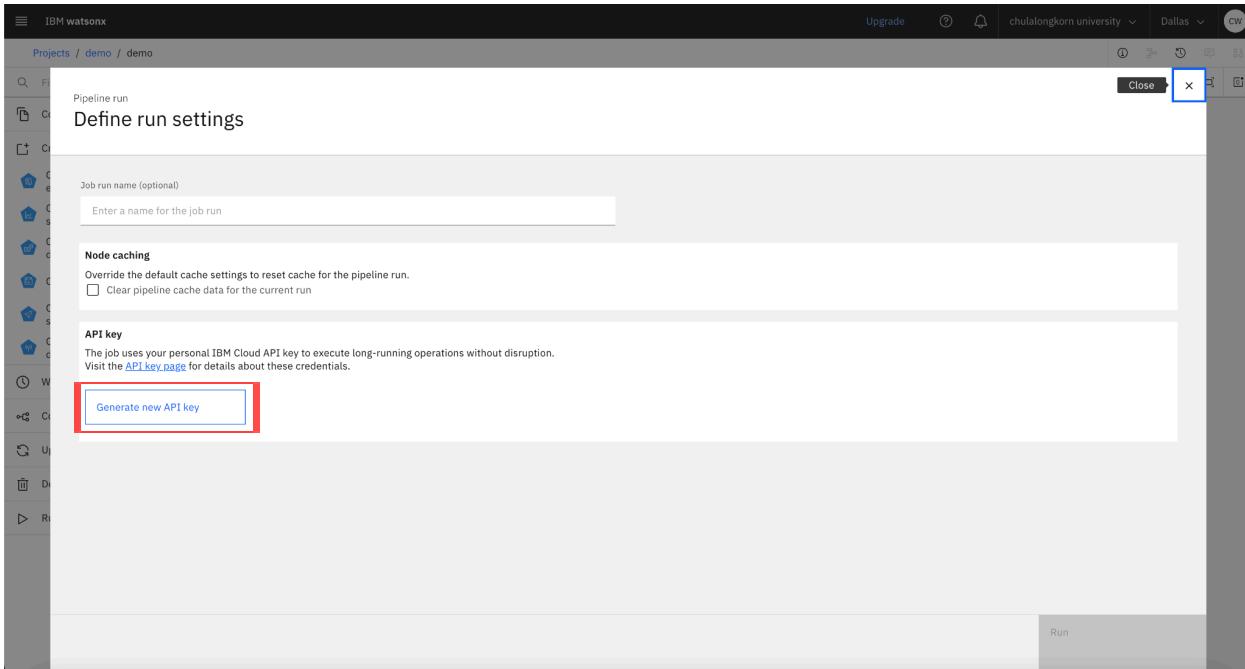


## Part 6 : Running the pipeline

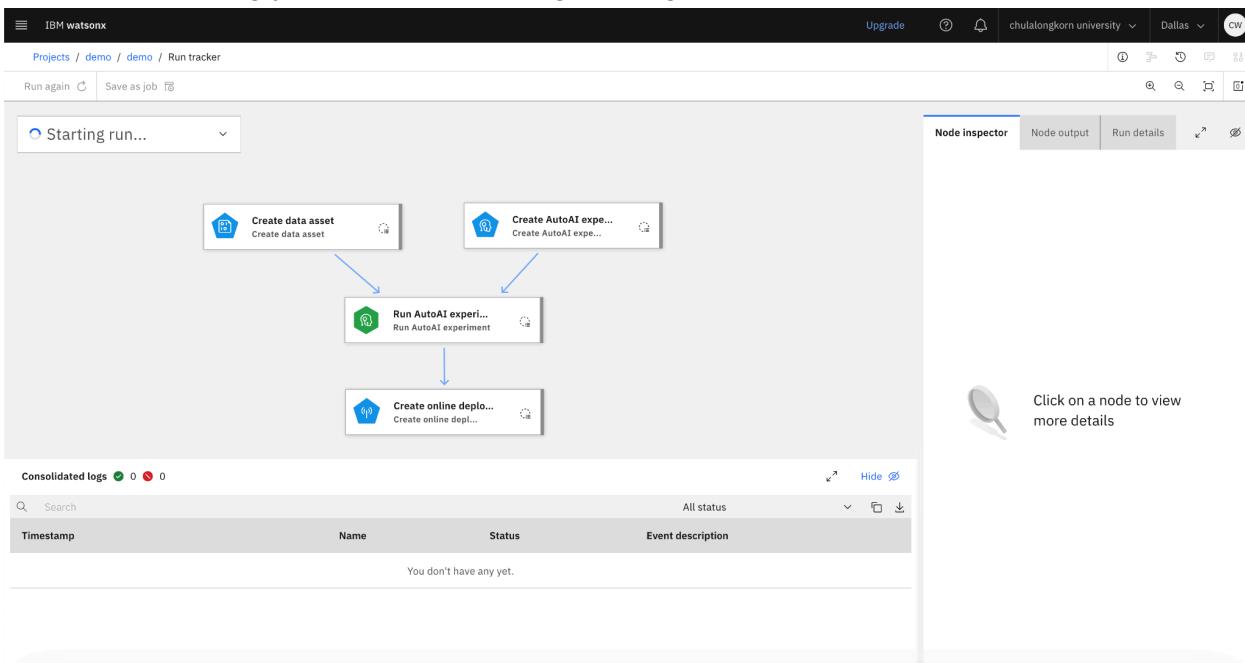
Select trial run in run pipeline.



Generate new api key and then click run.



Once it start running you should be entering this page.



Once the running process is complete your run tracker should appear like this

The screenshot shows a completed pipeline run in the IBM Watson Studio interface. The pipeline consists of four nodes arranged vertically:

- Create data asset**: Create data asset
- Create AutoAI experiment**: Create AutoAI exper...
- Run AutoAI experiment**: Run AutoAI experiment
- Create online deployment**: Create online deplo...

Arrows indicate the flow from the first two nodes to the third, and from the third to the fourth. Each node has a green circular status indicator. The pipeline run is labeled "Completed".

**Node inspector** | **Node output** | **Run details**

Click on a node to view more details

**Consolidated logs** 9 0

Timestamp	Name	Status	Event description
Sep 27, 2024, 11:52 AM	demo	✓	Pipeline completed (name: demo, PipelineRun: 2cdf7b50-2013-4904-b9ba-9bef8c410233-c029da66, Job name: Trial job - demo, Job ID: 849026fb-6493-4edb-bd1b-02f356903ac, Job run ID: 2cdf7b50-2013-4904-b9ba-9bef8c410233)
Sep 27, 2024, 11:52 AM	Create online deployment	✓	Node completed (Node ID: create_web_service)
Sep 27, 2024, 11:52 AM	Create online	✓	TaskRun has succeeded