Machine Learning Pipelines with Azure ML Studios

Diabetes Prediction using Machine Learning

Presented By

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Agenda

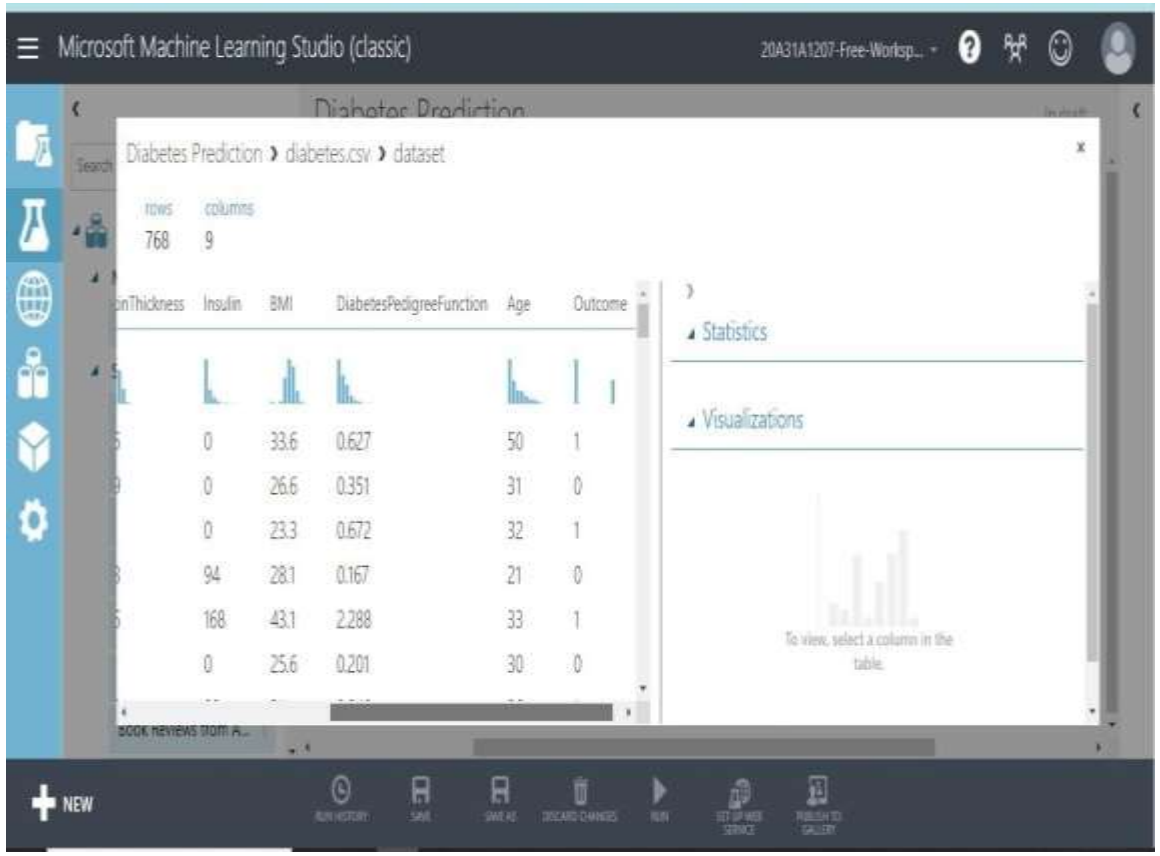
- Create Machine Learning Model using Azure Machine Learning Studio.
- Without writing a single line of code.
- Deploy ML model and test with REST endpoint.
- Step by step guide and full Hands on.
- Prerequisite:
- Basic knowledge of Machine Learning Terminology.
- What is Machine Learning Model

Objectives

- Pre-process data using appropriate modules
- Train and evaluate a two class logistic regression model on Azure ML Studio.
- Create scoring and predictive experiments.
- Deploy the trained model as an Azure web service

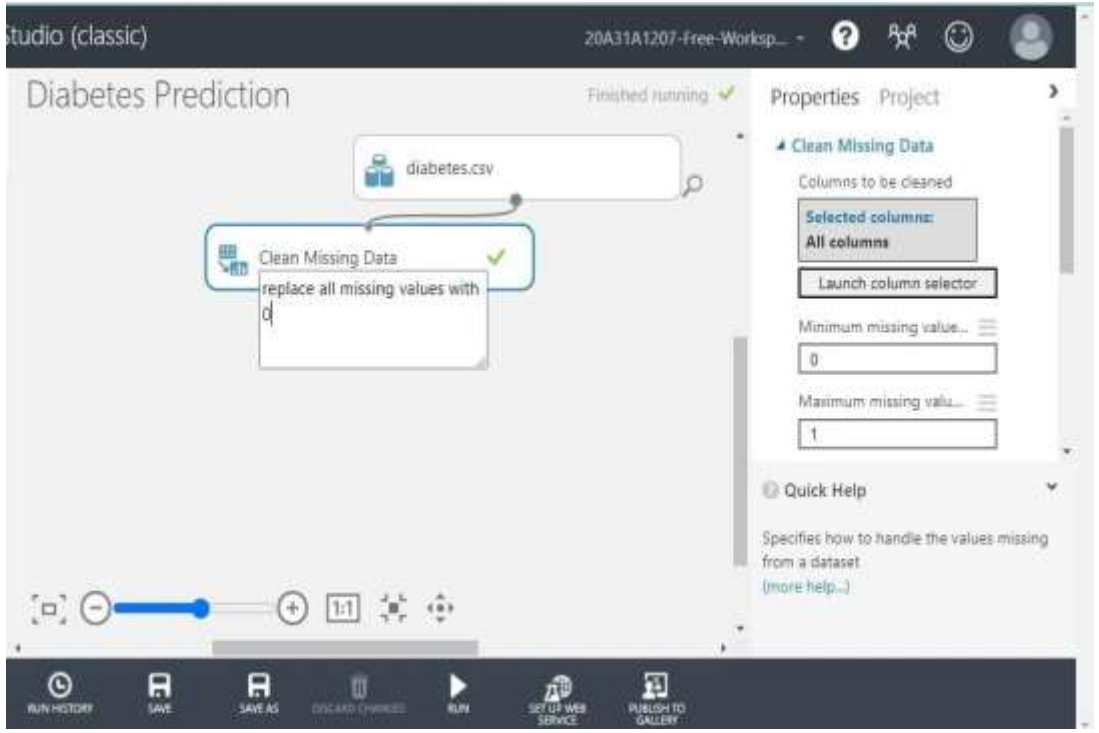
Task 1: Introduction and Project Overview

- Create a new experiment from the Azure Machine Learning Studios dashboard.
- In the dashboard click on new ->blank experiment->Diabetes Prediction as name.
- Import and explore the Diabetes data before moving on to pre-processing , as diabetes data is not present in the studios we import it from our local machine.
- Now click on saved datasets->My datasets->Diabetes.csv
- Drag and drop the dataset into workspace and to know about the data right click on Diabetes->visualize.



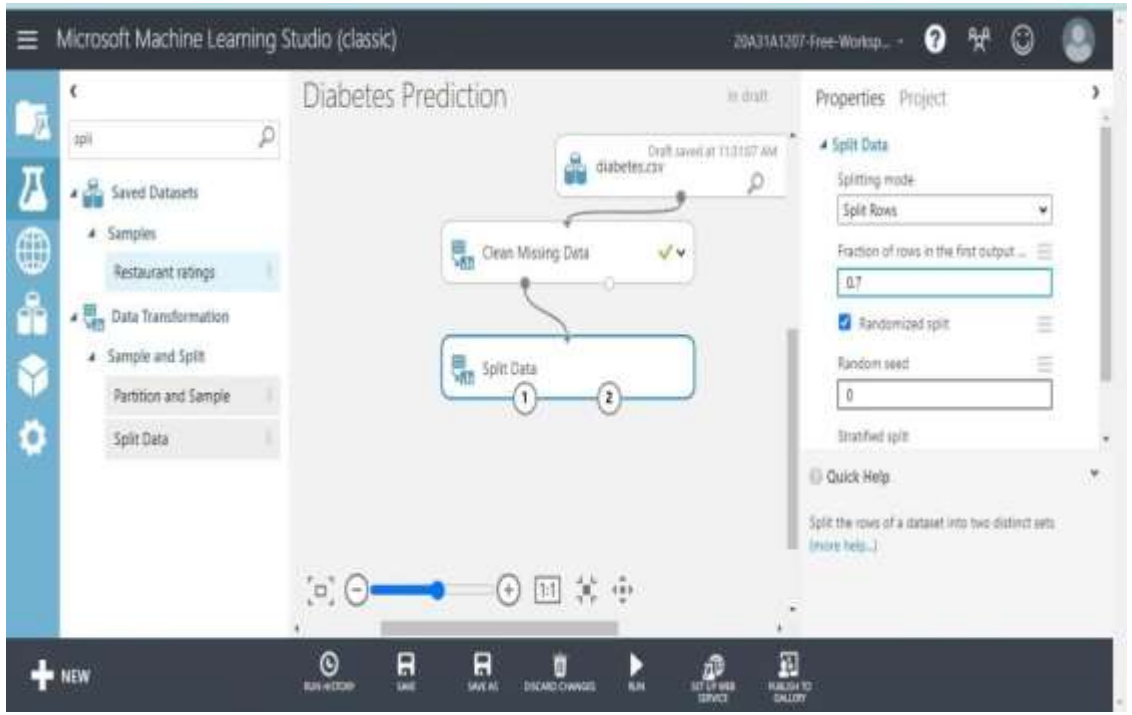
Task 2: Data Cleaning

- Now that you have some idea about the properties of the data, you can start to get it ready for the model.
- To account for the missing data, you will substitute all missing values by 0 using the Cleaning missing value module.



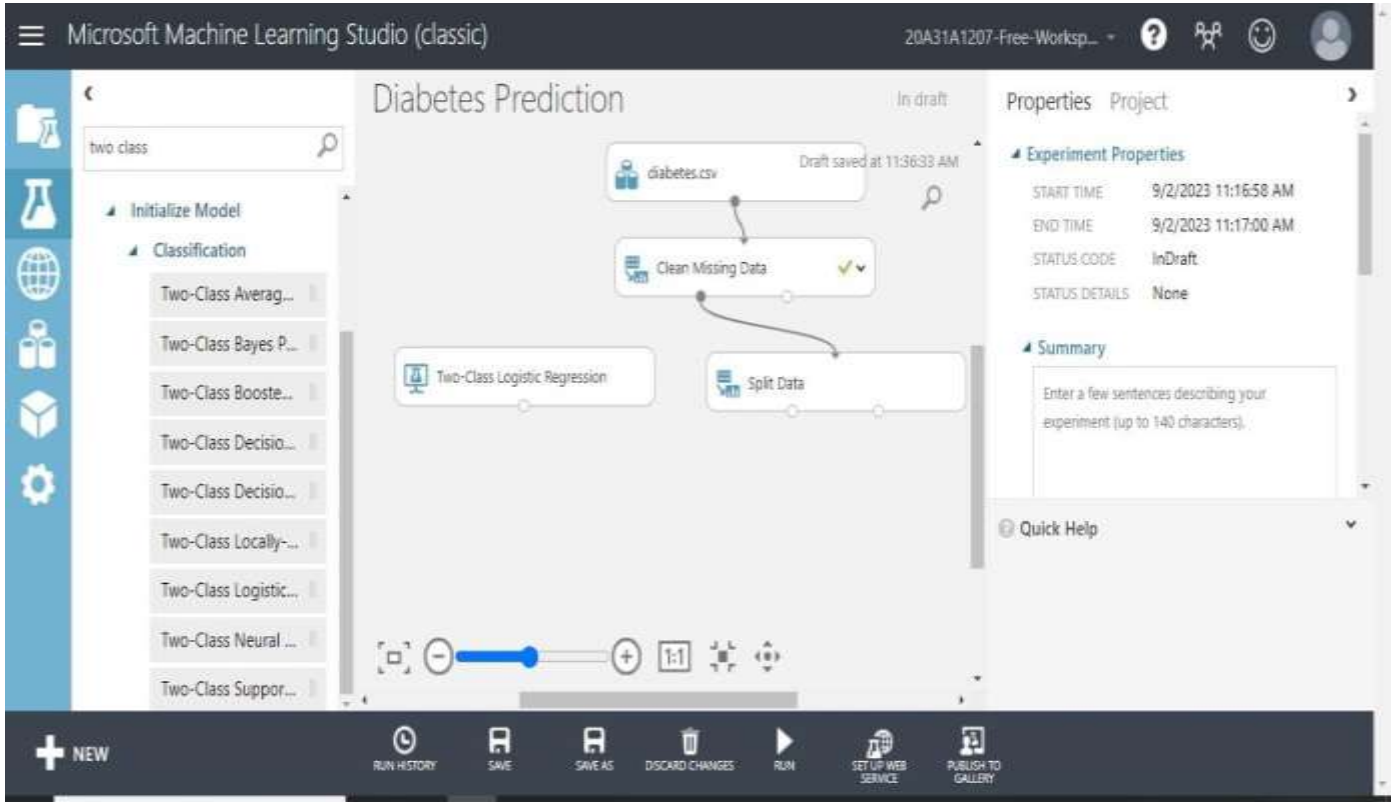
Task 3: Train Test Split

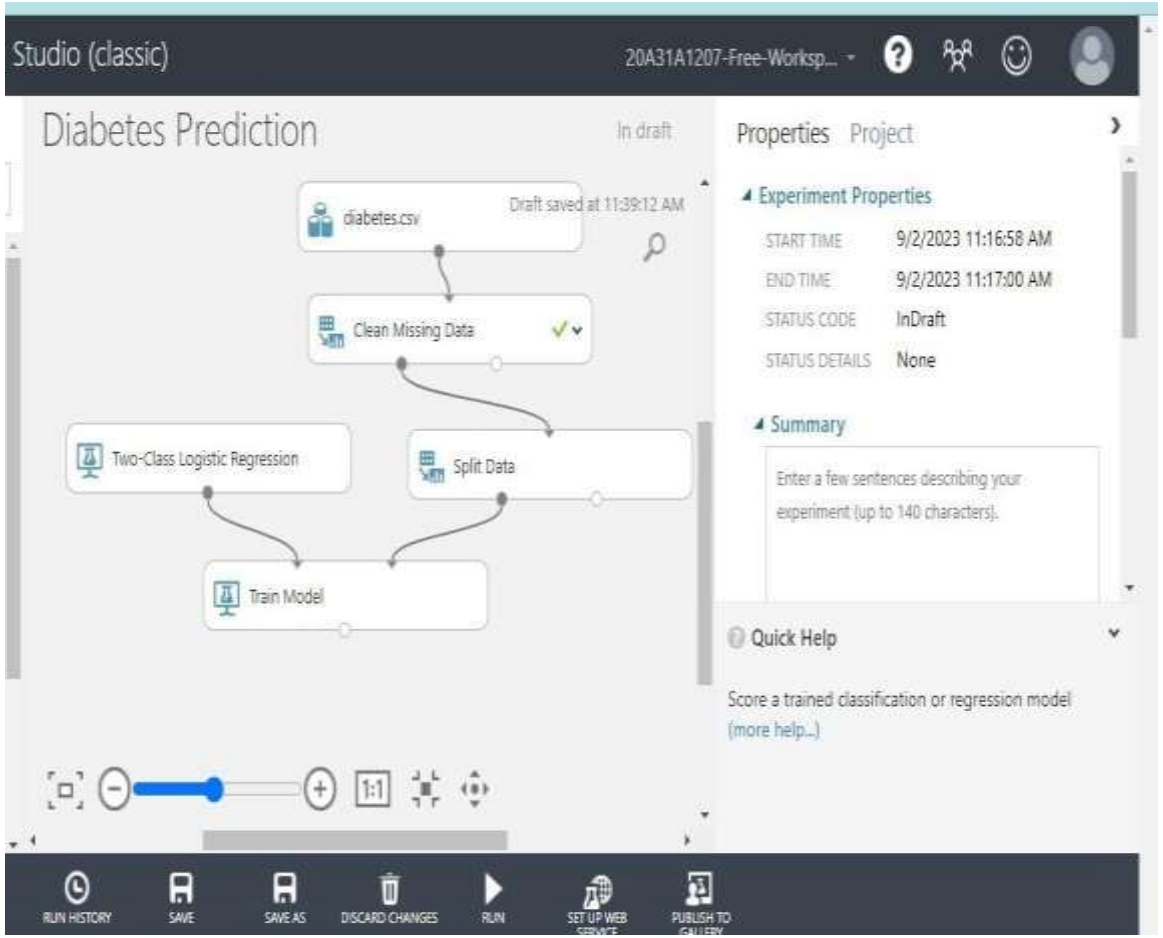
- Drag and drop the split data and connect it with the cleaned data.
- And also specify the percentage of test and train data. Here we have taken 70% training data and 30% testing data.



Task 3: Training a Two-Class Logistic Regression Model

- Train a two-class Logistic Regression model to predict the outcome.



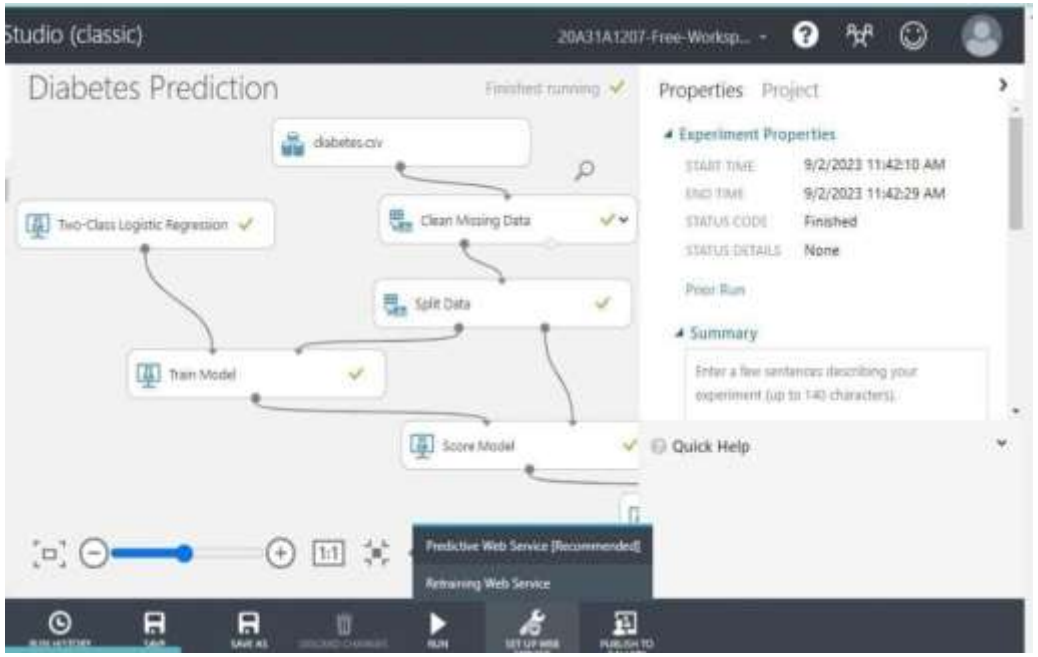

Studio (classic)
20A31A1207-Free-Worksp...
Diabetes Prediction
In draft
diabetes.csv
Draft saved at 11:39:12 AM
Clean Missing Data
Two-Class Logistic Regression
Split Data
Train Model
Properties
Project
Experiment Properties
START TIME
9/2/2023 11:16:58 AM
END TIME
9/2/2023 11:17:00 AM
STATUS CODE
InDraft
STATUS DETAILS
None
Summary
Enter a few sentences describing your experiment (up to 140 characters).
Quick Help
Score a trained classification or regression model
(more help...)
1:1
RUN HISTORY
SAVE
SAVE AS
DISCARD CHANGES
RUN
SET UP WEB SERVICE
PUBLISH TO GALLERY

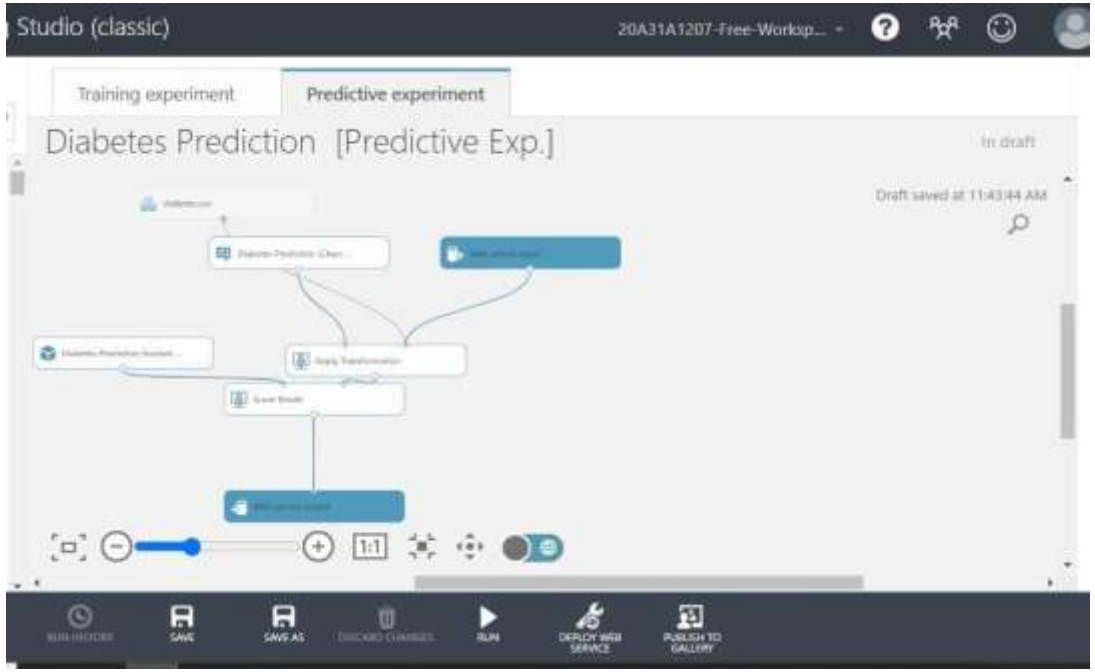

Select a single column
WITH RULES
Include
column names
Outcome

Task 5: Scoring and Evaluating the Models

- Compare how the two models perform using the Score Model and Evaluate Model modules.

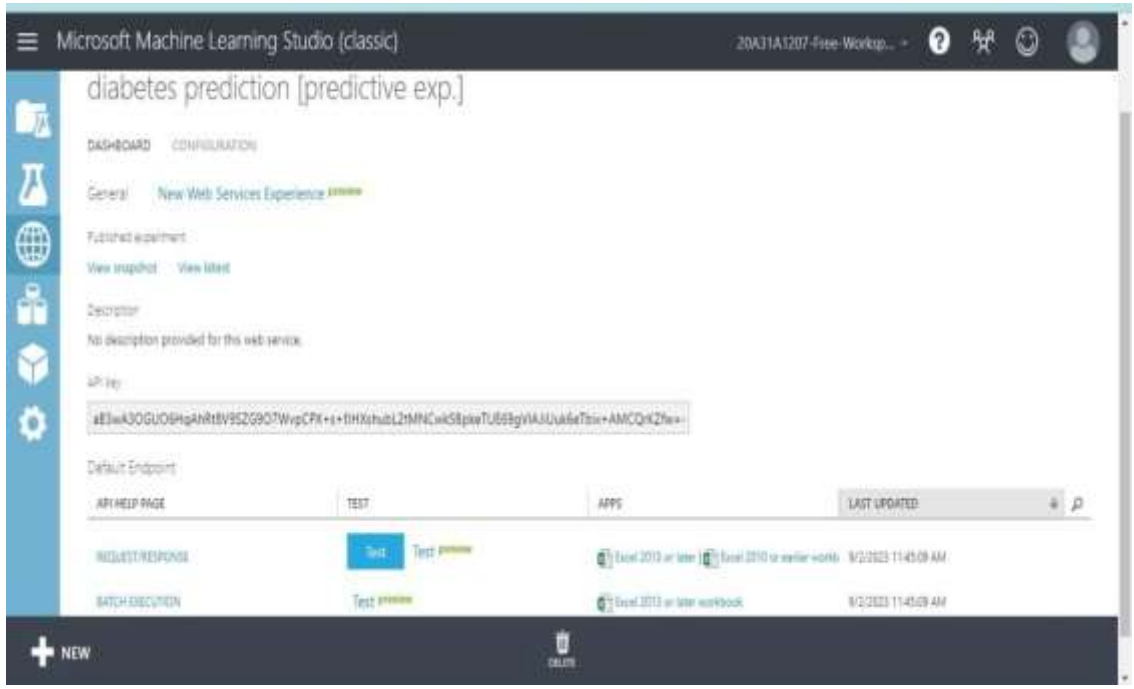
Now run the model and then web service input and output will be added again run the model ,now click on deploy web service



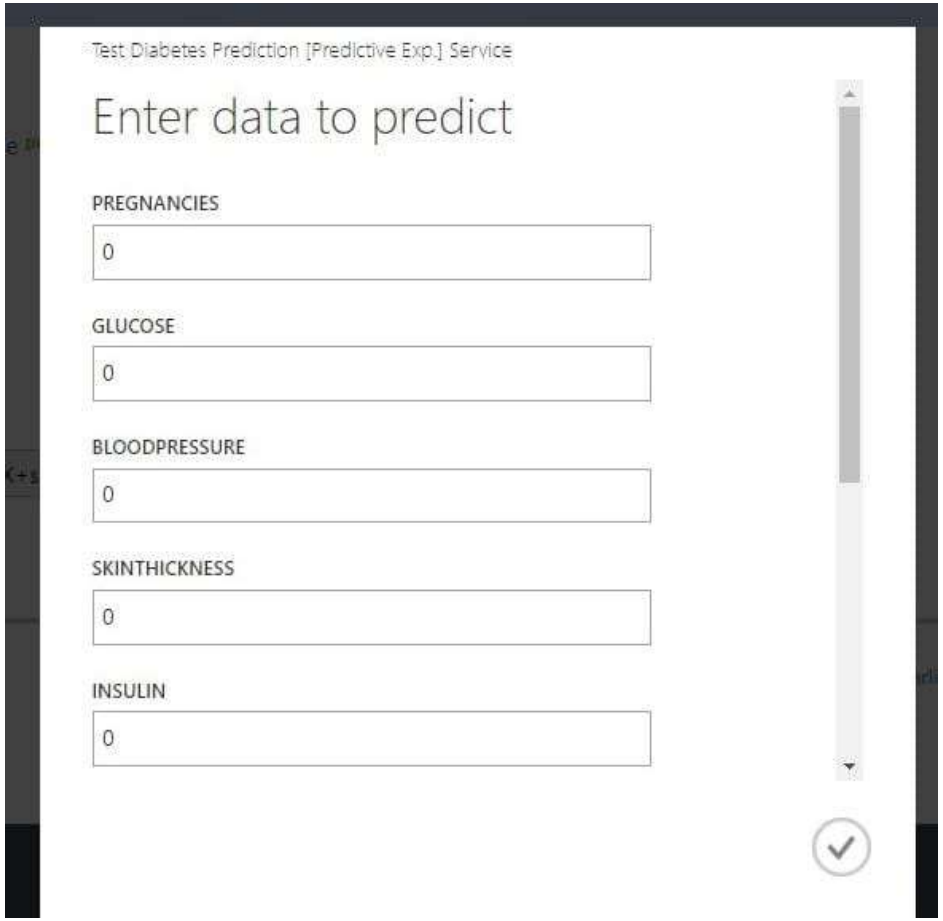


Task 6: Publishing the Trained Model as a Web Service for Inference

- You are now ready to create a web service from an Azure Machine Learning prediction model.
- When the experiment run completes successfully, you will be guided to create a Scoring or Prediction Experiment.
- The prediction experiment will automatically be created for you with a click. In the prediction experiment, the learner will be replaced with a trained model that has been automatically saved for you from your training experiment.
- Once your scoring experiment runs successfully, you will be guided to publish your trained model as a web service.



Now testing the model whether it is predicting correct output or not



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