

## **Experiment 01 : IBM Watson Machine Learning and Studio Installation.**

**Learning Objective** : Students should be able to understand features of Watson Machine Learning and install Watson Studio.

### **Theory** :

#### **IBM Watson ML and Studio Installation Guide :**

IBM Watson Machine Learning (ML) and Watson Studio are powerful tools for data science and machine learning. Here's a step-by-step guide to installing and setting up IBM Watson ML and Watson Studio:

#### **Watson Studio Installation :**

- 1. Sign up for IBM Cloud** : If you don't already have an IBM Cloud account, sign up for one on the IBM Cloud website.
- 2. Access Watson Studio** : Log in to the IBM Cloud console using your account credentials. From there, you can access Watson Studio.
- 3. Create a Project** : In Watson Studio, create a new project. This project will serve as a workspace for your data science and machine learning tasks.
- 4. Choose Environment** : Select the environment that suits your needs. Watson Studio offers various environments, including Jupyter Notebooks, RStudio, and more. Choose the one that best fits your requirements.
- 5. Add Data** : Upload or connect your data to the project. Watson Studio provides options to import data from various sources, such as local files, cloud storage, or databases.
- 6. Collaborate and Analyze** : Use the tools and features in Watson Studio to collaborate with team members, explore and analyze your data, and perform data preparation tasks.
- 7. Build and Train Models** : Utilize Watson Studio's capabilities to build and train machine learning models. You can use pre-built models or create your own using popular frameworks like Python or R.
- 8. Deploy and Monitor** : Once your models are trained, deploy them to make predictions and monitor their performance. Watson Studio provides tools to deploy models as web services or integrate them into applications.

#### **Watson ML Installation :**

- 1. Sign up for IBM Cloud** : If you haven't already, sign up for an IBM Cloud account.

2. **Access Watson Studio** : Log in to the IBM Cloud console and navigate to Watson Studio.
3. **Create a Project** : Create a new project in Watson Studio, which will serve as your workspace for machine learning tasks.
4. **Set Up Watson Machine Learning** : Within your project, set up Watson Machine Learning. This will allow you to create and deploy machine learning models.
5. **Prepare Data** : Upload or connect your data to the project. Watson Studio provides various options for importing and preparing data.
6. **Build and Train Models** : Use Watson Studio's capabilities to build and train machine learning models. You can choose from a range of algorithms and techniques.
7. **Evaluate and Deploy Models** : Evaluate the performance of your models and select the best one. Then, deploy the model to make predictions.
8. **Monitor and Improve** : Continuously monitor the performance of your deployed models and make improvements as needed.

Remember, the installation and setup process may vary depending on your specific requirements and the version of IBM Watson ML and Watson Studio you are using. It is recommended to consult the official IBM documentation for the most accurate and up-to-date instructions.

**Result and Discussion** :

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**Learning Outcomes** : Students should have the ability to

LO 1.1: Understanding of Machine Learning Concepts

LO 1.2: Basic understanding in IBM Watson ML and Studio.

**Course Outcomes** :

CO 1: Understand the working and installation of Watson ML and Studio.

**Conclusion** :

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**Viva Questions :**

Q1. What are the key features and capabilities of IBM Watson ML and Studio?

Q2. How does IBM Watson ML and Studio facilitate the development and deployment of machine learning models?

**For Faculty Use**

<b>Correction Parameters</b>	<b>Formative Assessment [40%]</b>	<b>Timely completion of Practical [ 40%]</b>	<b>Attendance / Learning Attitude [20%]</b>	<b>Total</b>
<b>Marks Obtained</b>				

