# Lab 3: Code Based Model Development & Deployment

## Introduction:

In this lab you will develop a model for deployment and governance.

Unlike the first model, in lab 2, in this lab we will build a model with a python framework scikit-learn in **watsonx.ai.** Watsonx offers many default environment templates with different hardware sizes and software configurations to help you quickly get started, without having to create your own templates. These included templates are listed on the Templates page from the Manage tab on the project's Environments page. For more information about the included environments, see [Environments](https://dataplatform.cloud.ibm.com/docs/content/wsj/analyze-data/environments-parent.html?context=wx&audience=wdp).

If the available templates don't suit your needs, you can create custom templates and determine the hardware size and software configuration. For details, see [Customizing environment templates](https://dataplatform.cloud.ibm.com/docs/content/wsj/analyze-data/customize-envs.html?context=wx&audience=wdp).

Development environments include Jupyter, Jupyterlab, RStudio, and VSCode plugin.

## German Credit Risk Synthetic Dataset

This dataset contains synthetic representations of credit applications. The data itself is varied and has demographic, financial, and other elements. It also contains a label column that determines if they are a risk, as it is a supervised learning model from prior data. We will use this dataset to generate a model that predicts if someone should be accepted or denied credit based on this data.

The data is available here as well as in the workshop box folder; <https://dataplatform.cloud.ibm.com/exchange/public/entry/view/ded91b00566440f4712f61e7a805b922?context=wx>

### Notebook: Scikit-learn Model Notebook

The notebook provides the code for the model development and deployment and also includes the rest of the lab instructions. It can be accessed in the project box folder, under Day 1 here; <https://ibm.ent.box.com/file/1586294262219>