Wine Quality Workshop

Administrator Instructions  
Domino Data Lab

# Introduction

Welcome to the Administrator section of the Wine Quality Workshop. In this module, you’ll walk through the end‑to‑end setup required to prepare your Domino deployment for a hands‑on wine‑quality prediction exercise. You’ll start by creating and configuring a dedicated Domino Organization to manage access for all participants, then build a custom compute environment pre‑loaded with the necessary Python packages and workspace tools.

Next, you’ll establish an organizational project template pointing at our Git repository, complete with default tasks to explore and process the dataset. Finally, you’ll configure an S3 data source with IAM credentials so every user can seamlessly ingest the data for modeling. These steps ensure attendees can log in, launch notebooks, and analyze and predict wine quality without manual configuration hurdles.

## Organization Configuration

We must create a Domino Organization that all users must be members of. Click **Account** and then **Account Settings**. Click **Organizations** and then **New Organization**. Name the organization **winequality-workshop** and click **Create Organization**. Now, add all the members who will attend. Note that users must have logged into Domino at least once before we can add them to an organization.

## Environment

Navigate to **Govern** and **Environments** and click **Create Environment**. Fill in the empty fields with the following information.

* Name
  + Winequality Workshop
* Description
  + This image is dedicated to the Winequality Workshop
* Base Environment/Image
  + Start from a custom base image
    - [quay.io/domino/domino-standard-environment:ubuntu22-py3.10-r4.4-domino6.0-standard](http://quay.io/domino/domino-standard-environment:ubuntu22-py3.10-r4.4-domino6.0-standard)
* Supported Clusters
  + none
* Visibility
  + Available to an Organization
    - winequality-workshop

Click **Customize before building,** and fill in the following information.

* Dockerfile Instructions
  + USER root   
    # Wine Workshop Packages   
    RUN pip install --upgrade seaborn h2o polars

RUN R --no-save -e "install.packages(c('parsnip', 'rsample', 'workflows', 'yardstick'))"  
USER ubuntu

* Pluggable Workspace Tools
  + Jupyterlab:

title: "JupyterLab"

iconUrl: "/assets/images/workspace-logos/jupyterlab.svg"

start: [ "/opt/domino/workspaces/jupyterlab/start" ]

httpProxy:

internalPath: "/{{ownerUsername}}/{{projectName}}/{{sessionPathComponent}}/{{runId}}/{{#if pathToOpen}}tree/{{pathToOpen}}{{/if}}"

port: 8888

rewrite: false

requireSubdomain: false

* Run Setup Scripts
  + Pre Run Script
    - echo "This is a Pre Run Script"
  + Post Run Script
    - echo "This is a Post Run Script"

Click **Build** to create the new Environment.

## Git Credentials

We must configure our git credentials. If you already have a PAT configured, you can skip this step as the repository is public.

Click **Account**, **Account settings**, **Git Credentials**, and finally **Add Credentials**. Next, fill in **Nickname**, **Git Service Provider** (GitHub), and **Access Type** (Personal Access Token).

## Project Template Configuration

Templates are created from projects you have configured with all the assets you need. In this case, we will configure everything needed to run the Winequality Workshop.

From your Domino home screen, click **Create Project** and name your project **Winequality-Workshop**. Leave **Project Visibility** as Private and click Next. Select **Git Service Provider**, click **Input Git URL,** and add the following repository containing everything you need.

<https://github.com/dominopetter/wine-quality-workshop.git>

Add the following three **tags** and a **description** inside the newly created project.

Tags

* training
* regression
* Sklearn

Description

* Hands-on Domino workshop focused on prediction!

Click on **Overview**, **Tasks,** and **Add Tasks**. Fill in the fields with the following information.

* Name
  + Explore Data
* Stage
  + Data Acquisition and Exploration
* Enter Task Description
  + ### Data Evaluation  
    Please evaluate the data in the S3 bucket named \*\*winequality\*\*

Click **Save**.

Click on **Create Template** in the top right corner.

Leave **Template Name** and **Description** as is, but change **Access** to **Users and organizations**, add the **winequailty-workshop** organization, and click **Next**.

On the **Content** screen, change the **Default Environment** to **Winequality Workshop**, and click **Next**.

On the **Git repository** screen, change **Repository Visibility** to **Public** and click **Create**.

## Configure Data Sources

### S3

Before we do anything inside Domino here, create an S3 bucket, name it **winequality**, and upload the file **WineQualityData.csv**, which you can find in the following link.

<https://github.com/dominopetter/wine-quality-workshop/blob/main/documentation/WineQualityData.csv>

You will need an IAM role with Read access to that S3 bucket. Have your AWS credentials ready, as you will need them when configuring the data source.

### Domino

We need to configure a data source from the Admin interface, as it will be a service account. We will not add it to the template, even though that would work perfectly to ensure we show users how to add data sources.

Click on **Account** and **Admin panel**. Next, **Manage resources** and **Data Sources**. Next, click **Create a Data Source** or **Connect to External Data** if this is your first Data Source.

1. Select Data Store
   1. Amazon S3 and fill in the details of your S3 bucket. Ensure the **Data Source Name** is **winequality**
2. Credential Type
   1. Service Account
3. Nexus Data Planes (You might not have this one depending on your deployment)
   1. Select All
4. Add Amazon S3 Service Account Credentials
   1. Fill in your **Access Key ID** and **Secret Access Key**
5. Domino Permissions
   1. Add the **winequality-workshop** organization
6. Finish Setup

You have now finished setting up the Domino Winequality Workshop.