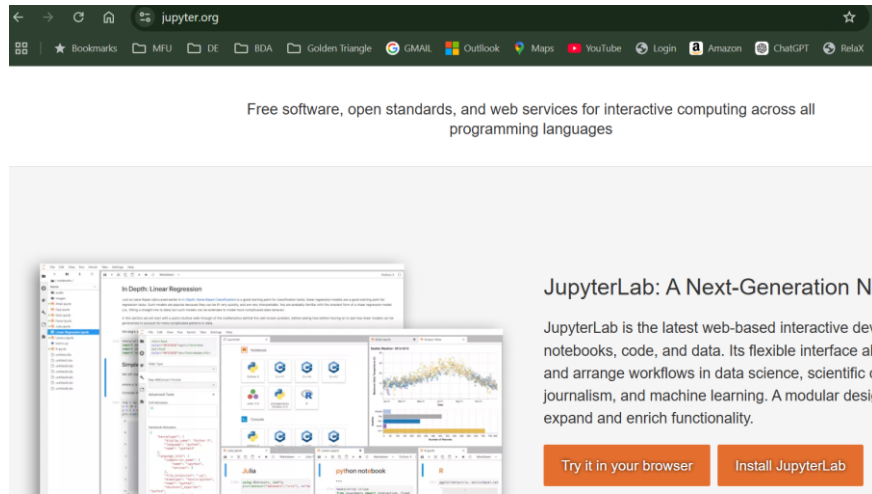


## Lab Exercise 4 – Supervised Learning

### Naïve Bayseian, Decision Tree, and SVM

#### Step 1:

Go to <https://jupyter.org/> and install Jupyter Lab.



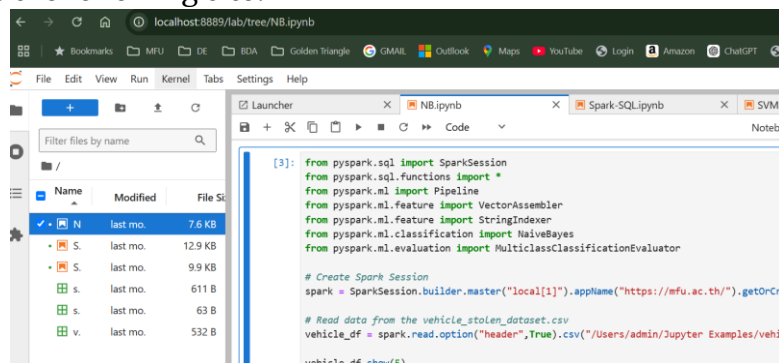
#### Step 2:

Create a folder "Jupyter Examples" in C:\ drive and execute **Jupyter Lab**  
C:\Users\Admin\Jupyter Examples>jupyter lab

```
C:\Windows\System32\cmd.exe - jupyter lab
Microsoft Windows [Version 10.0.19045.5371]
(c) Microsoft Corporation. All rights reserved.

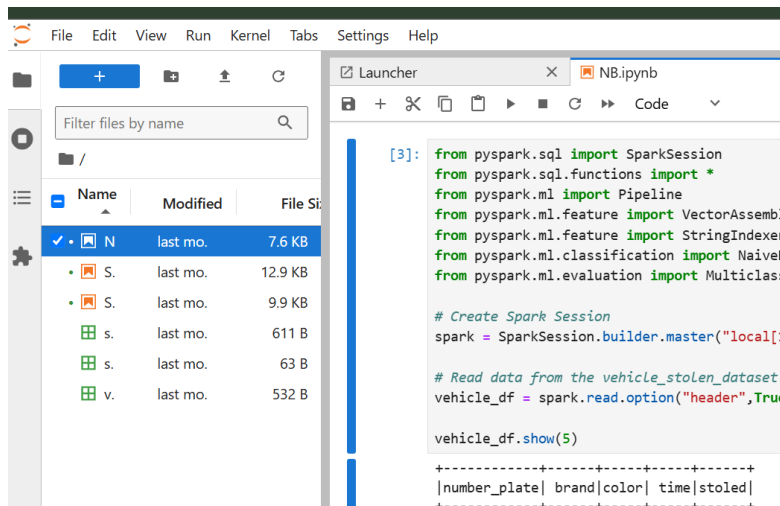
C:\Users\Admin\Jupyter Examples>jupyter lab
I 2025-01-21 11:11:09.752 ServerApp] jupyter_lsp | extension was successfully linked.
I 2025-01-21 11:11:09.763 ServerApp] jupyter_server_terminals | extension was successfully linked.
I 2025-01-21 11:11:09.777 ServerApp] jupyterlab | extension was successfully linked.
I 2025-01-21 11:11:09.788 ServerApp] notebook | extension was successfully linked.
I 2025-01-21 11:11:10.410 ServerApp] notebook_shim | extension was successfully linked.
I 2025-01-21 11:11:10.458 ServerApp] notebook_shim | extension was successfully linked.
I 2025-01-21 11:11:10.461 ServerApp] jupyter_lsp | extension was successfully loaded.
I 2025-01-21 11:11:10.463 ServerApp] jupyter_server_terminals | extension was successfully loaded.
I 2025-01-21 11:11:10.467 LabApp] JupyterLab extension loaded from C:\Users\Admin\AppData\Local\Programs\Python\Python311\Lib\site-packages\jupyterlab
```

You should see the following site:



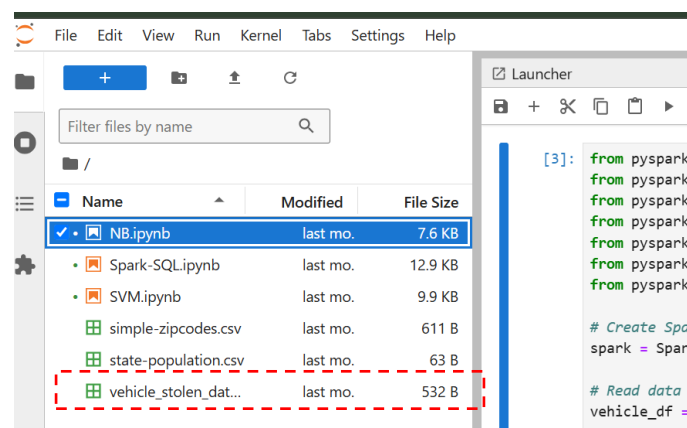
#### Step 3:

Copy and paste the code from the file: NB.ipynb into a Jupyter notebook.



#### Step 4:

Make sure to keep the dataset file **vehicle\_stolen\_dataset.csv** in the working folder.



#### Step 5:

Load the next two files *spark-SQL.ipynb* and *SVM.ipynb*. The dataset for *spark-SQL.ipynb* is *simple-zipcodes.csv*. For *SVM.ipynb*, there is no need to use any *csv* file, because *breast\_cancer()* dataset is downloaded from *sklearn.datasets*.

#### Step 6:

Record the accuracy for each program after executing the code.