**ST8701 Introduction to Programming for Data Science**

**What you will learn / do in this lab**

1. What is Jupyter Notebook?
2. How to launch Juypter Notebook
3. How to use Jupyter Notebook

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# Overview

## What you will do for this lab



In this lab, you will learn what is Jupyter Notebook and how it can be used to write and run Python programs in this module.

## Intro to Jupyter Notebook

The **Jupyter Notebook App** is a web-based application that allows you to edit and run Python programs via your favourite browser.

The Jupyter Notebook App can be executed on a local desktop requiring no internet access or can be installed on a remote server and accessed through the internet.

## Conventions used in Jupyter Notebook

Before you start using Jupyter Notebook in this module, let’s get acquainted with some jargon that is associated with this software

### Jupyter notebooks

When you use the Jupyter software to write your Python code, you save them as **Notebook documents or Jupyter notebooks**. Notebook documents have an extension of **.pynb**.

Jupyter notebooks are mark-up documents that contain both programming code and rich text elements such as images, links, equations etc.

A typical Jupyter notebook may look something like this:-

### notebook kernel

A notebook kernel is a “computational engine” that executes the code contained in a Jupyter notebook.

In this module, we will be using the **ipython kernel**. Though we would not be using them, kernels for other languages exist, e.g. R and Julia.

When you open a Notebook document, the associated kernel is automatically launched. When the notebook is executed, the kernel performs the computation and produces the results. Depending on the type of computations, the kernel may consume significant CPU and RAM. Note that the RAM is not released until the kernel is shut-down.

### Notebook Dashboard

The Notebook Dashboard is the component which is shown first when you launch Jupyter Notebook App.

The Notebook Dashboard is mainly used to open notebook documents, and to manage the running of the kernels.

In addition, the Notebook Dashboard has other features similar to a file manager, namely navigating folders and renaming/deleting files.

# Running the Jupyter Notebook App

In this section, you will learn how to launch the Jupyter Notebook app on your laptop.

There are two methods in which you can launch the app:

* Method 1 – Manually via the command prompt
* Method 2 – Via Jupyter shortcut



## Create a folder to store your notebooks

| No | Task |
| --- | --- |
|  | Before you proceed, create a folder where you would store your Jupyter notebooks.  When naming your folder, choose a name as short as possible and do not use spaces or other special symbols in it.  For example, I have designated **D:\jupyter** as the directory where I would store my files. |



## Launch app manually

| No | Task |
| --- | --- |
|  | In Windows search bar: Type Jupyter  Launch Jupyter Notebook (Anaconda3) |
|  | After a while, the Jupyter Notebook dashboard will automatically be shown in your default browser as shown below |
|  | |
|  | Create a source code folder on desktop name: python |
| Click on the square box to select the Untitle Folder (blue tick).  Select Rename -> python | |
|  | |
| Select python folder | |
| Select New -> Python3 (ipykernel) | |
| Place the following code in the In [] : box.  name = input ("What is your name?")  print ("Hello " + name) | |
|  | |
| Click File -> Save as  Filename -> example1 | |
| Click – Run to execute the python code. | |
|  | |
| The Jupyter notebook is ready and you can use it for coding Python application. | |



**-- End of Practical --**