**Jupyter Notebooks and JupyterLab**

1. **Introduction to Jupyter Notebooks**

**Origin of Jupyter Notebooks**

* Originated as “iPython”
* Stands for:
  + Julia
  + Python
  + R
* Supports many other languages nowadays:
  + Java
  + MATLAB
  + Scala
  + Octave
  + Ruby
  + JavaScript

**What is a Jupyter Notebook?**

* Records Data Science experiments
* Allows combining text, code blocks, and code output in a single file
* Exports the notebook to a PDF or HTML file format

**JupyterLab**

* Allow access to multiple Jupyter Notebook files, other code, and data files
* Enables working in an integrated manner
* Is compatible with several formats
* Is an open source
* Cloud-based services:
  + IBM
  + Google Collab
* Installation:
  + Windows: pip install jupyterlab
  + Download from ANACONDA.com

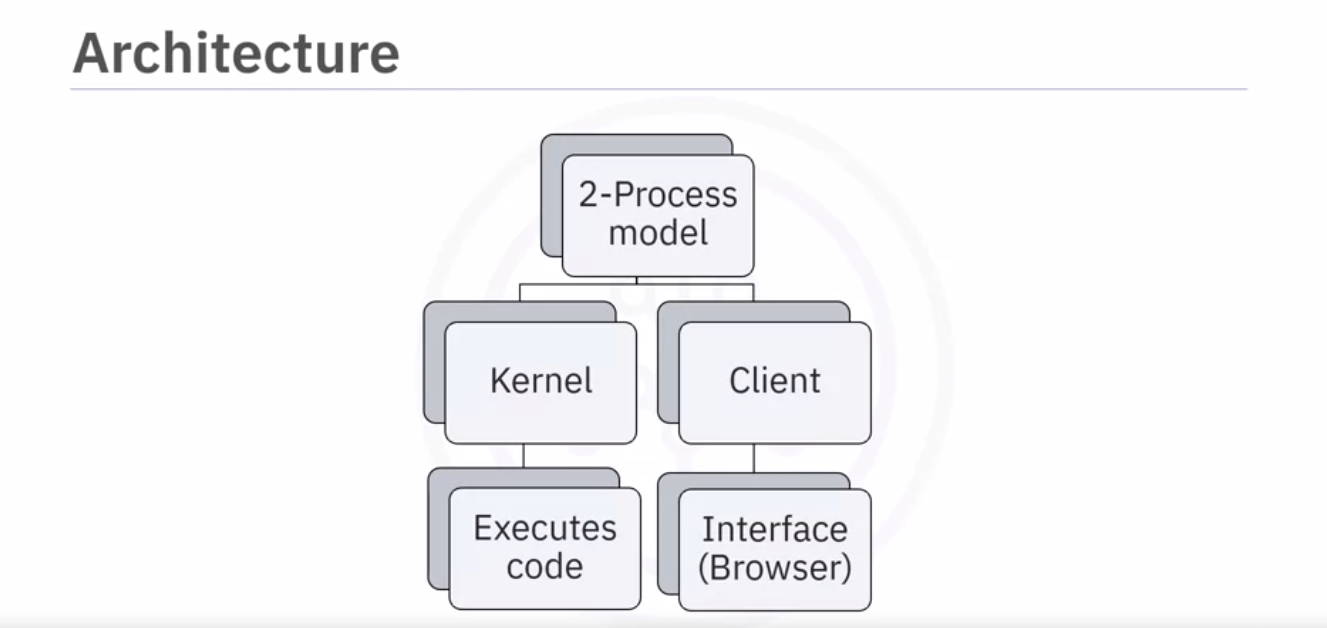
1. **Getting Started with Jupyter**
2. **Hands-on Lab: Getting Started with Jupyter Notebooks**

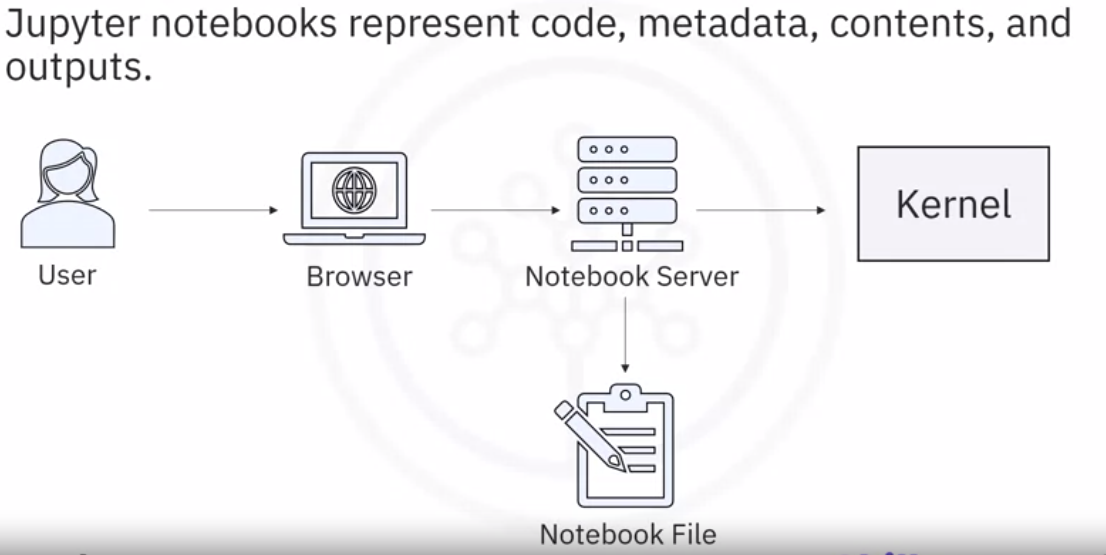
[Link](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/jupyterlite/latest/lab/index.html?notebook_url=https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DS0105EN-SkillsNetwork/labs/Labs_V4/Getting_Started_with_JupyterNotebook-20221213-1670889600.jupyterlite.ipynb)

1. **Jupyter Kernels**

* Is a computational engine that executes the code contained in a Notebook file
* Exists for many languages
* Launches when a Jupyter Notebook is opened
* Performs the computation when the Notebook is executed

1. **Hands-on Lab: Using Markdown on Jupyter Notebooks**
2. **Jupyter Architecture**

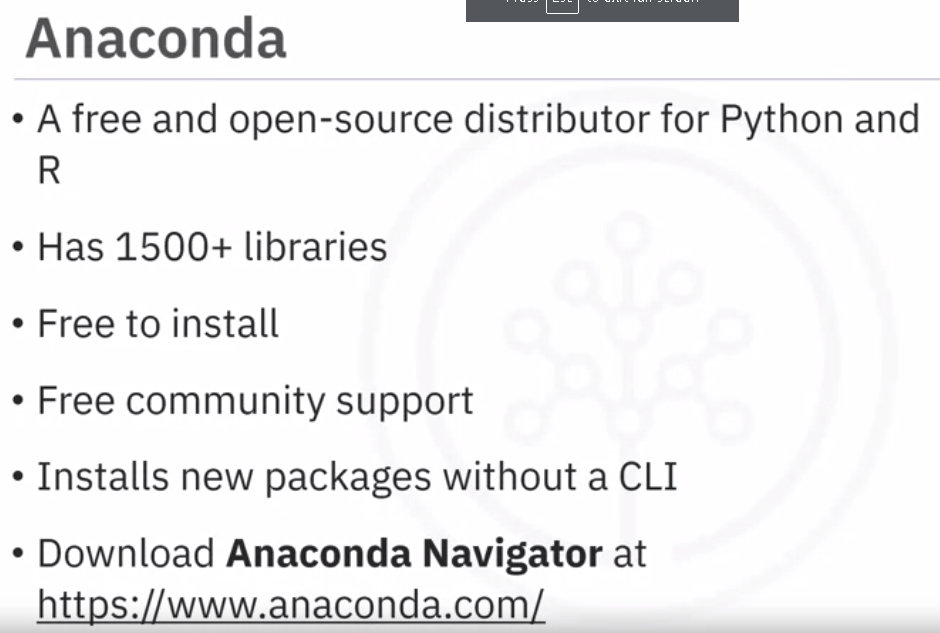
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1. **Hands-on Lab: Working with Files in Jupyter Notebooks**
2. **Additional Anaconda Jupyter Envorinment**

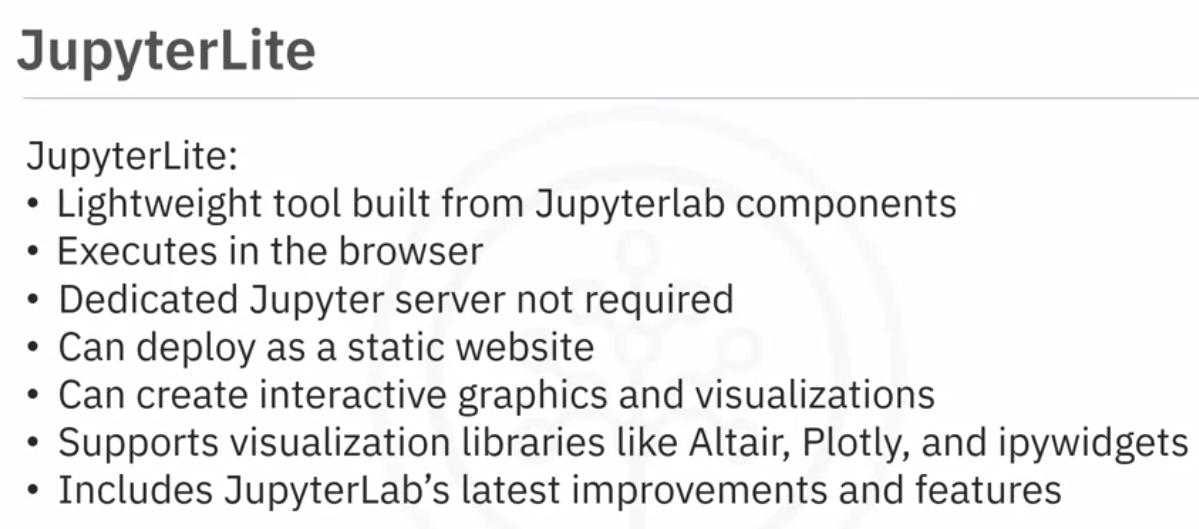
**Computational notebooks**

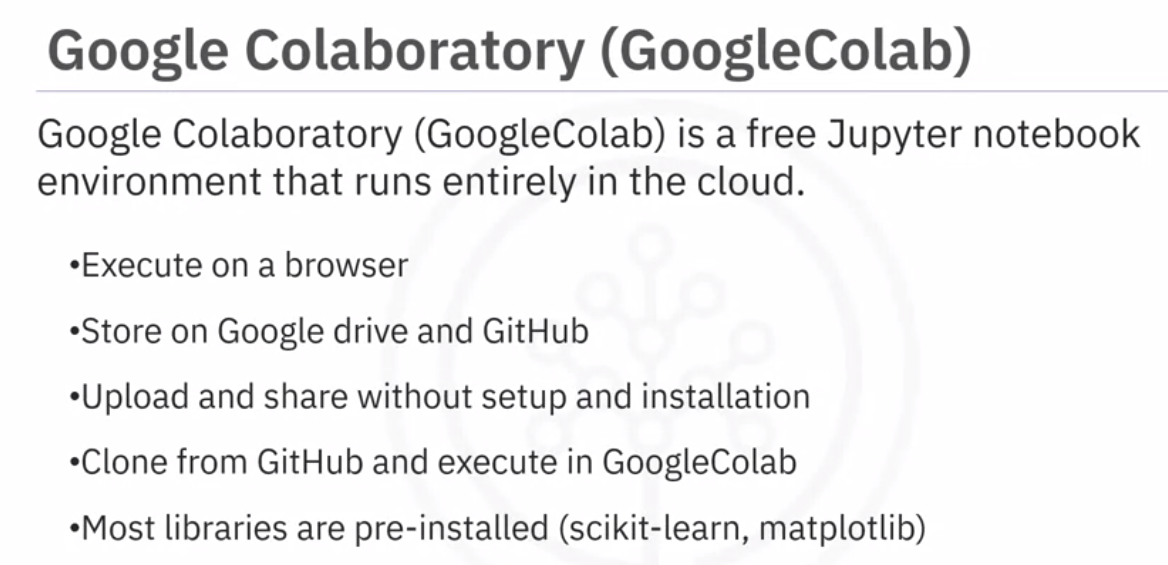
* Combine code, computational output, explanatory text, and multimedia resources in a single document.

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1. **Additional Cloud Based Jupyter Environment**

**JupyterLite, Google Colab**

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1. **Hands-on Lab: Download & Install Anaconda on Windows**
2. **Jupyter Notebooks on the Internet**

[Link](https://author-ide.skills.network/render?token=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJtZF9pbnN0cnVjdGlvbnNfdXJsIjoiaHR0cHM6Ly9jZi1jb3Vyc2VzLWRhdGEuczMudXMuY2xvdWQtb2JqZWN0LXN0b3JhZ2UuYXBwZG9tYWluLmNsb3VkL0lCTURldmVsb3BlclNraWxsc05ldHdvcmstRFMwMTA1RU4tU2tpbGxzTmV0d29yay9sYWJzL01vZHVsZTJfQ291cnNlcmEvSnVweXRlck5vdGVib29rb25JbnRlcm5ldC5tZCIsInRvb2xfdHlwZSI6Imluc3RydWN0aW9uYWwtbGFiIiwiYWRtaW4iOmZhbHNlLCJpYXQiOjE3MTE1NjIyODN9.7Q7uvHeoGThu6YQG2CZXeapfN59iA3fbp1AgsakUTvo)