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## News & Events

- **1st - 2nd July 2019** - Workshop on Data Science, College of Engineering, Trivandrum, Kerala
- **27th May 2019** - Introduction to Machine Learning, VJEC, Kannur, Kerala
- **20th to 24th May 2019** - Summer School on Deep Learning, CUSAT, Cochin, Kerala

more....



Download materials  
as zip file



# Download materials as zip file

cetDS



# Jupyter Notebook

# ACTIVATING CONDA



```
rpkm@rpkm-lp:~  
rpkm@rpkm-lp:~$ _
```

Ctrl + Alt + T

# ACTIVATING CONDA



```
rpkg@rpkg-lp: ~  
rpkg@rpkg-lp:~$ conda activate vcdl_
```

# ACTIVATING CONDA



```
rpk@rpk-lp:~$ source activate vcdl_
```



# ACTIVATING CONDA



```
rpkg@rpkg-lp:~  
(vcdl) rpkg@rpkg-lp:~$ _
```

# JUPYTER NOTEBOOK



```
rpk@rpk-lp: ~  
(vcdl) rpk@rpk-lp:~$ mkdir MachineLearning_
```

# JUPYTER NOTEBOOK



```
rpkg@rpkg-lp: ~  
(vcdl) rpkg@rpkg-lp:~$ cd MachineLearning/_
```

# JUPYTER NOTEBOOK



```
rpk@rpk-lp: MachineLearning
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$ jupyter notebook_
```

# JUPYTER NOTEBOOK



```
rpk@rpk-lp: MachineLearning
[I 21:44:17.930 NotebookApp] Serving notebooks from local directory: /home/rpk/M
achineLearning
[I 21:44:17.930 NotebookApp] The Jupyter Notebook is running at:
[I 21:44:17.930 NotebookApp] http://localhost:8888/?token=bbf264649a5b28644ff5a8
179f789c61b4be1401dfa18fab
[I 21:44:17.930 NotebookApp] Use Control-C to stop this server and shut down all
kernels (twice to skip confirmation).
[C 21:44:17.933 NotebookApp]

To access the notebook, open this file in a browser:
file:///run/user/1000/jupyter/nbserver-6212-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=bbf264649a5b28644ff5a8179f789c61b4be1401dfa
18fab
[6223:6245:0401/214418.261184:ERROR:browser_process_sub_thread.cc(209)] Waited 5
ms for network service
Opening in existing browser session.
-
```

Do not close this terminal when jupyter is running

# JUPYTER NOTEBOOK



Home

localhost:8889/tree

QuitLogout

FilesRunningClusters

Select items to perform actions on them.

UploadNew↻

0 ▾

/

Name ▾

Last Modified

File size

The notebook list is empty.

# JUPYTER NOTEBOOK



Home x +

localhost:8888/tree

jupyter

Quit Logout

Files Running Clusters

Select items to perform actions on them.

Upload New Refresh

0 /

Name

The notebook list is empty.

Notebook:  
Python 3

Other:  
Text File  
Folder  
Terminal

# JUPYTER NOTEBOOK



The screenshot shows the Jupyter Notebook interface in a web browser. The browser's address bar displays the URL `localhost:8888/notebooks/Untitled.ipynb?kernel_name=python3`. The Jupyter header includes the logo, the text "jupyter Untitled (unsaved changes)", a Python logo, and a "Logout" button. Below the header is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Trusted" and "Python 3". A toolbar below the menu bar contains icons for saving, creating a new file, deleting, copying, pasting, undo, redo, running, and a dropdown menu currently set to "Code". The main workspace features a single code cell with the prompt `In [ ]:` and an empty text input field.

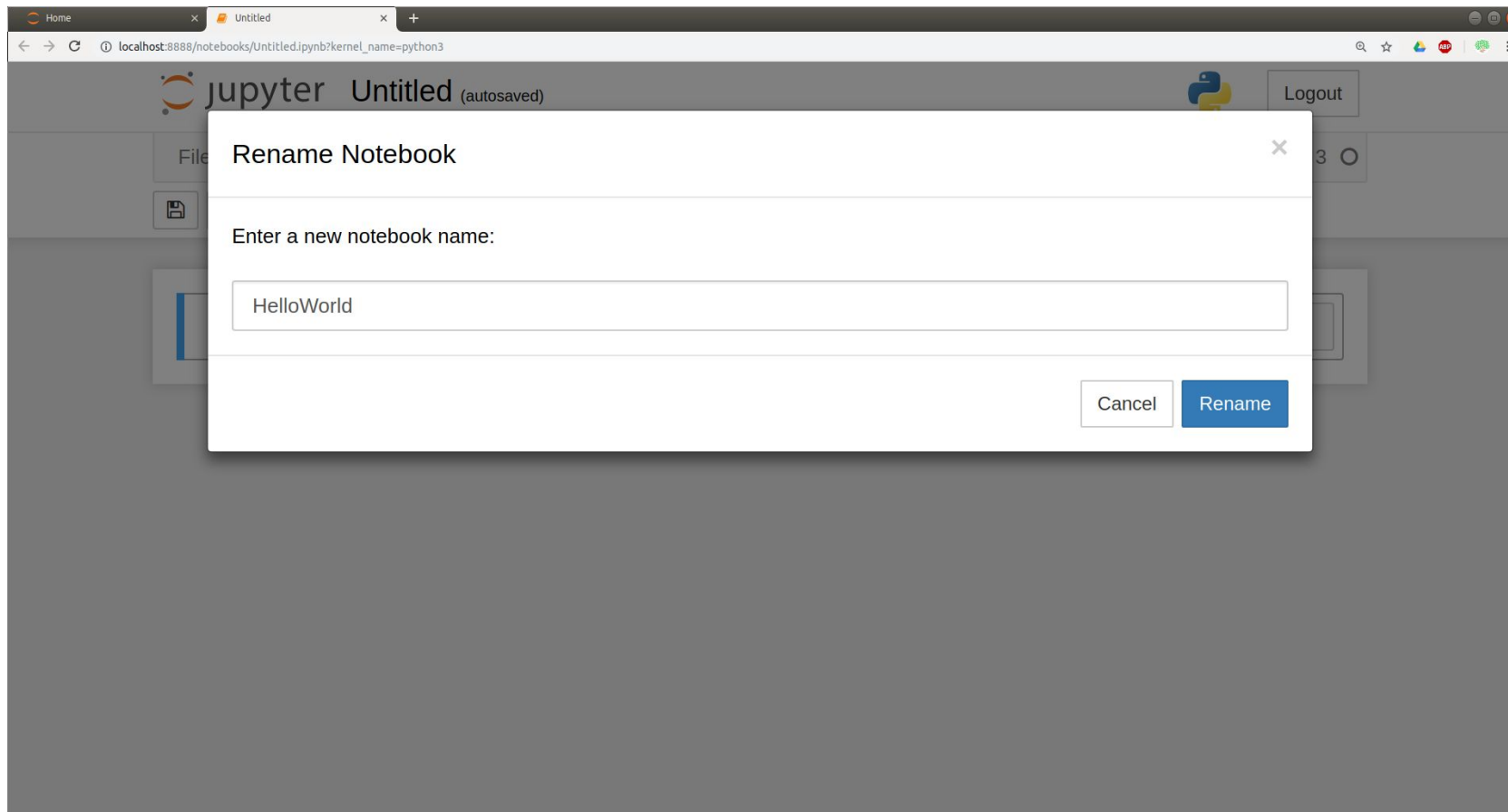


# JUPYTER NOTEBOOK



The screenshot shows the Jupyter Notebook interface in a web browser. The browser's address bar displays the URL `localhost:8888/notebooks/Untitled.ipynb?kernel_name=python3`. The page title is "jupyter Untitled (unsaved changes)". A red arrow points to the word "Untitled" in the title. The interface includes a menu bar with "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". To the right of the menu bar are buttons for "Trusted" and "Python 3". Below the menu bar is a toolbar with icons for saving, creating a new file, deleting, copying, pasting, undo, redo, and running code. The main area contains a single code cell with the prompt "In [ ]:" followed by an empty text input field.

# JUPYTER NOTEBOOK



# JUPYTER NOTEBOOK



The screenshot displays the Jupyter Notebook web interface in a browser. The address bar shows the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The page title is "jupyter HelloWorld (autosaved)". A "Logout" button is visible in the top right corner. Below the title bar is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Trusted" and "Python 3". Below the menu bar is a toolbar with icons for saving, adding, deleting, and running cells. The main area of the notebook shows a code cell with the prompt "In [ ]:" followed by a text input field.

# JUPYTER NOTEBOOK



The screenshot displays the Jupyter Notebook web interface in a browser. The address bar shows the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The page title is "jupyter HelloWorld (autosaved)". A "Logout" button is located in the top right corner. Below the title bar is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are "Trusted" status indicators, a pencil icon, and a "Python 3" dropdown menu. Below the menu bar is a toolbar with icons for saving, creating a new cell, deleting a cell, duplicating a cell, moving a cell up/down, running the cell, interrupting the kernel, and restarting the kernel. A dropdown menu in the toolbar is set to "Code". The main area of the notebook shows a single code cell with the prompt `In [ ]:` followed by an empty text input field.

# JUPYTER NOTEBOOK



Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes)

Python Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run Code

```
In [ ]: print("Hello World")
```

# JUPYTER NOTEBOOK



The screenshot displays a Jupyter Notebook web interface. The browser address bar shows `localhost:8888/notebooks/HelloWorld.ipynb`. The notebook title is "HelloWorld (unsaved changes)". The top menu bar includes "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". On the right, there is a "Trusted" status indicator, a pencil icon, and a "Python 3" dropdown menu. Below the menu is a toolbar with icons for saving, adding cells, cutting, copying, pasting, undo, redo, and running code. The main area contains a single code cell with the text `In [ ]: print("Hello World")|`. The cursor is at the end of the line. An arrow points from the text "Shift + Enter" below the notebook to the cursor position.

Shift + Enter

# JUPYTER NOTEBOOK



Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes) Python Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Save Add Delete Copy Paste Undo Redo Run Stop Restart Code Keyboard

```
In [1]: print("Hello World")
```

Hello World

```
In [ ]:
```

# JUPYTER NOTEBOOK



The screenshot shows the Jupyter Notebook interface in a web browser. The browser's address bar displays `localhost:8888/notebooks/HelloWorld.ipynb`. The notebook's title bar shows the Jupyter logo, the text "jupyter HelloWorld (unsaved changes)", a Python logo, and a "Logout" button. Below the title bar is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Trusted" and "Python 3". Below the menu bar is a toolbar with icons for saving, creating a new cell, deleting a cell, copying, pasting, moving up/down, running the cell, interrupting the kernel, and refreshing. The main area contains two code cells. The first cell has the input `In [1]: print("Hello World")` and the output `Hello World`. The second cell is empty, showing `In [ ]:` followed by a text input field. A blue vertical bar is on the left side of the second cell. An arrow points from the text "Esc" below to this blue bar.

Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes) Python Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Save New Cell Delete Copy Paste Move Up Move Down Run Interrupt Refresh Code Keyboard

```
In [1]: print("Hello World")
Hello World
```

```
In [ ]:
```

Esc



# JUPYTER NOTEBOOK



The screenshot shows a web browser window with the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The Jupyter Notebook interface includes a top bar with the Jupyter logo, the text "HelloWorld (unsaved changes)", a Python logo, and a "Logout" button. Below this is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. A "Trusted" status indicator and "Python 3" are also visible. The toolbar contains icons for saving, adding a new cell, cutting, copying, pasting, undo, redo, running a cell, and a dropdown menu currently set to "Markdown".

The main area displays a code cell with the following content:

```
In [1]: print("Hello World")
```

Below the code, the output "Hello World" is shown. A new line is being entered, indicated by a blue vertical cursor bar. An arrow labeled "M" points to this cursor bar.

# JUPYTER NOTEBOOK



The screenshot shows a Jupyter Notebook interface in a web browser. The browser's address bar displays `localhost:8888/notebooks/HelloWorld.ipynb`. The notebook's title bar shows "jupyter HelloWorld (unsaved changes)" and a "Logout" button. Below the title bar is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Trusted" and "Python 3". Below the menu bar is a toolbar with icons for saving, adding, deleting, copying, pasting, undo, redo, and running code. The main area of the notebook contains two cells. The first cell is a code cell with the text `In [1]: print("Hello World")` and the output `Hello World`. The second cell is a markup cell with the text `# Hello World Program`, `## Documented inside a markup cell`, and `Here goes the explanation of code`. A blue vertical bar is on the left side of the markup cell. An arrow points from the text "Shift + Enter" to the bottom right corner of the markup cell.

Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run

In [1]: `print("Hello World")`

Hello World

**# Hello World Program**  
**## Documented inside a markup cell**  
Here goes the explanation of code

Shift + Enter

# JUPYTER NOTEBOOK



Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes) Python Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run Code

```
In [1]: print("Hello World")
```

Hello World

## Hello World Program

### Documented inside a markup cell

Here goes the explanation of code

```
In [ ]: |
```

# JUPYTER NOTEBOOK



The screenshot displays a Jupyter Notebook interface in a web browser. The browser's address bar shows the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The notebook's title bar reads "jupyter HelloWorld (unsaved changes)" and includes a "Logout" button. Below the title bar is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Trusted", a pencil icon, and "Python 3". Below the menu bar is a toolbar with icons for saving, adding a new cell, deleting a cell, copying, pasting, undo, redo, and running the code. The main area of the notebook contains two cells. The first cell is a code cell with the prompt `In [1]:` followed by the code `print("Hello World")`. Below the code, the output "Hello World" is displayed. The second cell is a markup cell with the heading 

## Hello World Program

, followed by the text **Documented inside a markup cell** and the sentence "Here goes the explanation of code". Below the markup cell is an empty code cell with the prompt `In [ ]:` and a cursor.

To delete cell, press 'd + d'

# JUPYTER NOTEBOOK



Home x HelloWorld x +

localhost:8888/notebooks/HelloWorld.ipynb

jupyter HelloWorld (unsaved changes) Python 3 Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run Code

```
In [1]: print("Hello World")
```

Hello World

## Hello World Program

### Documented inside a markup cell

Here goes the explanation of code

```
In [ ]: |
```

To add a new cell above, press 'A'

# JUPYTER NOTEBOOK



The screenshot displays the Jupyter Notebook web interface in a browser. The address bar shows the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The page title is "jupyter HelloWorld (unsaved changes)". The top navigation bar includes "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". On the right, there is a "Trusted" status indicator, a pencil icon, and a "Python 3" dropdown menu. Below the navigation bar is a toolbar with icons for saving, adding a new cell, deleting, copying, pasting, and running code. The main content area contains a code cell with the following text:

```
In [1]: print("Hello World")
```

Below the code cell, the output "Hello World" is displayed. The cell is titled "Hello World Program" and "Documented inside a markup cell". Below the title, the text "Here goes the explanation of code" is present. At the bottom of the cell, there is an input field for a new code cell, labeled "In [ ]:".

To add a new cell below, press 'B'

# JUPYTER NOTEBOOK



The screenshot displays the Jupyter Notebook web interface in a browser. The address bar shows the URL `localhost:8888/notebooks/HelloWorld.ipynb`. The page title is "jupyter HelloWorld (autosaved)". A "Logout" button is visible in the top right. The main menu includes "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". The "Trusted" status and "Python 3" environment are indicated. The toolbar contains icons for saving, creating new files, copying, pasting, undo, redo, running, and a dropdown menu currently set to "Code".

The notebook content consists of a markup cell with the following text:

## Hello World Program

Documented inside a markup cell

Here goes the explanation of code

Below the text are three input areas for code cells, each labeled "In [ ]:" on the left. The second input area is currently selected, indicated by a blue vertical bar on its left side.

# JUPYTER NOTEBOOK

A screenshot of the Jupyter Notebook web interface. The browser address bar shows 'localhost:8888/tree'. The Jupyter logo is on the left, and 'Quit' and 'Logout' buttons are on the right. Below are tabs for 'Files', 'Running', and 'Clusters'. A message says 'Select items to perform actions on them.' followed by 'Upload', 'New', and a refresh icon. A file list shows a folder '/' and a file 'HelloWorld.ipynb' with a checkbox, last modified 'an hour ago', and size '1.23 kB'. A red arrow points from the file list area to the 'Quit' button.

Home x +

localhost:8888/tree

jupyter

Quit Logout

Files Running Clusters

Select items to perform actions on them.

Upload New ↕ ↻

<input type="checkbox"/>	0 ▾	📁 /	Name ▾	Last Modified	File size
<input type="checkbox"/>		📄 HelloWorld.ipynb		an hour ago	1.23 kB



# JUPYTER NOTEBOOK



```
rpk@rpk-lp: MachineLearning
[I 21:44:17.930 NotebookApp] The Jupyter Notebook is running at:
[I 21:44:17.930 NotebookApp] http://localhost:8888/?token=bbf264649a5b28644ff5a8179f789c61b4be1401dfa18fab
[I 21:44:17.930 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 21:44:17.933 NotebookApp]

To access the notebook, open this file in a browser:
    file:///run/user/1000/jupyter/nbserver-6212-open.html
Or copy and paste one of these URLs:
    http://localhost:8888/?token=bbf264649a5b28644ff5a8179f789c61b4be1401dfa18fab
[6223:6245:0401/214418.261184:ERROR:browser_process_sub_thread.cc(209)] Waited 5 ms for network service
Opening in existing browser session.
[I 21:45:23.856 NotebookApp] Shutting down on /api/shutdown request.
[I 21:45:23.857 NotebookApp] Shutting down 0 kernels
(vcdl) rpk@rpk-lp:MachineLearning$ _
```

# JUPYTER NOTEBOOK



```
rpk@rpk-lp: MachineLearning
file:///run/user/1000/jupyter/nbserver-6212-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=bbf264649a5b28644ff5a8179f789c
61b4be1401dfa18fab
[6223:6245:0401/214418.261184:ERROR:browser_process_sub_thread.cc(2
09)] Waited 5 ms for network service
Opening in existing browser session.
[I 21:45:23.856 NotebookApp] Shutting down on /api/shutdown request
.
[I 21:45:23.857 NotebookApp] Shutting down 0 kernels
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$ source deactivate
```

# JUPYTER NOTEBOOK



```
rpk@rpk-lp: MachineLearning
Or copy and paste one of these URLs:
  http://localhost:8888/?token=bbf264649a5b28644ff5a8179f789c
61b4be1401dfa18fab
[6223:6245:0401/214418.261184:ERROR:browser_process_sub_thread.cc(2
09)] Waited 5 ms for network service
Opening in existing browser session.
[I 21:45:23.856 NotebookApp] Shutting down on /api/shutdown request
.
[I 21:45:23.857 NotebookApp] Shutting down 0 kernels
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$
(vcdl) rpk@rpk-lp:MachineLearning$ source deactivate
rpk@rpk-lp:MachineLearning$
```



# Google Colab

Google\_Colab.pdf