Castaneda_ipythonexercise_part3

February 12, 2015

1 Answer for IPython Exercise Part 3

1. A web application is a browser-based tool used for interactive authoring of documents that combine explanatory text, mathematics, computations and their rich media output

A notebook documents is a representation of all content visible in the web app; this includes inputs, outputs of the computations, explanatory texxt, math, images, and rich media representations.

2.) In a browser, editing for code includes automatic syntax highlighting, indention, and tab completion/introspection. It then displays into HTML, LaTeX, PNG, SVG, etc.

```
In [1]: from IPython.display import YouTubeVideo
        YouTubeVideo('VaV10VNZCLA')
```

```
Out[1]: <IPython.lib.display.YouTubeVideo at 0xb661a0ec>
```

4.) JSON is short for JavaScript Object Notation; is a way to store information in an organized, easy to access and readable manner.

5.) Yes. IT is because it is a file that can be edited.

6.) IPython Notebook Viewer(nbviewer) is a service that loads the notebook document from the URL and renders it as a static web page.

7.) In the terminal, type ipython notebook; http://127.0.0.1:8888

8.) –port

9.) –no-browser

10.) By clicking on the "New Notebook" button.

11.) Kernel is a program that runs and introspects user's code. IPython has a kernel for Python code. People write kernels for other languages.

12.) Notebooks with an active kernel has a "Shutdown" button while Notebooks without an active kernel has a "Delete" button.

13.) 2015-02-12 20:59:17.844 [NotebookApp] Kernel started: 1bb2fb8b-ceb7-453a-a57d-44dcd2896374

14.) ipython qtconsole –existing 87f7d2c0

15.) Notebook 'name' - Name of the notebook that is displayed on the top of the page and is editable.

Menu Bar - it presents diferrent options that may be used to manipulate the way the notebook functions.

Toolbar - Gives a quick way of performing most-used operations in the notebook.

Code cell - Default type of the cell.

16.) A cell is a multi-line text input field

17.) A cell can be executed by using Shift-Enter or clicking the Play button or Cell->Run in the menu bar

18.) Code cells- is where the code is entered and allows you to edit and write new code; with full syntax highlighting and introspection. By default, it handles Python language but Julia and R can be handled using cell magic commands.

Markdown cells - It allows the user to format the text; for example rich text

Raw cells - Text entered in this cell are not evaluated by the notebook, it is unformatted in any way.

Heading cells- used for entering headings in the notebook.

```
In [ ]: from IPython.display import Image
        i = Image(filename='shut.png')
        i
```

```
In [ ]: from IPython.display import Image
        i = Image(filename='pm.png')
        i
```

21.) Kernel-> Interrupt Ctrl-M I
22.) Kernel->Restart Ctrl-M
23.) Shift-enter(Run cell) -executes the code inside the cell the automatically jumps to the next cell
Ctrl-Enter(Run cell in-place) - runs the cell like in the terminal mode
Alt-Enter(Run cell, insert below) - Runs the cells and inserts a new cell below the cell being run.
Esc - goes to command mode
Enter - inserts a new line.
24.) %matplotlib
25.) The matplotlib backend
26.) The gtk backend is a user-interface for matplotlib
27.) The inline backend
28.) ipython locate
29.) ipython profile create
30.) ipython nbconvert –to FORMAT [filename.ipynb]
31.) The default output format is HTML
32.) Latex, slideshow, markdown, RestructuredText(rsT), Python script(py)
33.) By setting the NotebookApp.password configurable
34.) IPYthon.lib.security.passwd():
35.) By setting NotebookApp.password
36.) It is a good idea to use SSL so that the password is encrypted and is not sent unencrypted by your browser(which is dangerous).
37.) openssl req -x509 -nodes -days 365 -newkey rsa:1024 -keyout mycer.pem -out mycert.pem
The command above writes the certificate to the same file
38.) By using the following commands: ipython profile create nbserver
39.) Unauthorized clients
Unauthorized engines
Unauthorized controllers
40.) The notebook server can be protected by using a simple single password. It can be set as mentioned in the above items. The only source for its security is via ssh-tunnel. IPython supports both shell for connections. There is a key necessary to submit a request but due to lack of encryption, it does not provide a good security if loopback traffic is compromised.