Jupyter and Github Website Help Document:

Updated: May 3, 2022

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How to Make a Jupyter Notebook Site:

1.) Navigate to a folder or location on your system where you want your website to be. Open a new terminal and use the command below to create a template book. More information on the structure of the book can be found at https://jupyterbook.org/en/stable/start/create.html.

   jupyter-book create yourbookname/

2.) Navigate to the location of the new template you created in a terminal and open the jupyter notebook with the 'jupyter notebook' command.

   cd yourbookname/

   jupyter notebook

3.) You can now add files to the notebook. The 495 website uses markdown files for display. Each file you want to be displayed must be included in the table of contents (toc.yml) file. The examples in the template book are the intro.md and markdown.md files. A helpful site for more information on table of contents structure can be found at https://jupyterbook.org/en/stable/structure/toc.html.

4.) You cannot include .ipynb with ROS in the table of contents file (toc.yml) because the website will not build. These must be converted to markdown files by opening them in the jupyter notebook, File-> Download as-> Markdown (.md).

5.) After you download the .ipynb file as a markdown file, you can then include it on the table of contents file. To include the .ipynb file as a supplemental text, add the .ipynb file to your website folder, do not add it to your table of contents file, but include the following line in the downloaded markdown file somewhere a reader may see it and be referenced to the .ipynb file. This line will not work when/if the website is transferred to the github.io website.

   [Run this file as an executable Jupyter Notebook](http://localhost:8888/notebooks/your_file_name.ipynb)

   When the user opens the markdown file, they will be able to open the jupyter version as well.

6.) It is suggested to make a Figures folder so the files do not get too cluttered.

7.) You can add the website name and author in the _config.yml file.

8.) After the table of contents file (toc.yml) is updated you have to build the site. To build the site, close the jupyter notebook and navigate to the location of your jupyter notebook but do not enter the notebook folder in a new terminal. For example, the 495 site is located at:

cd robotics_ws/src/usafabot/

Next, build the site with the command:

jupyter-book build yourbookname/

This should build/update the jupyter notebook site.

9.) If a file requires pictures, you must move the .jpg or .png files from the Figures file you created in step 4 to the /yourbookname/build/html/Figures folder because they don't migrate automatically all the time.

10.) You can open the new jupyter notebook website by navigating to /yourbookname/build/html/ and clicking any on the .html files.

How to Move a Jupyter Notebook Site to a github.io Site:

1.) Instructions are adapted from https://pages.github.com/

2.) First, navigate to the area you created the jupyter notebook site in the file explorer. Enter the _build/html/ folder and copy all the files and folders.

3.) Go to the repository that you would like to host the website.

4.) Create a /docs folder in the repository.

5.) Paste all the files that you copied in step 2 into the /docs folder. These files will not include any .ipynb files that may be referenced. The .ipynb files must be moved from your jupyter notebook site file to the /docs folder separately.

6.) Follow the instructions on the https://pages.github.com/ page to create the website.

7.) Once your website is created, you must make changes to the markdown files that include .ipynb links as they will not work anymore. You can add the following instructions to the markdown files that reference .ipynb files:

You must open this file as a Jupyter Notebook (link below) to run code

Navigate to the appropriate folder by copy and pasting the below command into a new terminal:

```bash
cd ~/master_ws/src/usafabot/docs
```

Then open a jupyter notebook by pasting the below command into the same terminal:

```bash
jupyter notebook
```

You can now open this file as a Jupyter Notebook by clicking the link below:

[Run this file as an executable Jupyter Notebook](http://localhost:8888/notebooks/Module9_ComputerVision.ipynb)

8.) Your website should now be up! Navigate to the Settings tab in your repository, go to the Pages tab on the left of your page, and the url of your site should be in a green box.

Additional Notes:

How to Include Figures in the Notebook/Markdown Files:

1.) To include figures and pictures in your markdown files, you must first add the .jpg or .png files to your website folder. The suggested method is to include your figure and picture files in a folder called Figures.

2.) In the desired markdown file, include the following line where you would like your picture to appear:

   ![logo](Figures/YourPicture.JPG)

   Or

   ![logo](Figures/YourPicture.PNG)

3.) This method assumes that you are using the Figures folder suggested in the setup instructions.

4.) This method will auto-size your figures and pictures to the user's screen when the website is built.

5.) Finally, rebuild your site and open your website.