

登录手册

登录要求

为了能够使用FyTok，必须满足下面需求：

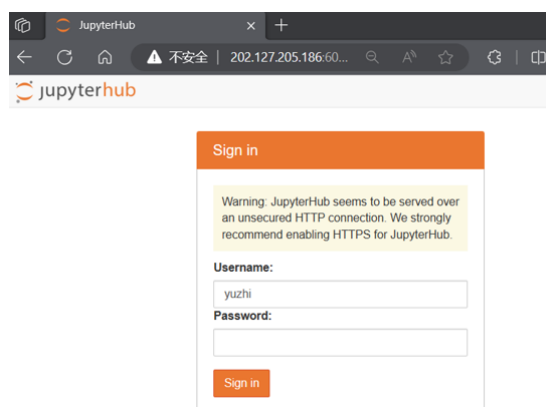
- 熟悉基本的Python语法
- 已经具备登录ShenMa集群的使用权（已有账号）
- 科学岛内网络方可使用
- 本手册中提及的FyTok及其依赖环境均已部署，可直接调用。如果您想从头安装FyTok，请参考 Installation Guide。

登录方式

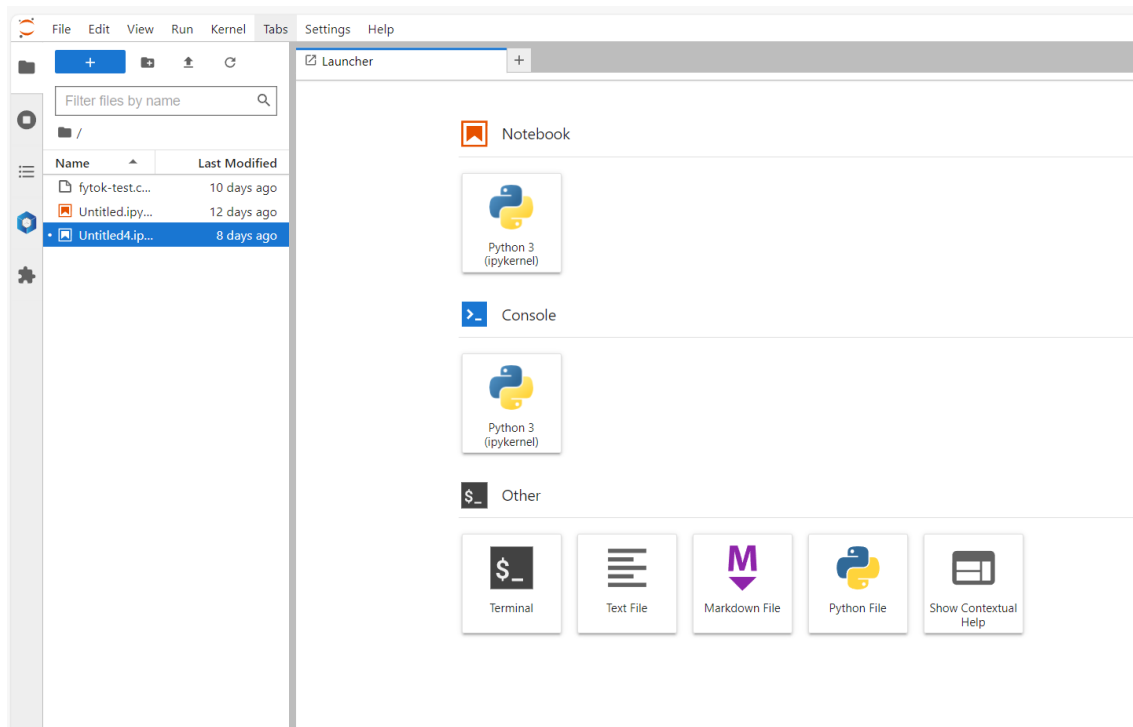
为满足不同用户的使用习惯，FyTok提供多种登录方式，目前支持**基于web的jupyterhub多用户交互平台**、**终端shell窗口登录**、**vscode的remote ssh 登录**。

基于web的jupyterhub多用户交互平台

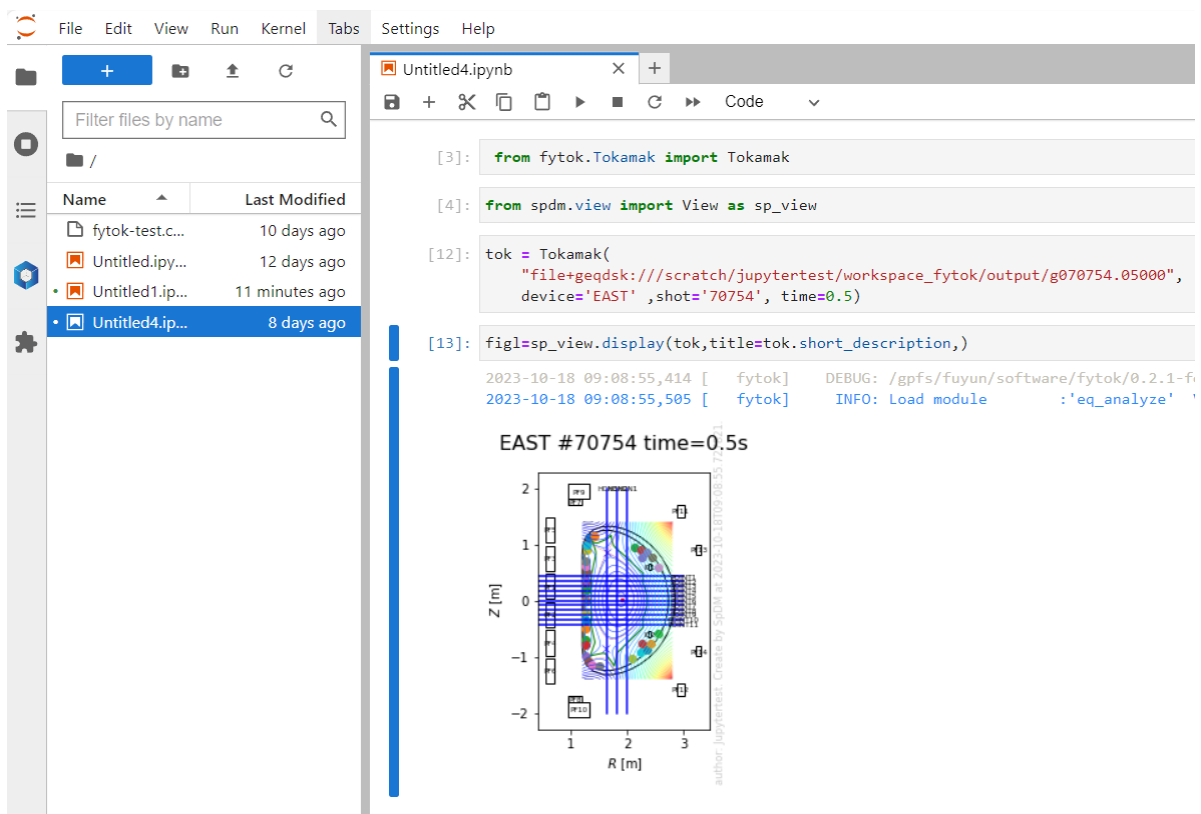
- 访问地址：<http://202.127.205.168:6088>



- 输入ShenMa集群账号密码，点击sign in按钮
- 登录后的界面如下，在我们的jupyterhub中已经选择了jupyterlab的内核，自动集成notebook，terminal等一些工具。选择Notebook，进去FyTok的使用环境中。



- 登录后，打开Notebook，可以直接使用FyTok环境



终端用户登录

- 习惯使用命令行的用户，选择适合自己的终端工具，如xshell，MobaXterm，或者win自带的WSL等。
- 目标主机:

IP:202.127.205.186, port:5074, hostname:service108

- 延续用户使用环境，对接ShenMa的包管理工具LMOD，部署FyTok的运行环境。

```
ssh <username>@202.127.205.186 -p 5074
source /gpfs/fuyun//software/lmod/lmod/init/bash
module use /gpfs/fuyun/modules/all/
module load fytok/0.2.1-foss-2022b module load fytok_ext/0.2.1-foss-2022b
```

- module load 可将FyTok及其相关的python环境、库环境一起加到环境变量中

```
[jupytertertest@service108 ~]$ source /gpfs/fuyun/software/lmod/lmod/init/bash
[jupytertertest@service108 ~]$ module use /gpfs/fuyun/modules/all/
[jupytertertest@service108 ~]$ module load fytok/0.2.1-foss-2022b
[jupytertertest@service108 ~]$ module load fytok_ext/0.2.1-foss-2022b
[jupytertertest@service108 ~]$ module list

Currently Loaded Modules:
  1) GCCcore/12.2.0
  2) zlib/1.2.12-GCCcore-12.2.0
  3) binutils/2.39-GCCcore-12.2.0
  4) GCC/12.2.0
  5) musnatt/2.0.16-GCCcore-12.2.0
  6) XZ/5.2.7-GCCcore-12.2.0
  7) libxml2/2.10.3-GCCcore-12.2.0
  8) libjpeg-turbo/2.1.4-GCCcore-12.2.0
  9) htslib/2.0.0-GCCcore-12.2.0
 10) OpenSSL/1.1
 11) libevent/2.1.12-GCCcore-12.2.0
 12) UCX/1.13.1-GCCcore-12.2.0
 13) Libfabric/1.16.1-GCCcore-12.2.0
 14) PMIX/4.2.2-GCCcore-12.2.0
 15) UCX/1.13.1-GCCcore-12.2.0
 16) OpenMPI/4.1.4-GCC-12.2.0
 17) OpenBLAS/0.3.21-GCC-12.2.0
 18) FlexBLAS/3.2.1-GCC-12.2.0
 19) FFTW/3.3.10-GCC-12.2.0
 20) gromacs/2022b
 21) FFTW.MPI/3.3.10-gompi-2022b
 22) SciDAte/2.2.0-gompi-2022b-fs
 23) fss/2022b
 24) bzip2/1.0.8-GCCcore-12.2.0
 25) ncurses/6.3-GCCcore-12.2.0
 26) Libreadline/8.2-GCCcore-12.2.0
 27) Tcl/8.6.12-GCCcore-12.2.0
 28) SQLite/3.39.4-GCCcore-12.2.0
 29) OMPI/6.2.1-GCCcore-12.2.0
 30) Libffi/3.4.4-GCCcore-12.2.0
 31) Python/3.10.8-GCCcore-12.2.0
 32) glibc/2022b
 33) pybind11/2.10.3-GCCcore-12.2.0
 34) SciPy-bundle/2023.02-gfbb-2022b
 35) mpi4py/3.1.4-gompi-2022b
 36) Szip/2.1.1-GCCcore-12.2.0
 37) HDF5/1.14.0-gompi-2022b
 38) liby/3.0.8-foss-2022b
 39) Libyaml/0.2.5-GCCcore-12.2.0
 40) PyYAML/6.0-GCCcore-12.2.0
 41) curl/7.86.0-GCCcore-12.2.0
 42) gnup/1.12-GCCcore-12.2.0
 43) lib/9.4-GCCcore-12.2.0
 44) zstd/1.5.2-GCCcore-12.2.0
 45) netcdf/4.9.0-gompi-2022b
 46) netcdf4-python/1.6.3-foss-2022b
 47) libxslt/1.1.37-GCCcore-12.2.0
 48) lsm/4.9.2-GCCcore-12.2.0
 49) libpng/1.6.38-GCCcore-12.2.0
 50) Brotli/1.0.9-GCCcore-12.2.0
 51) freetype/2.12.1-GCCcore-12.2.0
 52) expat/2.4.9-GCCcore-12.2.0
 53) util-linux/2.38.1-GCCcore-12.2.0
 54) fontconfig/2.14.1-GCCcore-12.2.0
 55) xorg-macros/1.19.3-GCCcore-12.2.0
 56) X11/2023118-GCCcore-12.2.0
 57) Tk/8.6.12-GCCcore-12.2.0
 58) Tlinter/3.10.8-GCCcore-12.2.0
 59) NASM/2.15.05-GCCcore-12.2.0
 60) libjpeg-turbo/2.1.4-GCCcore-12.2.0
 61) jbigkit/2.1-GCCcore-12.2.0
 62) libdeflate/1.15-GCCcore-12.2.0
 63) libtiff/4.4.0-GCCcore-12.2.0
 64) Pillow/9.4.0-GCCcore-12.2.0
 65) Qhull/2020.2-GCCcore-12.2.0
 66) matplotlib/3.7.0-gfbb-2022b
 67) networkx/2.8.0-gfbb-2022b
 68) bokeh/2.4.3-foss-2022b
 69) dash/2022.10.8-foss-2022b
 70) imageio/2.22.2-foss-2022b
 71) scikit-image/0.19.3-foss-2022b
 72) FyLab/2022b-foss-2022b
 73) spdm/0.3.1-foss-2022b
 74) fytok/0.2.1-foss-2022b
 75) fytok_ext/0.2.1-foss-2022b
```

- 打开python便可直接使用import调用模块

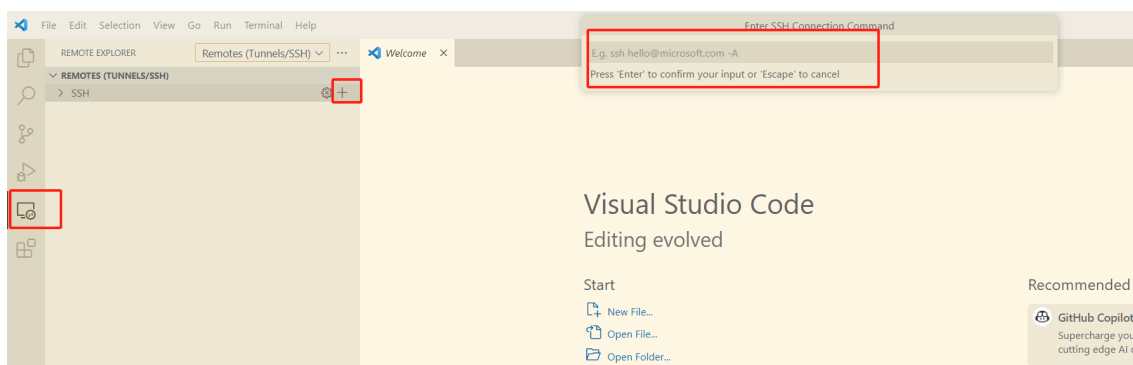
```
[jupytertertest@service108 fuyun]$ module load fytok/0.2.1-foss-2022b fytok_ext/0.2.1-foss-2022b
[jupytertertest@service108 fuyun]$ echo $PYTHONPATH
/gpfs/fuyun/software/fytok_ext/0.2.1-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/fytok/0.2.1-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/FyLab/2022b-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/scikit-image/0.19.3-foss-2022b/lib/python3.10/site-packages:/gpfs/n/software/dask/2022.10.0-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/bokeh/2.4.3-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/matplotlib/3.7.0-gfbb-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/Pillow/9.4.0-GCCcore-12.2.0/lib/python3.10/site-packages:/gpfs/fuyun/software/lxml/4.9.2-GCCcore-12.2.0/lib/python3.10/site-packages:/gpfs/fuyun/software/netcdf4-python/1.6.3-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/h5py/3.8.0-foss-2022b/lib/python3.10/site-packages:/gpfs/fuyun/software/mpi4py/3.1.4-gompi-2022b/lib/python3.10/site-packages:/gpfs/fuyun/n/software/pybind11/2.10.3-GCCcore-12.2.0/lib/python3.10/site-packages:/gpfs/fuyun/software/Python/3.10.8-GCCcore-12.2.0/easybuild/python:/usr/local/n
[jupytertertest@service108 fuyun]$ python
Python 3.10.8 (main, May 5 2023, 10:56:25) [GCC 12.2.0] on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>> import fytok
2023-10-18 09:21:09.024 [ fytok] INFO:
#####
FyTok
Copyright (c) 2021-present Zhi YU (Institute of Plasma Physics Chinese Academy of Sciences)
url: https://gitee.com/openfusion/fytok_tutorial
https://github.com/fusion-yun/fytok_tutorial
ontology = imas/3, version = 0.2.1 ( extension=0.2.1, imas_version=v3_38_1_dirty )
Run by Jupytertertest on service108 at 2023-10-18T09:21:09.024324
#####
>>> []
```

vscode+jupyterhub插件方式

VSCode 全称 Visual Studio Code，是微软出的一款轻量级代码编辑器，免费、开源而且功能强大。它支持几乎所有主流的程序语言的语法高亮、智能代码补全、自定义热键、括号匹配、代码片段、代码对比 Diff、GIT 等特性，支持插件扩展，并针对网页开发和云端应用开发做了优化。软件跨平台支持 Win、Mac 以及 Linux。

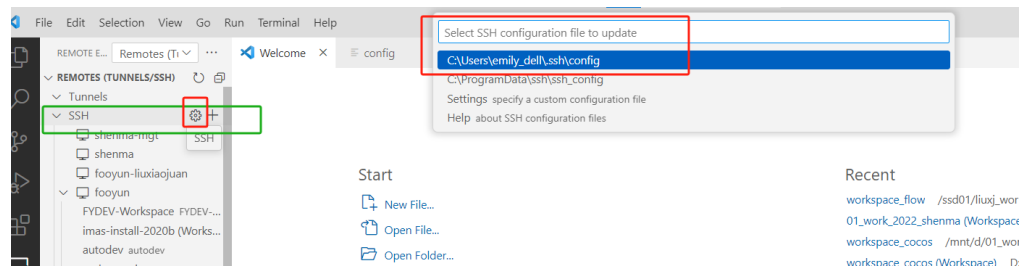
- 用vscode链接服务器，直接输入hostname或者使用config文件
 - 直接输入hostname进行链接

```
ssh \<username>\@202.127.205.186 -p 5074
```



- 或者使用本地.ssh/config文件

- 点击配置按钮，打开config文件，

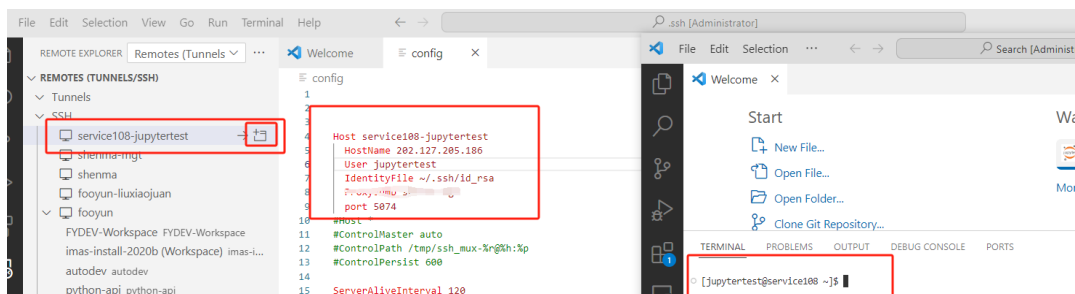


- 在config文件中提前添加关于目标主机的信息。

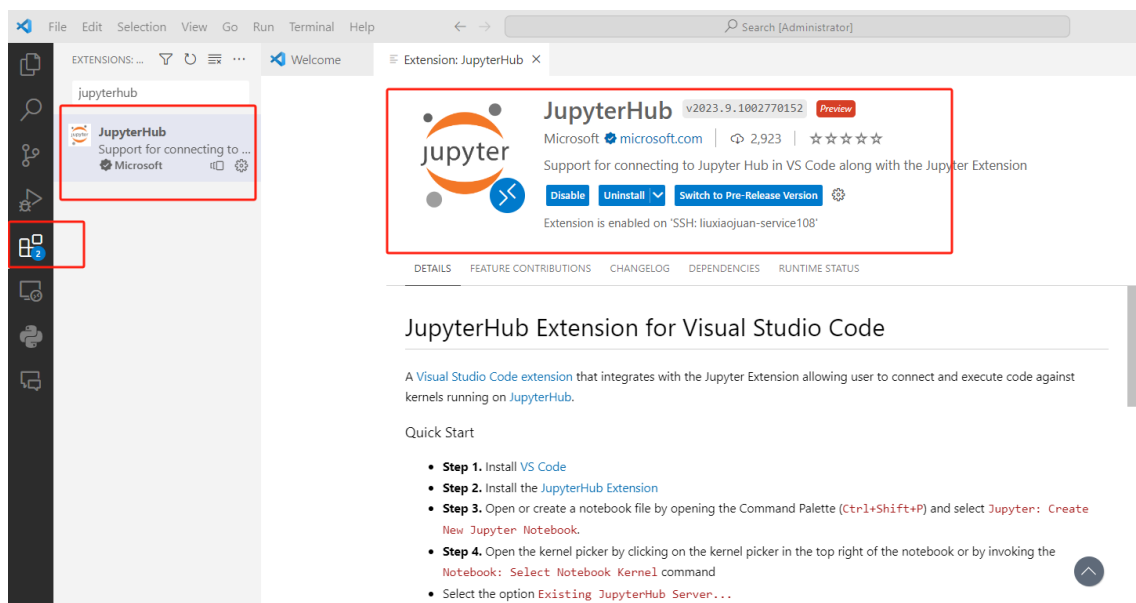
- 添加后左侧会出现你定义的Host的名称，如这里的service108-jupytertest

- 点击链接，输入对应的密码便可链接到远程的service108机器上

- 注：如果想免密登录，提前可设置ssh-key，详细可参考ssh key的无密码访问配置



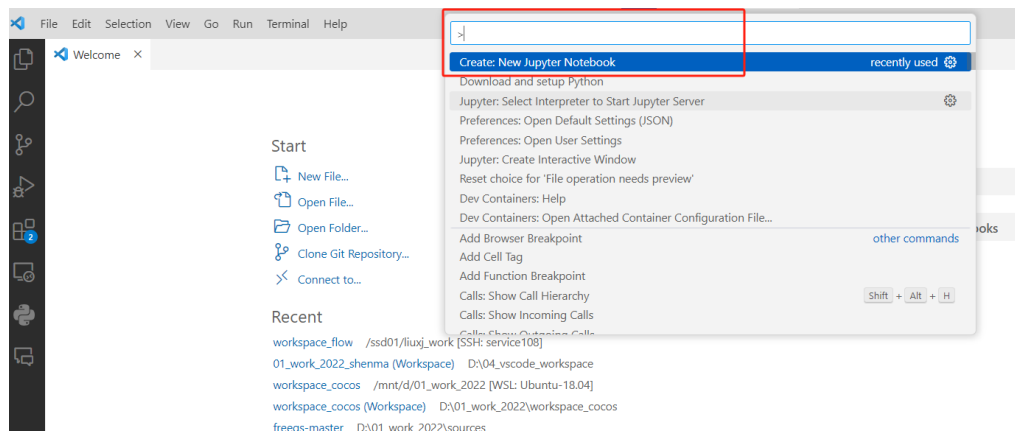
- 在已连接的vscode中安装jupyterhub插件



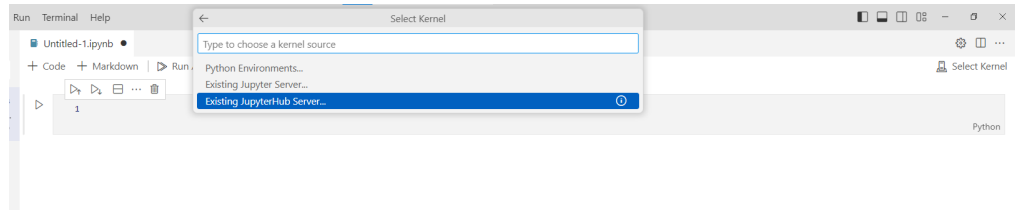
- 用jupyter notebook加载FyTok使用环境

- 打开新的Jupyter Notebook(快捷键ctrl+shift+p),

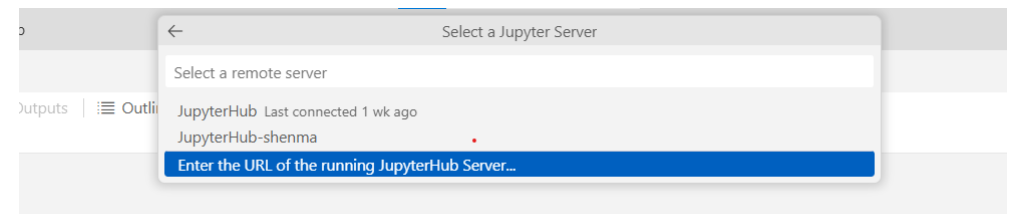
- 点击选择create new jupyter notebook,



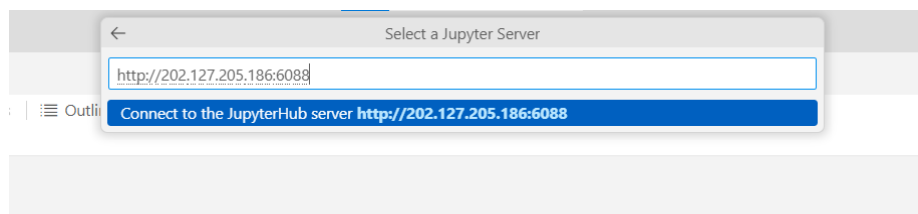
- 在新的notebook中点击右上角的select kernel



- 选择Existing JupyterHub Server



- 输入JupyterHub的地址(<http://202.127.205.186:6088>)



- 输入账号密码（神马集群的账号密码）.成功连接后，FyTok的工作环境自动被加载，如：import fytok

