

Conda & Python

BUPT-ZY-11-16

Conda 是一个开源的软件包管理系统和环境管理系统，用于安装多个版本的软件包及其依赖关系，并在它们之间轻松切换。(感觉和 docker 是不是也是有点类似); 简而言之, conda 就一个很好用的 python 工具包，分为 miniconda 和 anaconda。两者我认为基本没有区别，如果网速快，我认为使用 miniconda 更好一些。(我也不知道这想法对不对)

在介绍 conda 之前，介绍一下什么是开源镜像站。开源镜像站即一个放置开源系统镜像文件的站点.免费提供镜像文件下载。一般开源镜像站的服务器上行带宽都很高，因此用户的下载速度非常快。(由于 gwf，或者一些其他因素，官方的下载地址速度不是很快) 目前常用的镜像由很多，国内的常用的镜像有清华、中科大、阿里云维护的开源镜像站。

一、 关于 conda 的使用

conda 命令详解这篇博客很不错:

<https://foofish.net/anaconda-install.html>

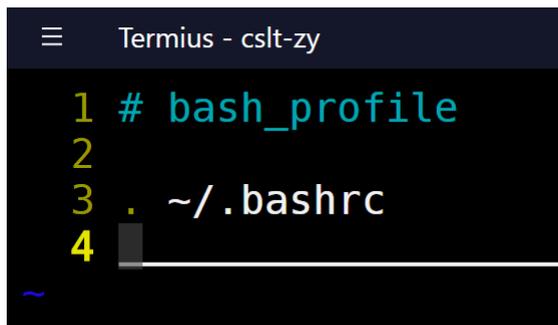
一些我常用的命令我也备份到 GitHub 上了~可以参考我的 GitHub 备份一起阅读

https://raw.githubusercontent.com/zyzisy/My-Setting/master/conda/conda_config.sh

二、 Wolf 集群快速使用 conda

如果是需要在实验室的 wolf 集群下安装 conda 和 tf 之类的。就没不需要这么麻烦了。我已经安好了，直接使用我的就可以~

1. 首先检查自己的 bash_profile 有没有类似导入 bashrc 的脚本，没有需要加上



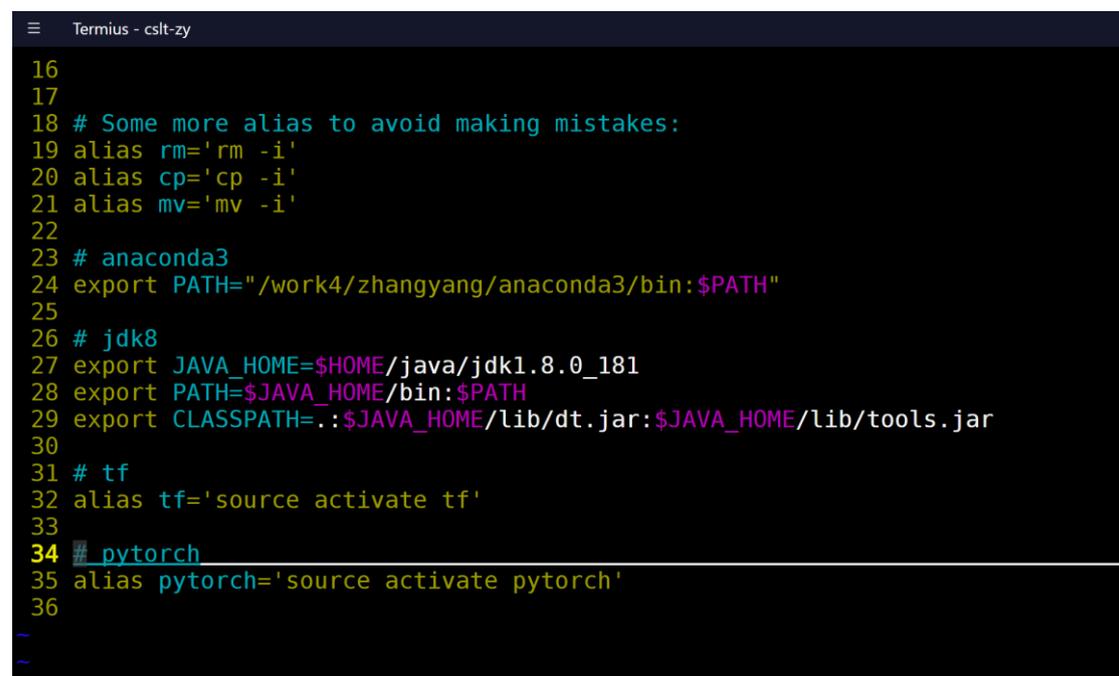
```
Termius - cslt-zy
1 # bash_profile
2
3 . ~/.bashrc
4
```

2. 到 GitHub 上复制我的配置文件
(<https://raw.githubusercontent.com/zyzisy/My-Setting/master/conda/csl-bashrc>)

3. 在终端里输入

```
cd  
nano .bashrc
```

4. 将复制好的配置文件添加到.bashrc 里

A terminal window titled 'Termius - cslt-zy' showing the contents of a .bashrc file. The file contains several configuration lines for aliases and environment variables. The lines are numbered from 16 to 36. The configurations include aliases for rm, cp, mv, and tf, and environment variables for anaconda3, jdk8, and pytorch.

```
16  
17  
18 # Some more alias to avoid making mistakes:  
19 alias rm='rm -i'  
20 alias cp='cp -i'  
21 alias mv='mv -i'  
22  
23 # anaconda3  
24 export PATH="/work4/zhangyang/anaconda3/bin:$PATH"  
25  
26 # jdk8  
27 export JAVA_HOME=$HOME/java/jdk1.8.0_181  
28 export PATH=$JAVA_HOME/bin:$PATH  
29 export CLASSPATH=.:$JAVA_HOME/lib/dt.jar:$JAVA_HOME/lib/tools.jar  
30  
31 # tf  
32 alias tf='source activate tf'  
33  
34 # pytorch  
35 alias pytorch='source activate pytorch'  
36  
~  
~
```

(这张图里可能多了几个我的其他配置)

5. Source 一下

```
source .bashrc
```

6. 输入 conda 试试能不能用了

```
(pytorch) -bash-4.2$ conda
usage: conda [-h] [-V] command ...

conda is a tool for managing and deploying applications, environments and packages.

Options:

positional arguments:
  command
  clean                Remove unused packages and caches.
  config              Modify configuration values in .condarc. This is modeled
                    after the git config command. Writes to the user .condarc
                    file (/work4/zhangyang/.condarc) by default.
  create              Create a new conda environment from a list of specified
                    packages.
  help                Displays a list of available conda commands and their help
                    strings.
  info                Display information about current conda install.
  install             Installs a list of packages into a specified conda
                    environment.
  list                List linked packages in a conda environment.
  package             Low-level conda package utility. (EXPERIMENTAL)
  remove              Remove a list of packages from a specified conda environment.
  uninstall           Alias for conda remove. See conda remove --help.
  search              Search for packages and display associated information. The
```

7. 我设置的是 tf 直接进入 tensorflow 环境 (tf1.3+python3.6+cuda8)

```
Termius - csll-liuyibo
Last login: Wed Nov 14 21:00:41 2018 from 59.64.129.12
[liuyibo@grid-6 ~]$ tf
(tf) [liuyibo@grid-6 ~]$
```

8. 关于 pytorch 的安装。可以访问他的官网，写的非常详细。我设置输入 pytorch 进入 pytorch+python3.6+cuda8。

```
Termius - csll-zy
-bash-4.2$ pytorch
(pytorch) -bash-4.2$
```

三、 Conda 的安装

下面就以我常用的清华大学开源软件镜像站记录一下 miniconda 的安装过程。

1. 首先在百度搜“conda 清华”，进入下载列表

- AOSP
- AUR
- CRAN
- CTAN
- CocoaPods
- anaconda**
- archlinux
- archlinuxcn
- bananian
- bioconductor
- centos
- chromiumos
- cygwin

Anaconda 镜像使用帮助

Anaconda 是一个用于科学计算的 Python 发行版, 支持 Linux, Mac, Windows, 包含了众多流行的科学计算、数据分析的 Python 包。

Anaconda 安装包可以到 <https://mirrors.tuna.tsinghua.edu.cn/anaconda/archive/> 下载。

TUNA 还提供了 Anaconda 仓库的镜像, 运行以下命令:

```
conda config --add channels https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/free/
conda config --add channels https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/main/
conda config --set show_channel_urls yes
```

即可添加 Anaconda Python 免费仓库。

运行 `conda install numpy` 测试一下吧。

Miniconda 镜像使用帮助

Miniconda 是一个 Anaconda 的轻量级替代, 默认只包含了 python 和 conda, 但是可以通过 pip 和 conda 来安装所需要的包。

Miniconda 安装包可以到 <https://mirrors.tuna.tsinghua.edu.cn/anaconda/miniconda/> 下载。

Conda 三方源

当前tuna还维护了一些anaconda三方源。

2. 选择合适的版本, 右键点击复制链接, 在服务器终端里使用 wget + 空格+链接下载。例如:

Miniconda3-4.5.4-Windows-x86_64.exe	54
Miniconda3-latest-Linux-armv7l.sh	29
Miniconda3-latest-Linux-ppc64le.sh	60
Miniconda3-latest-Linux-x86.sh	56
Miniconda3-latest-Linux-x86_64.sh	59
Miniconda3-latest-MacOS-x86_64.pkg	26
Miniconda3-latest-MacOS-arm64.pkg	41
Miniconda3-latest-MacOS-universal.pkg	36
Miniconda3-latest-MacOS-universal.pkg	49
Miniconda3-latest-MacOS-universal.pkg	52

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将目标另存为

复制链接

添加到阅读列表

在 百度 中搜索“Miniconda3-latest-Linux-x86_64.sh”

询问 Cortana 关于“Miniconda3-latest-Linux-x86_64.sh”的信息

查看源

```
Termius - tecent-root
-bash-4.2# wget https://mirrors.tuna.tsinghua.edu.cn/anaconda/miniconda/Miniconda3-latest-Linux-x86_64.sh
```

3. 下载完成后, 安装

```
Terminus - tecent-root
--2018-11-14 20:33:12-- https://mirrors.tuna.tsinghua.edu.cn/anaconda/miniconda/Miniconda3-latest-Linux-x86_64.sh
Resolving mirrors.tuna.tsinghua.edu.cn (mirrors.tuna.tsinghua.edu.cn)... 101.6.8.193, 2402:f000:1:408:8100::1
Connecting to mirrors.tuna.tsinghua.edu.cn (mirrors.tuna.tsinghua.edu.cn)|101.6.8.193|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 62574861 (60M) [application/octet-stream]
Saving to: 'Miniconda3-latest-Linux-x86_64.sh'

100%[=====>] 62,574,861  2.48MB/s   in 39s

2018-11-14 20:33:51 (1.53 MB/s) - 'Miniconda3-latest-Linux-x86_64.sh' saved [62574861/62574861]

-bash-4.2# ls
ap.py                               My-Setting
fnvpr                               RPI_web_remote_control-1.1
fnvpr.zip                           sql
miniconda3                          test
Miniconda3-latest-Linux-x86_64.sh  work
mongodb                             work.zip
mongodb-Linux-x86_64-rhel70-4.0.4.tgz
-bash-4.2#
```

Conda 的安装文件的是给 shell 脚本，所以直接运行，例如：

```
sh Miniconda3-latest-Linux-x86_64.sh
```

中间会跳出一些 LICENSE 协议让安装者阅读，如果不想看可以直接按 Ctrl + C 结束

```
Terminus - tecent-root
=====
Miniconda End User License Agreement
=====

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--More--
```

按照提示输入 yes 接收协议，开始安装

```
Terminus - tecent-root
=====
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ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED.
Do you accept the license terms? [yes|no]
[no] >>> yes
```

Conda 默认安装在当前 Linux 账户的工作目录下，因此不需要 root 权限

4. 添加到.bashrc 里（新版本的一般是自动添加的，不过还是检查一下比较保险）。使用 vim .bashrc 看看。没有的话自己增加一下。
5. 之后就完成 conda 的安装啦~

四、 安装 tensorflow-gpu1.3（这里我就列一下需要打的命令）

```
conda create -n tf python=3.6
```

```
source activate tf
```

```
conda install tensorflow-gpu=1.3
```

（注意.bashrc 和 bash_profile 得设置好）

关于 tmux 和 vim

每个人喜欢使用的工具可能不相同，相同的配置也可能不同

分享一下我觉得不错的 tmux 博客

<https://zhuanlan.zhihu.com/p/43687973>

我觉得不错的 vim 配置

<https://github.com/ma6174/vim-deprecated>

我的 vim 配置（很简单）

<https://raw.githubusercontent.com/zyzisy/My-Setting/master/vim/.vimrc>