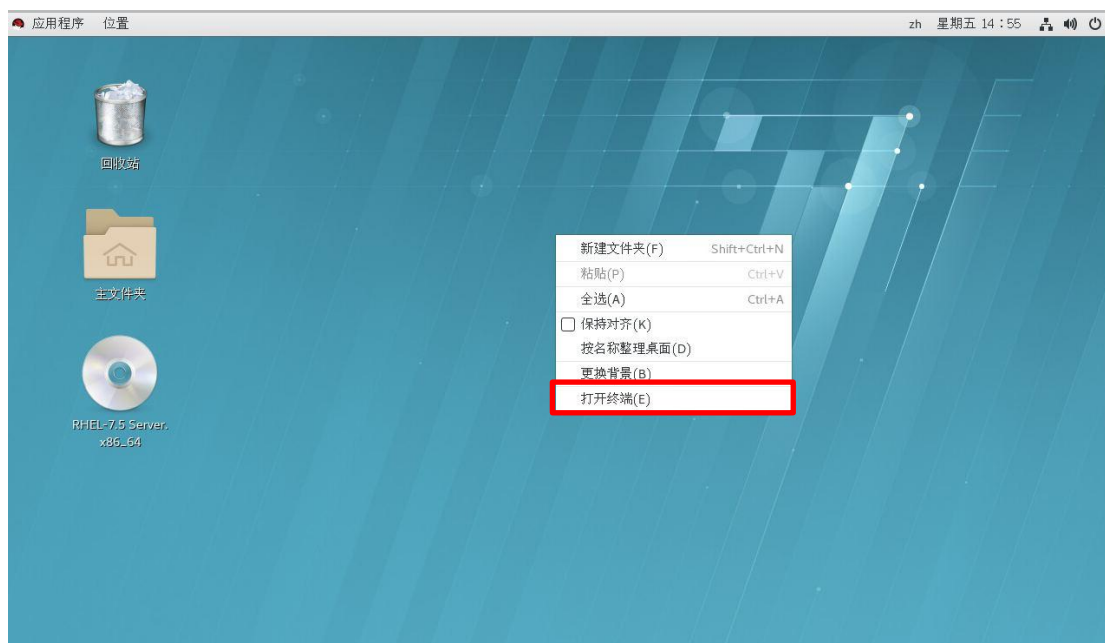


# Linux 系统的用户界面切换方法

1. 开机，进入图形化界面，单击鼠标右键，打开终端



2. 编辑系统环境变量，键入命令：`vim ~/.bash_profile`



单击回车键 Enter

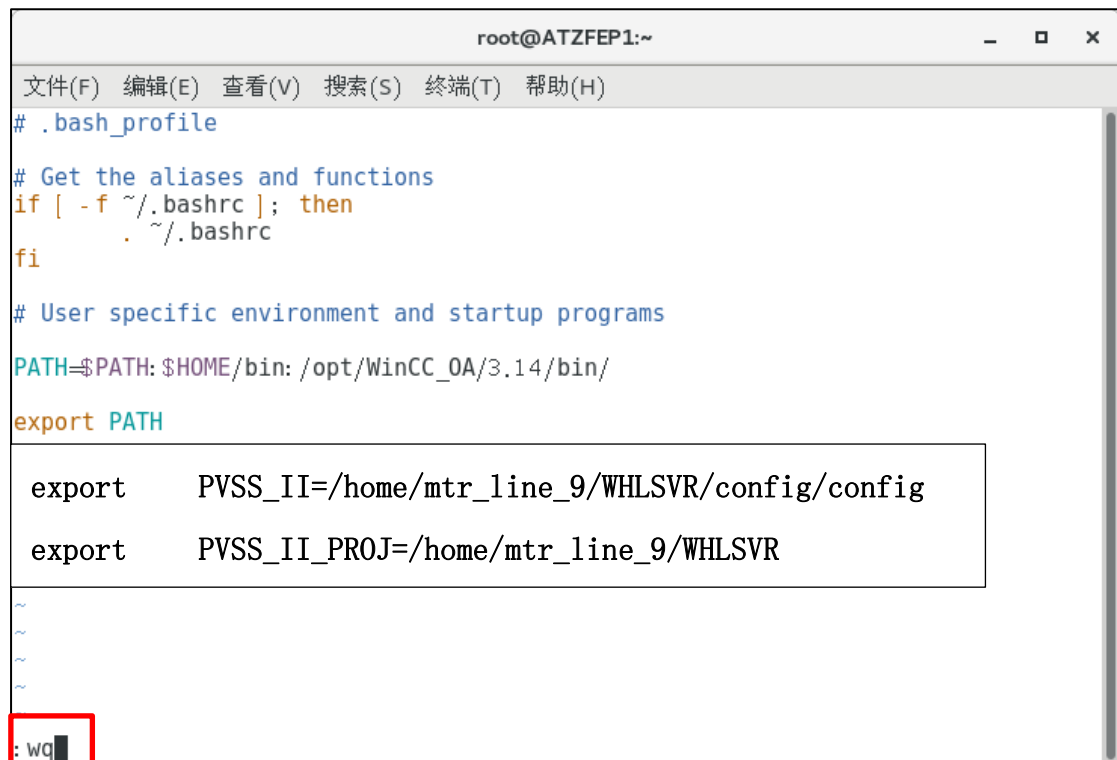
最下面添加变量(字母 i 可进行插入字符操作):

```
export PVSS_II=/home/mtr_line_9/WHLSVR/config/config
```

```
export PVSS_II_PROJ=/home/mtr_line_9/WHLSVR
```

环境变量中的路径为 WinCC\_OA 的工程路径，以汪河路服务器为例：

home/mtr\_line\_9/WHLSVR



The screenshot shows a terminal window titled 'root@ATZFEP1:~'. The menu bar includes '文件(F)', '编辑(E)', '查看(V)', '搜索(S)', '终端(T)', and '帮助(H)'. The terminal content displays the following code from the `~/.bash_profile` file:

```
# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
    . ~/.bashrc
fi

# User specific environment and startup programs

PATH=$PATH:$HOME/bin:/opt/WinCC_OA/3.14/bin/
export PATH

export PVSS_II=/home/mtr_line_9/WHLSVR/config/config
export PVSS_II_PROJ=/home/mtr_line_9/WHLSVR
```

At the bottom of the terminal, the prompt `: wq` is visible, indicating the user is in vi editor's write-quit mode.

按下键盘 “ESC”，输入 wq，保存退出。

为使环境变量立即生效，键入命令：`source ~/.bash_profile` 并按下回车键



The screenshot shows a terminal window titled 'root@ATZFEP1:~'. The menu bar is the same as the previous image. The terminal content shows the following commands and prompts:

```
[root@ATZFEP1 ~] # vim ~/.bash_profile
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] # source ~/.bash_profile
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] #
[root@ATZFEP1 ~] #
```

The command `source ~/.bash_profile` is highlighted with a red box.

### 3. 编辑 WinCC\_OA 的配置文件

键入命令：`vim /etc/winccoa.conf` 并按下回车键 Enter



```
root@ATZFEP1:~  
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)  
[ root@ATZFEP1 ~] # vim ~/.bash_profile  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] # source ~/.bash_profile  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] # vim /etc/winccoa.conf  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] # chkconfig --add winccoa  
[ root@ATZFEP1 ~] #
```

## 5. 设置开机默认启动命令行界面

键入命令：`systemctl set-default multi-user.target` 并按下回车键

```
[ root@ATZFEP1 ~] #  
[ root@ATZFEP1 ~] # systemctl set-default multi-user.target  
Removed symlink /etc/systemd/system/default.target.  
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/multi-user.target.  
[ root@ATZFEP1 ~] #
```

## 6. 重启系统，命令：`reboot`

```
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/multi-user.target.  
[ root@ATZFEP1 ~] # reboot
```

## 7. 再次开机启动后，系统为命令行界面

## 8. 命令行界面下监测服务进程状态的两种方式

`ps aux | grep WinCC` 并按下回车键 Enter（严格区分大小写）

`systemctl status winccoa` 并按下回车键 Enter

可以查看当前 Wincc\_OA 工程中存活的进程：

例如 Modbus Driver; Control Manager 等等

（此示意设备并未接入环网，进程数量并不完整）

```
Red Hat Enterprise Linux Server 7.5 (Maipo)
Kernel 3.10.0-862.el7.x86_64 on an x86_64

ATZFEP1 login: root
Password:
Last login: Fri Jul 5 15:35:28 on :0
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# ps aux | grep WinCC
root      1847  0.0  0.0 1127 328 ?        Ss   15:55   0:00 /opt/WinCC_OA/3.14/bin/lm_ip -a lockmgr -f 600
root      1848  0.1  0.1 536872 18648 ?      Sl   15:55   0:00 /opt/WinCC_OA/3.14/bin/WCCOAmod -PROJ ATZFEP -pm
root      2488  0.0  0.0 112784 964 tty1    S+   15:57   0:00 grep --color=auto WinCC
[root@ATZFEP1 ~]# systemctl status winccoa
■ winccoa.service - LSB: Start/Stop a WinCC OA project
   Loaded: loaded (/etc/rc.d/init.d/winccoa; bad: vendor preset: disabled)
   Active: active (running) since Fri 2019-07-05 15:55:14 CST; 3min 4s ago
     Docs: man:systemd-sysv-generator(8)
   Process: 1698 ExecStart=/etc/rc.d/init.d/winccoa start (code=exited, status=0/SUCCESS)
    Tasks: 4
   CGroup: /system.slice/winccoa.service
           └─1727 WCCILpmon
             └─1847 /opt/WinCC_OA/3.14/bin/lm_ip -a lockmgr -f 600
               └─1848 /opt/WinCC_OA/3.14/bin/WCCOAmod -PROJ ATZFEP -pmomIndex 2 -num 41 #PAS

Jul 05 15:55:14 ATZFEP1 systemd[1]: Starting LSB: Start/Stop a WinCC OA project...
Jul 05 15:55:14 ATZFEP1 winccoa[1698]: Starting WinCC OA: /home/mtr_line_9/ATZFEP/config/config - done.
Jul 05 15:55:14 ATZFEP1 systemd[1]: Started LSB: Start/Stop a WinCC OA project.
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# systemctl set-default graphical.target
Removed symlink /etc/systemd/system/default.target.
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/graphical.target.
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# reboot
```

9. 如调试需要，可将系统修改回图形化界面，在命令行界面中键入命令：  
systemctl set-default graphical.target 并按下回车， reboot 重启。

```
Red Hat Enterprise Linux Server 7.5 (Maipo)
Kernel 3.10.0-862.el7.x86_64 on an x86_64

ATZFEP1 login: root
Password:
Last login: Fri Jul 5 15:35:28 on :0
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# ps aux | grep WinCC
root      1847  0.0  0.0 1127 328 ?        Ss   15:55   0:00 /opt/WinCC_OA/3.14/bin/lm_ip -a lockmgr -f 600
root      1848  0.1  0.1 536872 18648 ?      Sl   15:55   0:00 /opt/WinCC_OA/3.14/bin/WCCOAmod -PROJ ATZFEP -pm
root      2488  0.0  0.0 112784 964 tty1    S+   15:57   0:00 grep --color=auto WinCC
[root@ATZFEP1 ~]# systemctl status winccoa
■ winccoa.service - LSB: Start/Stop a WinCC OA project
   Loaded: loaded (/etc/rc.d/init.d/winccoa; bad: vendor preset: disabled)
   Active: active (running) since Fri 2019-07-05 15:55:14 CST; 3min 4s ago
     Docs: man:systemd-sysv-generator(8)
   Process: 1698 ExecStart=/etc/rc.d/init.d/winccoa start (code=exited, status=0/SUCCESS)
    Tasks: 4
   CGroup: /system.slice/winccoa.service
           └─1727 WCCILpmon
             └─1847 /opt/WinCC_OA/3.14/bin/lm_ip -a lockmgr -f 600
               └─1848 /opt/WinCC_OA/3.14/bin/WCCOAmod -PROJ ATZFEP -pmomIndex 2 -num 41 #PAS

Jul 05 15:55:14 ATZFEP1 systemd[1]: Starting LSB: Start/Stop a WinCC OA project...
Jul 05 15:55:14 ATZFEP1 winccoa[1698]: Starting WinCC OA: /home/mtr_line_9/ATZFEP/config/config - done.
Jul 05 15:55:14 ATZFEP1 systemd[1]: Started LSB: Start/Stop a WinCC OA project.
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# systemctl set-default graphical.target
Removed symlink /etc/systemd/system/default.target.
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/graphical.target.
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]#
[root@ATZFEP1 ~]# reboot
```

10. 调试完毕后，请重复步骤 5-6，将系统恢复至 SHELL 界面。