



LEARNING UNIX/LINUX



讲啥

重要概念

常用命令和操作

实战搭建Linux Apache Mysql PHP

书单（基础）

- 鸟哥的linux私房菜（基础篇）
- 鸟哥的linux私房菜（服务器篇）

- 
- 书单

INTRODUCTION: WHAT IS UNIX?

- An operating system
- Developed at AT&T Bell Labs in the 1960's
- Command Line Interpreter
- GUIs (Window systems) are now available

INTRODUCTION: UNIX VS. LINUX

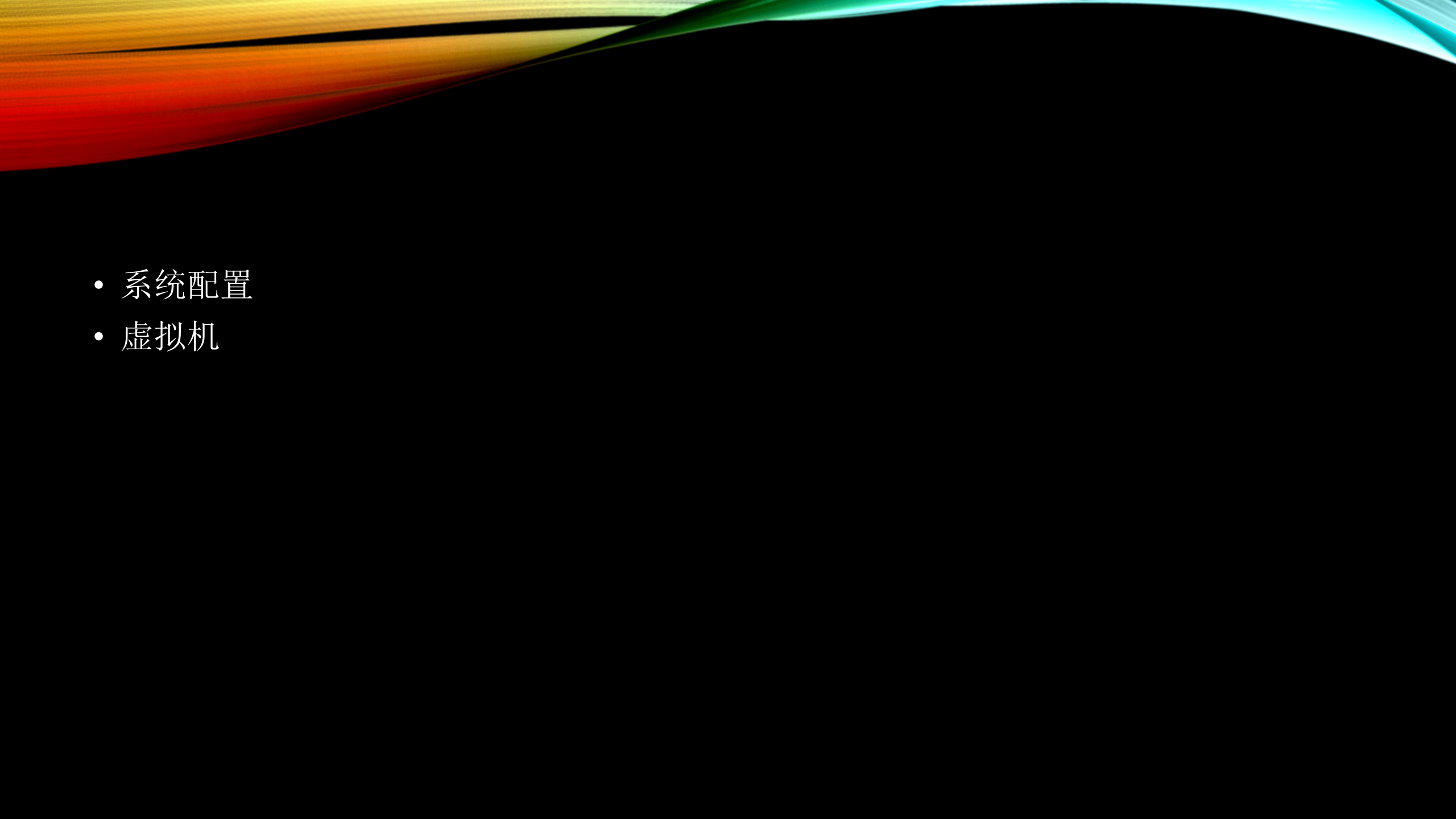
- Unix was the predecessor of Linux
- Linux is a variant of Unix
 - So is Mac OS X, so much of this tutorial applies to Macs as well
- Linux is open source
- Most of servers are running the Linux OS

INTRODUCTION: WHY UNIX/LINUX?

- Linux is **free**
- It's fully **customizable**
- It's **stable** (i.e. it almost never crashes)
- These characteristics make it an ideal OS for programmers and scientists

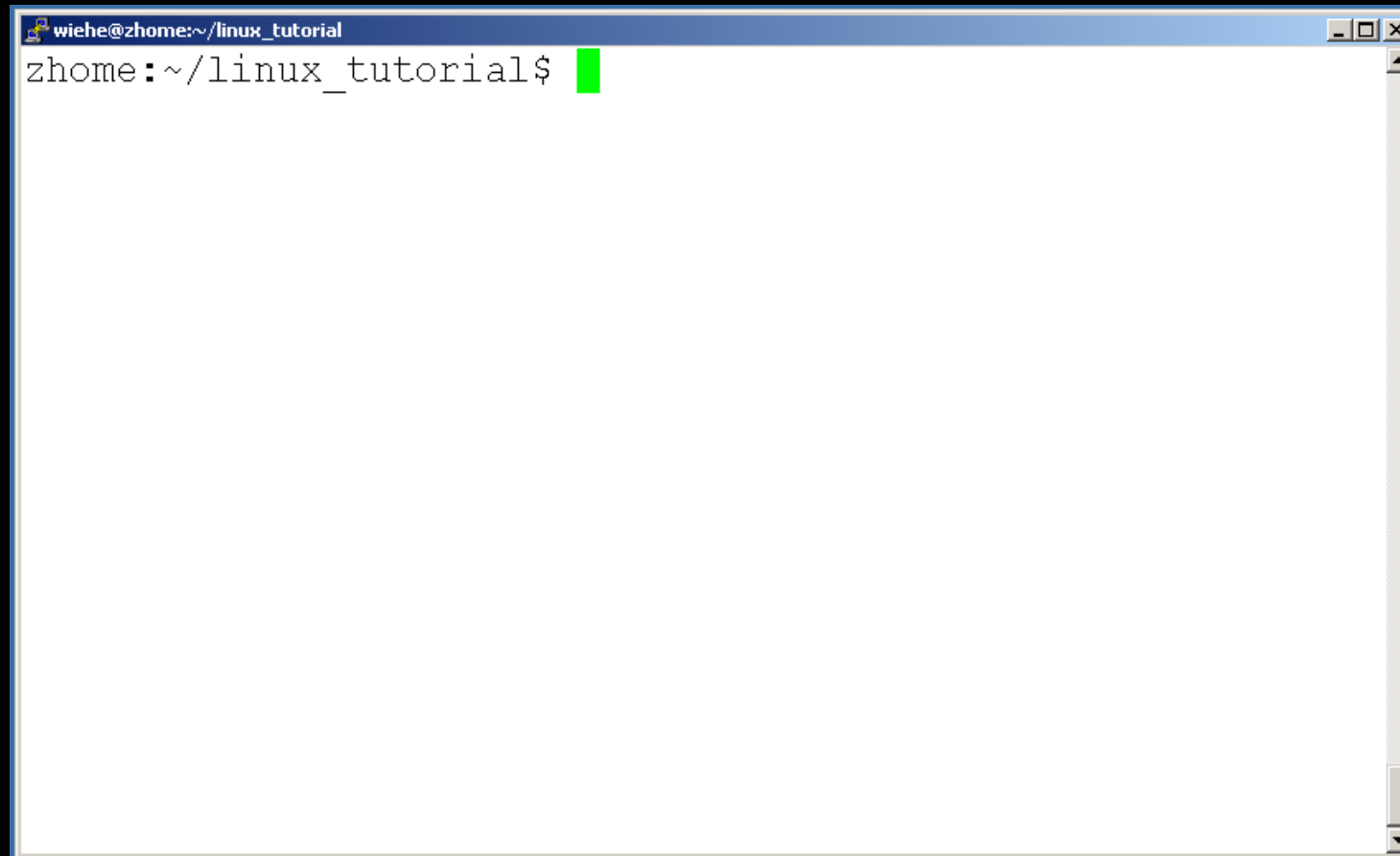
INTRODUCTION: WHY UNIX/LINUX?

- 学习过程中逃不过去的坎
- 服务器必须用到的操作系统
- 打开新世界的大门

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- 系统配置
 - 虚拟机

CONNECTING TO A UNIX/LINUX SYSTEM

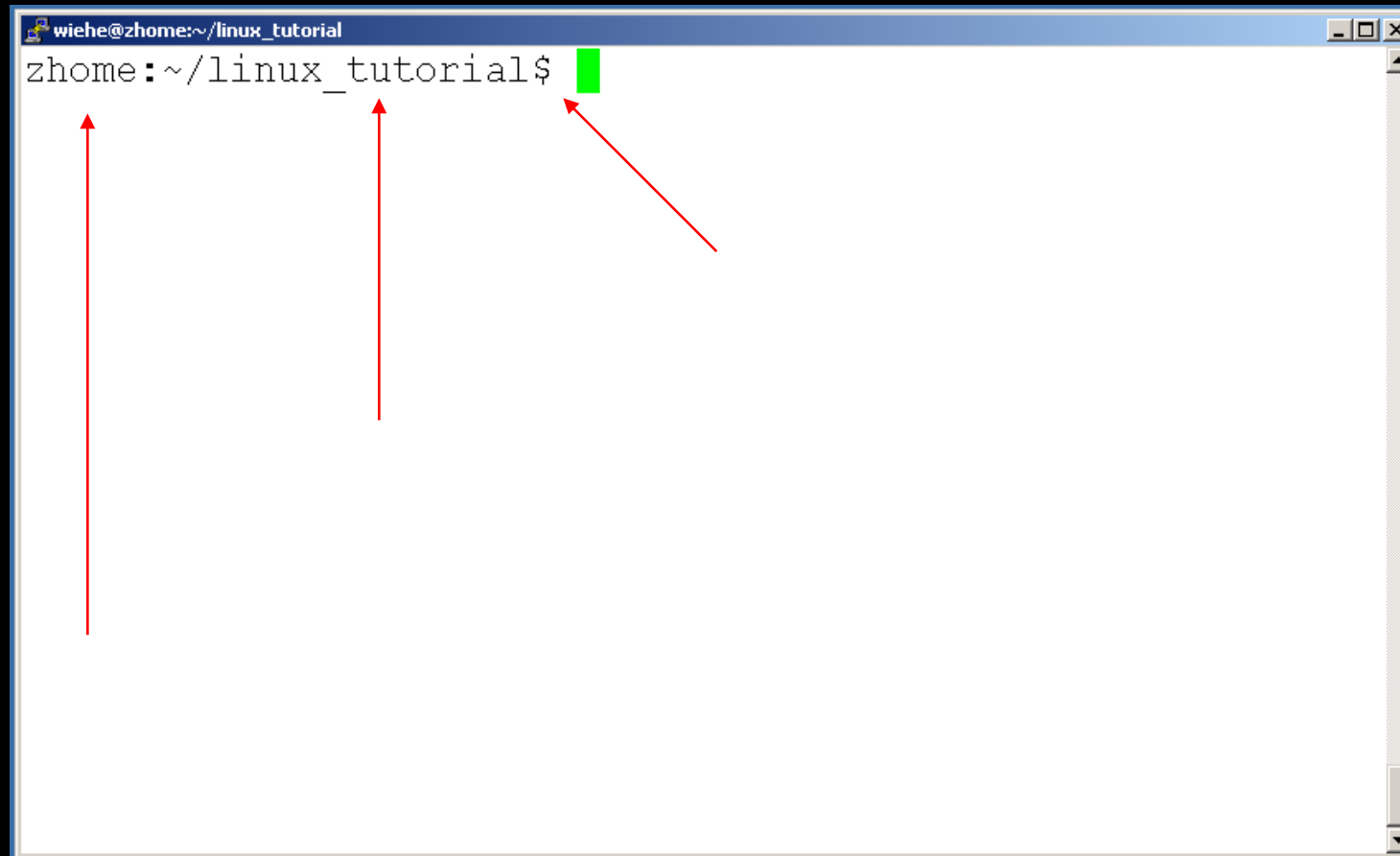
- Open up a terminal:

A screenshot of a terminal window. The title bar at the top reads 'wiehe@zhome:~/linux_tutorial'. The main area of the window is white and contains the text 'zhome:~/linux_tutorial\$' followed by a green cursor block. The window has standard OS controls (minimize, maximize, close) in the top right corner and a scrollbar on the right side.

```
wiehe@zhome:~/linux_tutorial
zhome:~/linux_tutorial$
```

CONNECTING TO A UNIX/LINUX SYSTEM

- Open up a terminal:



A screenshot of a terminal window titled "wiehe@zhome:~/linux_tutorial". The prompt is "zhome:~/linux_tutorial\$". Three red arrows point to the components of the prompt: the first arrow points to "zhome", the second to "~/linux_tutorial", and the third to the "\$" symbol. A green cursor is positioned at the end of the prompt.

```
wiehe@zhome:~/linux_tutorial
zhome:~/linux_tutorial$
```

WHAT EXACTLY IS A “SHELL”?

- After logging in, Linux/Unix starts another program called the **shell**
- The shell interprets commands the user types and manages their execution
 - The shell communicates with the internal part of the operating system called the **kernel**
 - The most popular shells are: tcsh, csh, korn, and bash
 - The differences are most times subtle
 - For this tutorial, we are using bash
- Shell commands are **CASE SENSITIVE!**

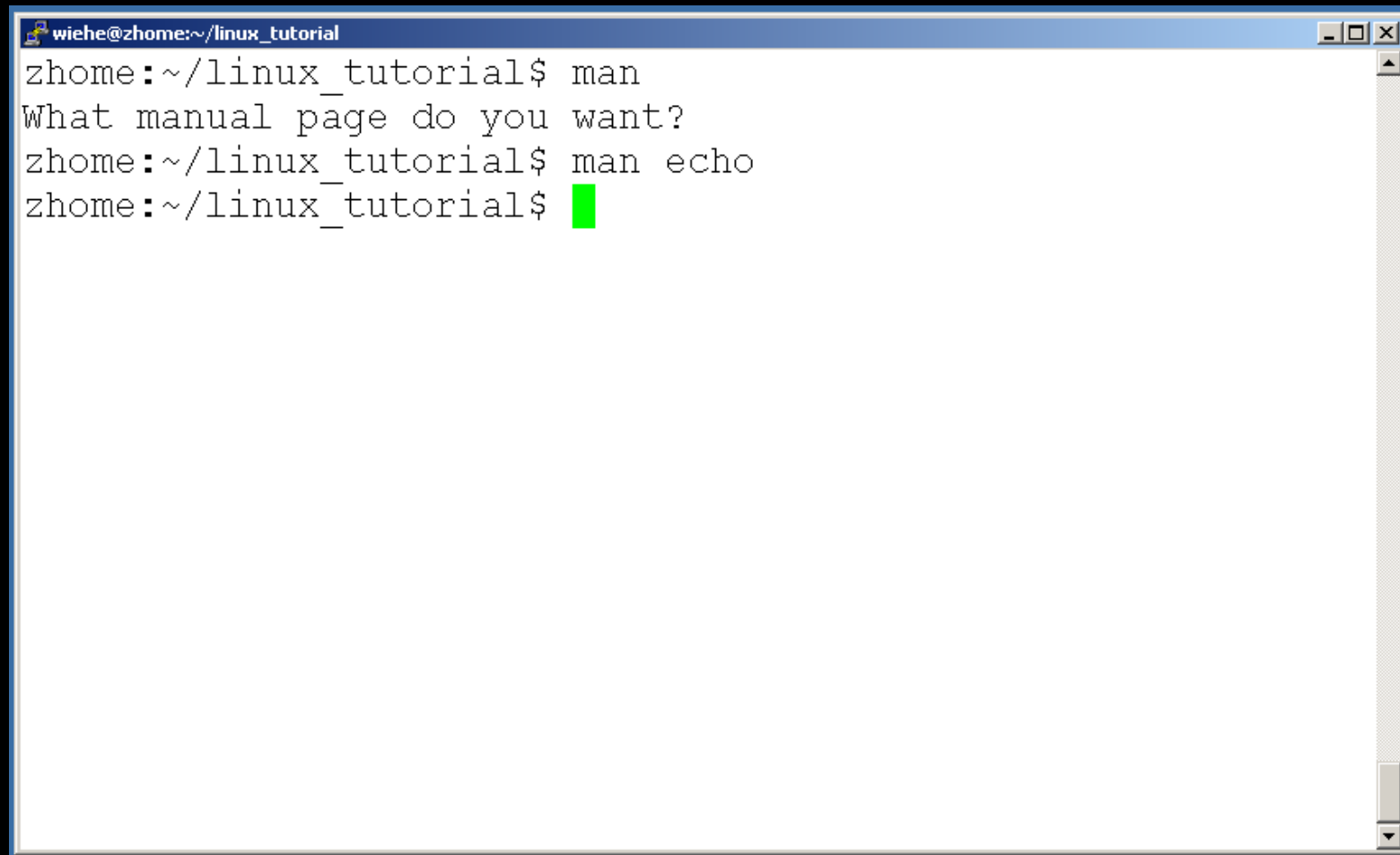
- 
- Unix/Linux
 - Terminal/X windows
 - Windows
 - Putty
 - 59.66.142.149 / edu.eesast.com edu toor



HELP!

- Whenever you need help with a command type “man” and the command name

HELP!

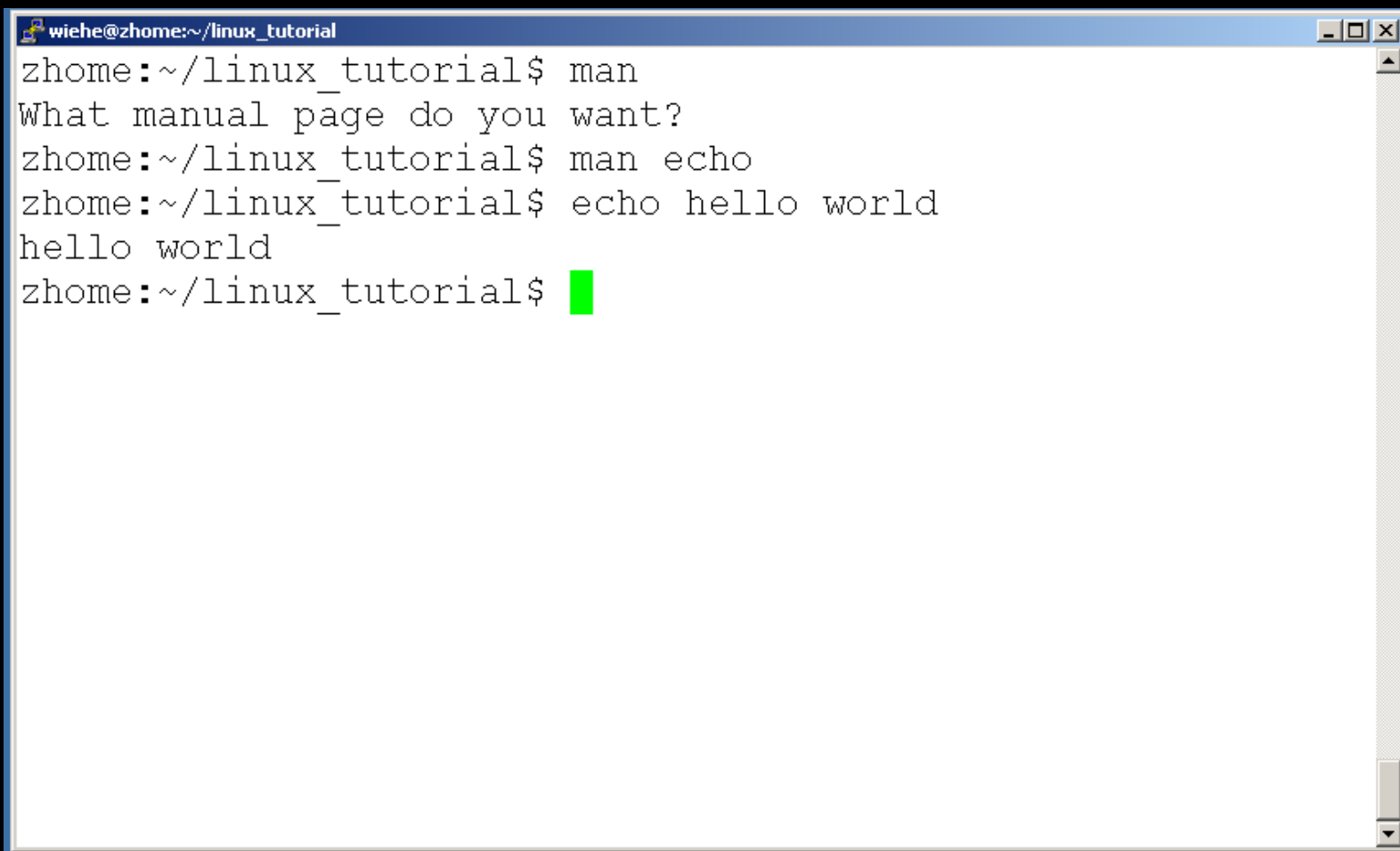
A terminal window with a blue title bar containing the text 'wiehe@zhome:~/linux_tutorial'. The window has standard window controls (minimize, maximize, close) and a scrollbar on the right. The terminal text shows a user attempting to use the 'man' command to find help, first without arguments and then with the argument 'echo'.

```
wiehe@zhome:~/linux_tutorial$ man
What manual page do you want?
wiehe@zhome:~/linux_tutorial$ man echo
wiehe@zhome:~/linux_tutorial$
```

HELP!

```
wiehe@zhome:~  
ECHO (1)                                User Commands                                ECHO (1)  
  
NAME  
    echo - display a line of text  
  
SYNOPSIS  
    echo [OPTION]... [STRING]...  
  
DESCRIPTION  
    NOTE: your shell may have its own version of echo  
    which will supercede the version described here.  
    Please refer to your shell's documentation for  
    details about the options it supports.  
  
    Echo the STRING(s) to standard output.  
  
    -n      do not output the trailing newline  
lines 1-19
```

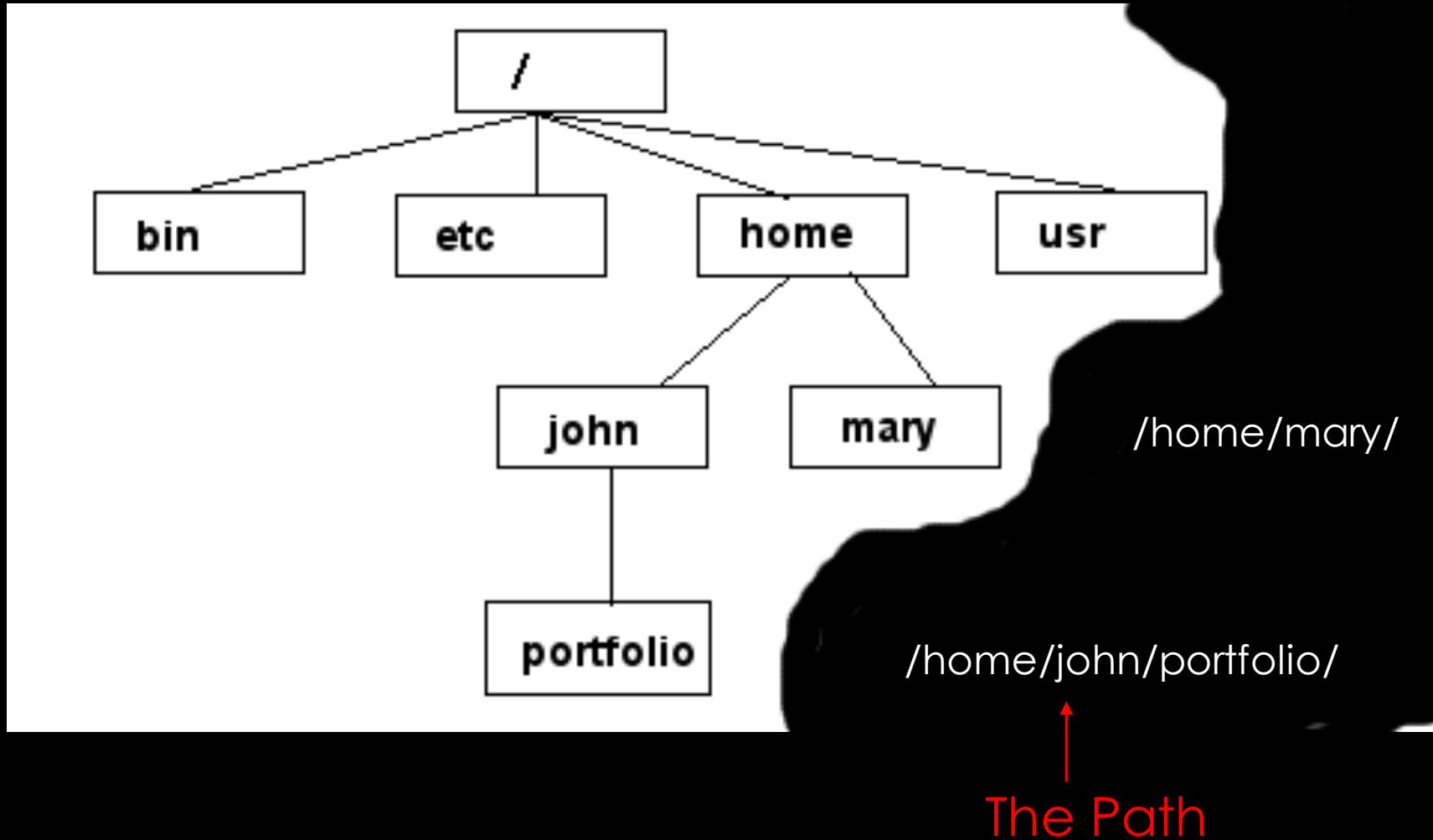

HELP!



```
wiehe@zhome:~/linux_tutorial
zhome:~/linux_tutorial$ man
What manual page do you want?
zhome:~/linux_tutorial$ man echo
zhome:~/linux_tutorial$ echo hello world
hello world
zhome:~/linux_tutorial$
```

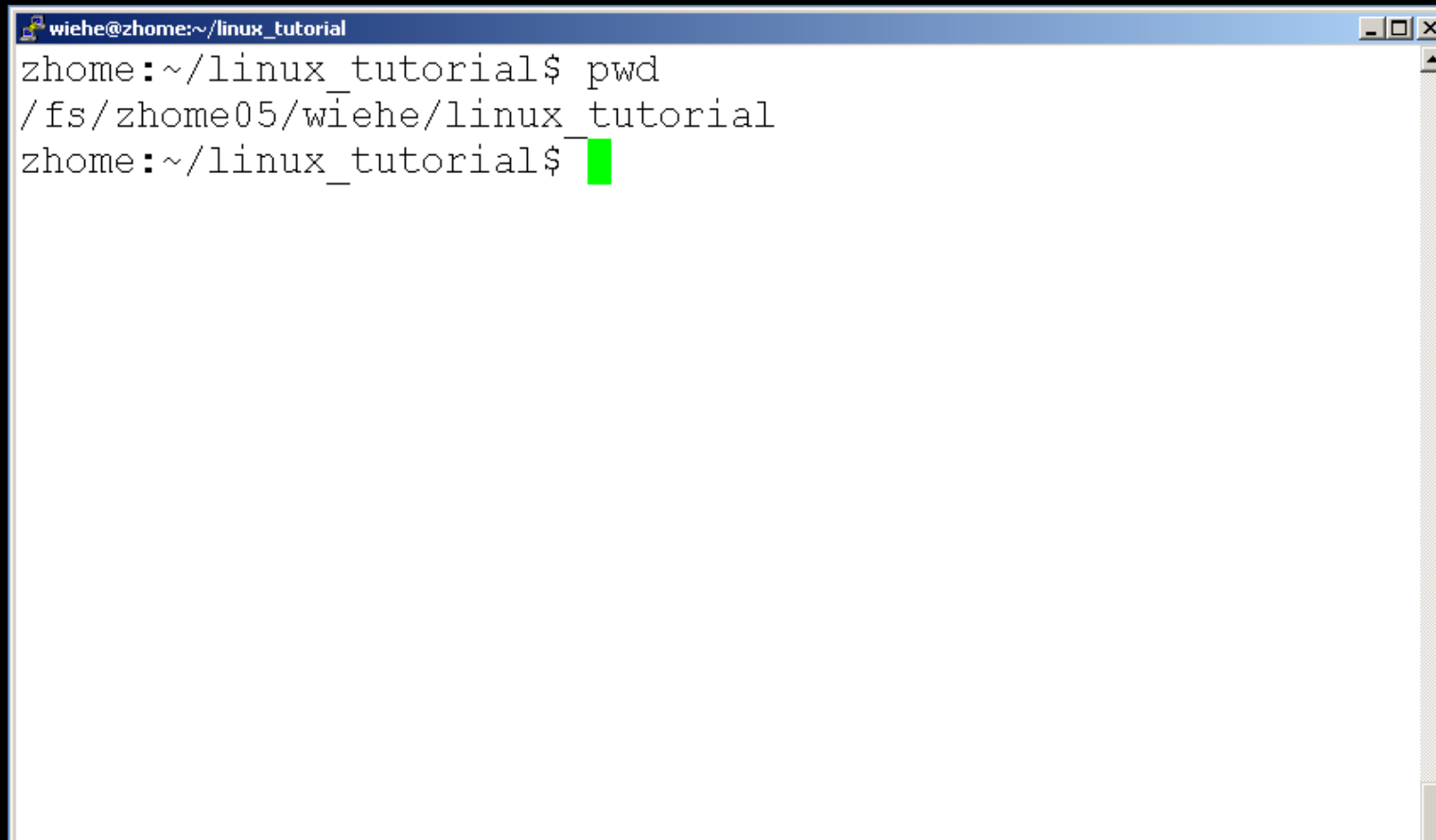
UNIX/LINUX FILE SYSTEM

NOTE: Unix file names
are **CASE SENSITIVE!**



COMMAND: PWD

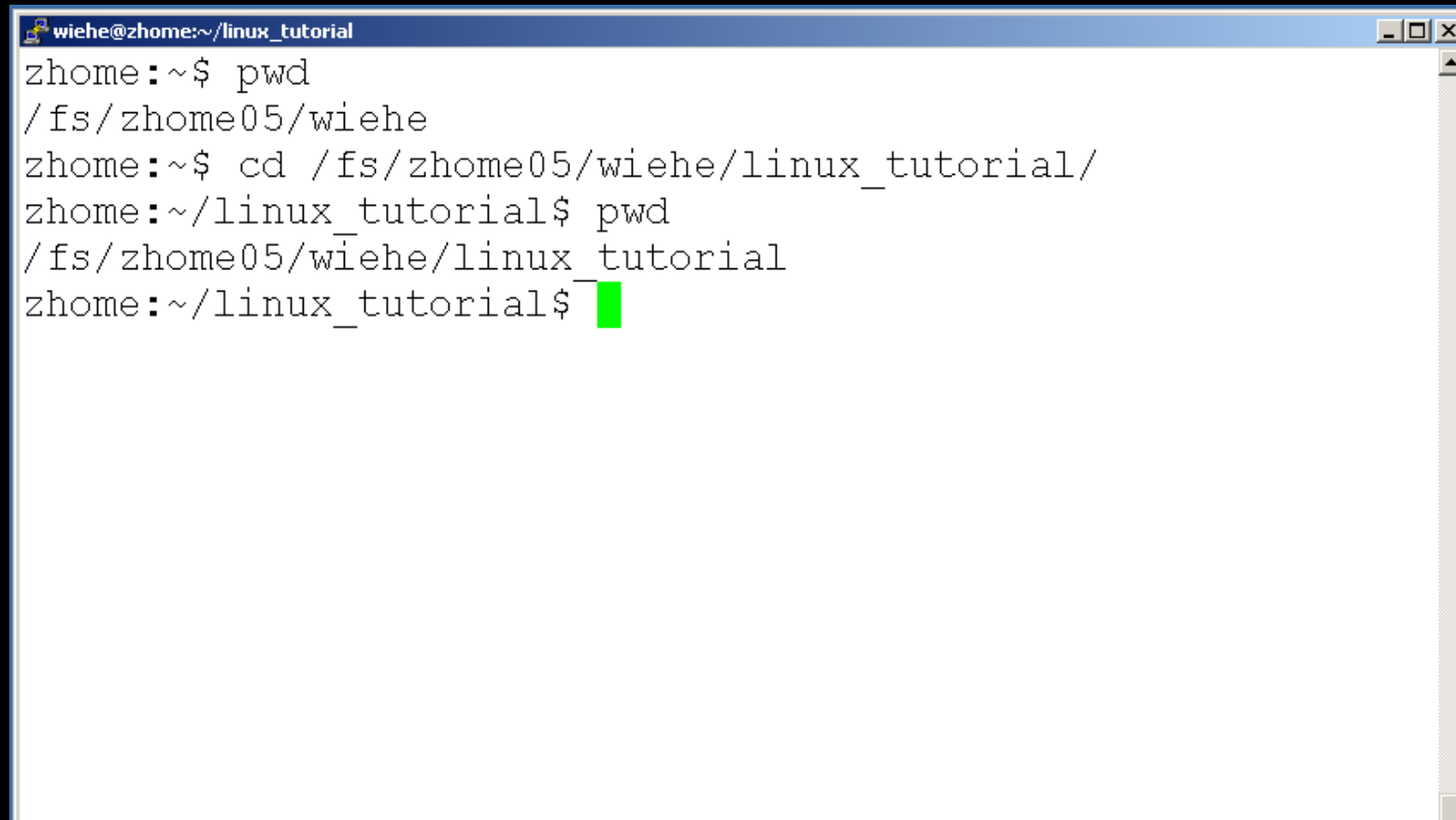
- To find your current path use “pwd”

A terminal window with a blue title bar containing the text 'wiehe@zhome:~/linux_tutorial'. The window has standard window controls (minimize, maximize, close) on the right. The terminal text shows the user entering 'pwd' and receiving the output '/fs/zhome05/wiehe/linux_tutorial'. The prompt 'zhome:~/linux_tutorial\$' is followed by a green cursor.

```
wiehe@zhome:~/linux_tutorial
zhome:~/linux_tutorial$ pwd
/fs/zhome05/wiehe/linux_tutorial
zhome:~/linux_tutorial$
```

COMMAND: CD

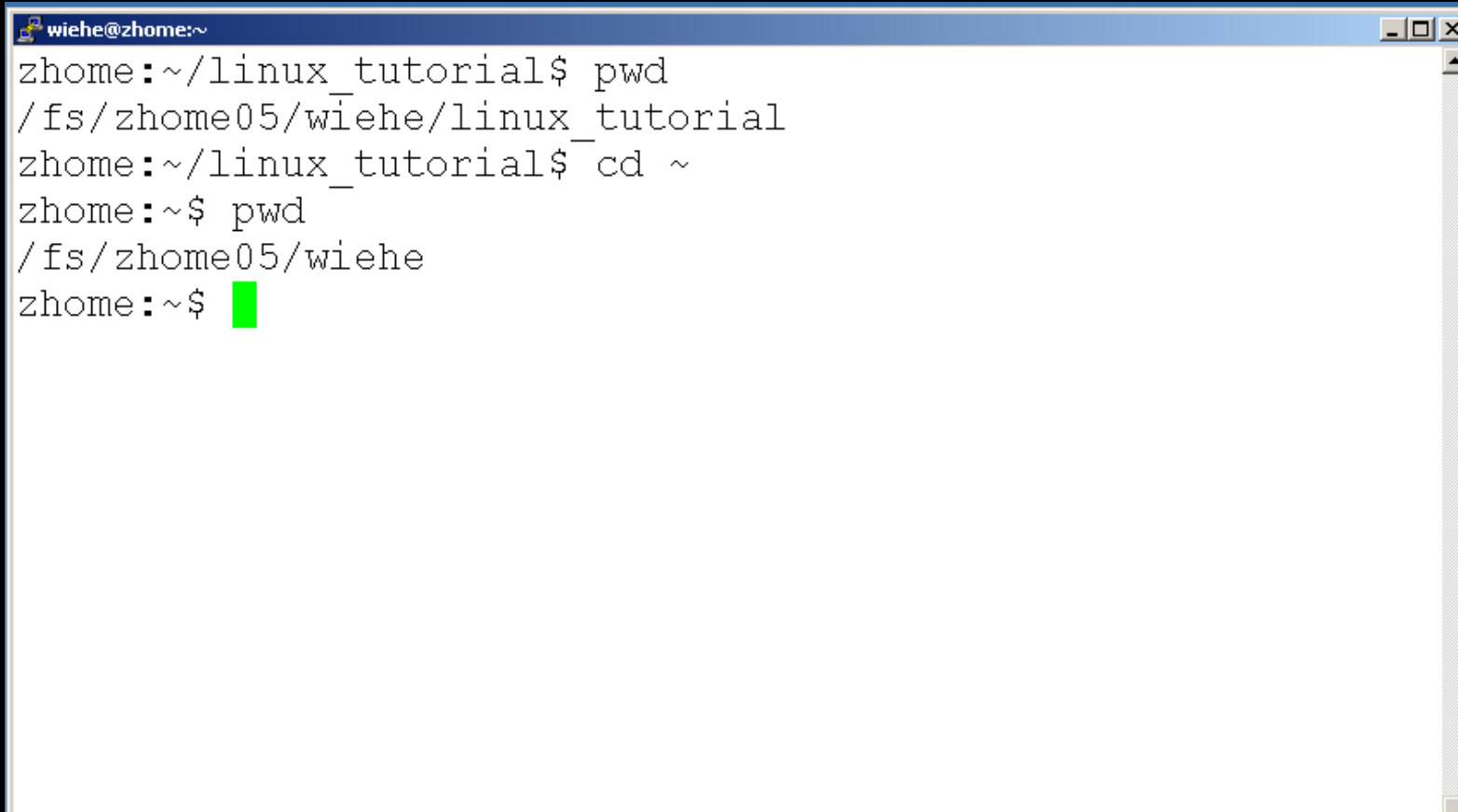
- To change to a specific directory use “cd”

A terminal window titled 'wiehe@zhome:~/linux_tutorial' with standard window controls. The terminal shows a sequence of commands and their outputs: 'pwd' returns '/fs/zhome05/wiehe', 'cd /fs/zhome05/wiehe/linux_tutorial/' changes the directory, and a second 'pwd' returns '/fs/zhome05/wiehe/linux_tutorial'. The prompt is currently 'zhome:~/linux_tutorial\$' with a green cursor.

```
wiehe@zhome:~/linux_tutorial
zhome:~$ pwd
/fs/zhome05/wiehe
zhome:~$ cd /fs/zhome05/wiehe/linux_tutorial/
zhome:~/linux_tutorial$ pwd
/fs/zhome05/wiehe/linux_tutorial
zhome:~/linux_tutorial$
```

COMMAND: CD

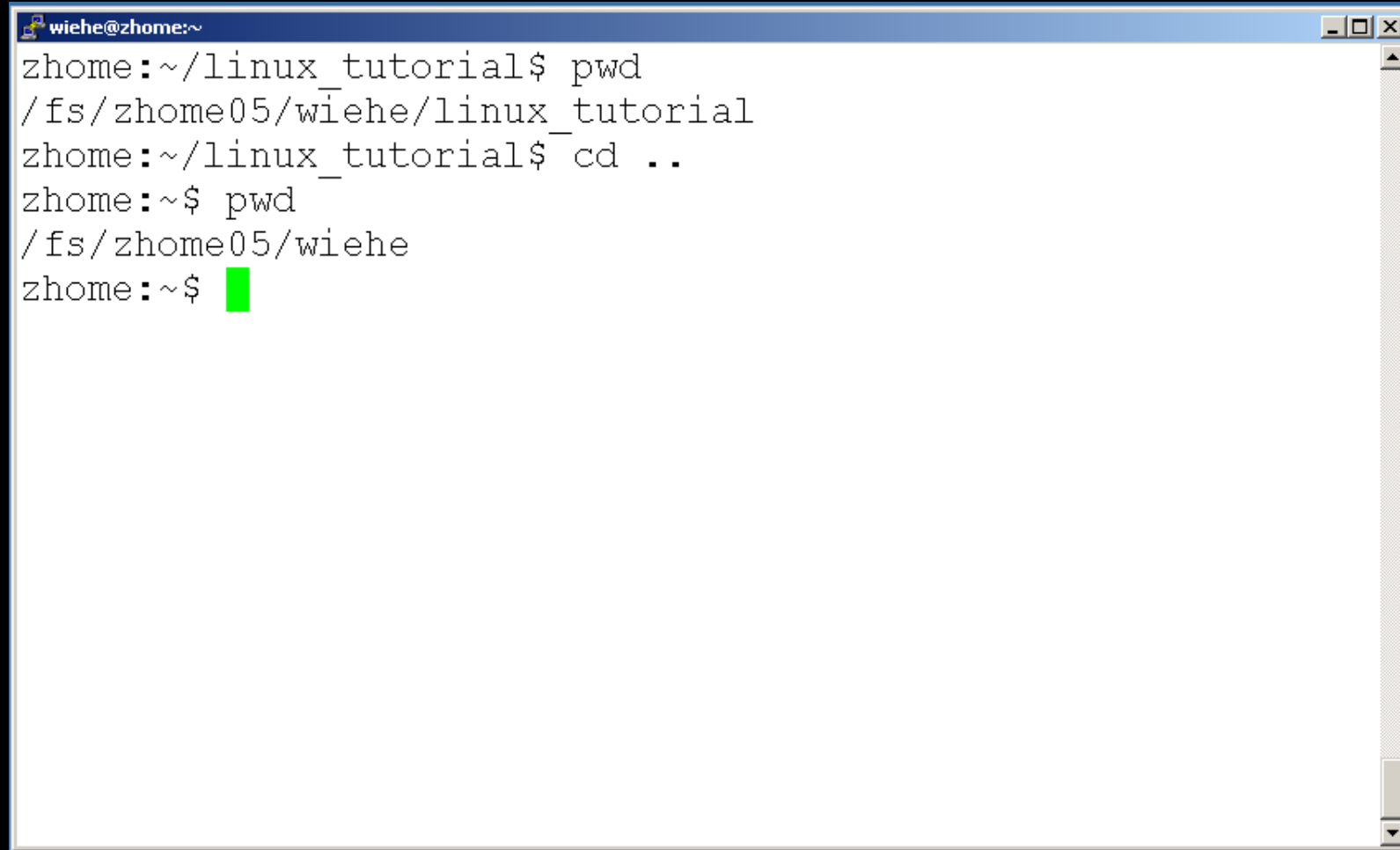
- “~” is the location of your home directory



```
wiehe@zhome:~  
zhome:~/linux_tutorial$ pwd  
/fs/zhome05/wiehe/linux_tutorial  
zhome:~/linux_tutorial$ cd ~  
zhome:~$ pwd  
/fs/zhome05/wiehe  
zhome:~$
```

COMMAND: CD

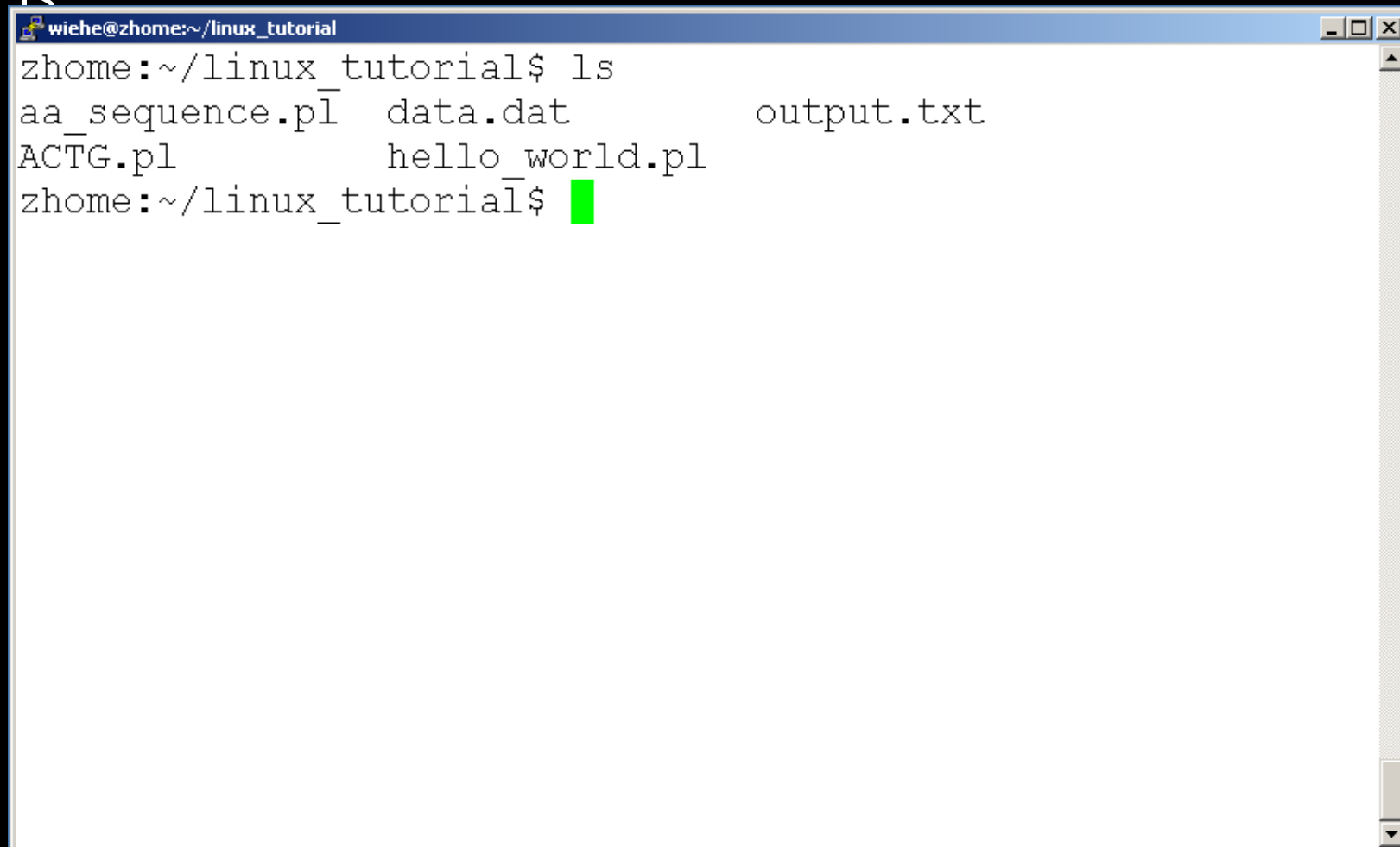
- “..” is the location of the directory below current one

A terminal window titled 'wiehe@zhome:~' with standard window controls. It shows a sequence of commands and their outputs: 'pwd' returns '/fs/zhome05/wiehe/linux_tutorial', 'cd ..' is entered, and a second 'pwd' returns '/fs/zhome05/wiehe'. The prompt is currently at 'zhome:~\$' with a green cursor.

```
wiehe@zhome:~  
zhome:~/linux_tutorial$ pwd  
/fs/zhome05/wiehe/linux_tutorial  
zhome:~/linux_tutorial$ cd ..  
zhome:~$ pwd  
/fs/zhome05/wiehe  
zhome:~$
```

COMMAND: LS

- To list the files in the current directory use "ls"

A terminal window with a blue title bar containing the text 'wiehe@zhome:~/linux_tutorial'. The window has standard window controls (minimize, maximize, close) on the right. The terminal content shows the command 'ls' being executed, resulting in a listing of files: 'aa_sequence.pl', 'data.dat', 'output.txt', and 'ACTG.pl' followed by 'hello_world.pl' on the next line. The prompt 'zhome:~/linux_tutorial\$' is shown at the bottom with a green cursor.

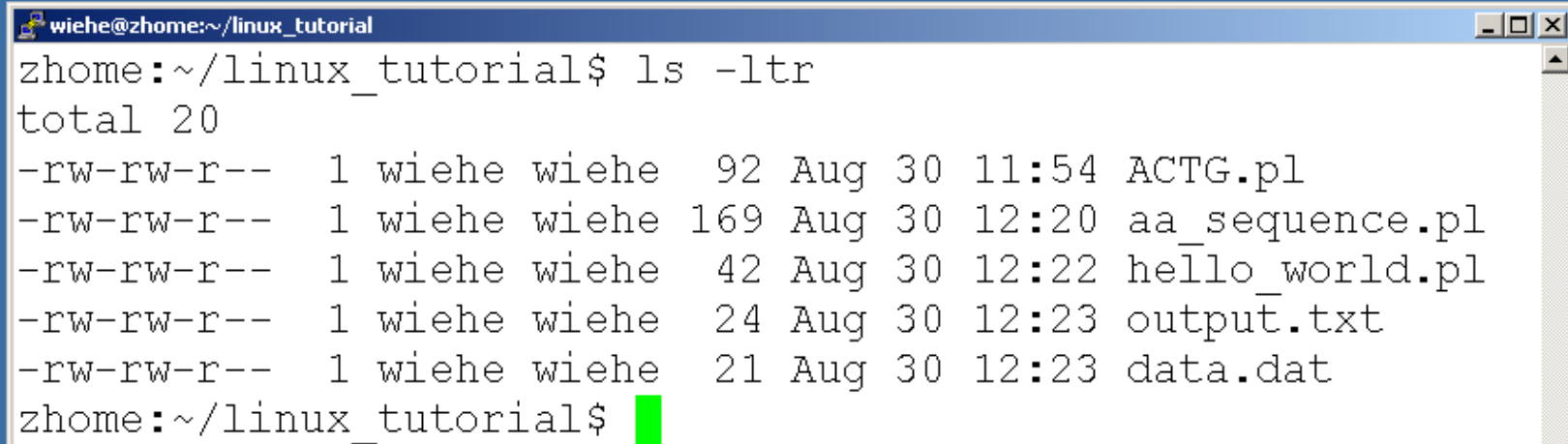
```
wiehe@zhome:~/linux_tutorial
zhome:~/linux_tutorial$ ls
aa_sequence.pl  data.dat          output.txt
ACTG.pl        hello_world.pl
zhome:~/linux_tutorial$
```

COMMAND: LS

- ls has many options
 - -l long list (displays lots of info)
 - -t sort by modification time
 - -S sort by size
 - -h list file sizes in human readable format
 - -r reverse the order
- “man ls” for more options
- Options can be combined: “ls -ltr”

COMMAND: LS -LTR

- List files by time in reverse order with long listing



A terminal window titled 'wiehe@zhome:~/linux_tutorial' displays the output of the 'ls -ltr' command. The output lists five files in reverse chronological order: 'ACTG.pl' (92 bytes, Aug 30 11:54), 'aa_sequence.pl' (169 bytes, Aug 30 12:20), 'hello_world.pl' (42 bytes, Aug 30 12:22), 'output.txt' (24 bytes, Aug 30 12:23), and 'data.dat' (21 bytes, Aug 30 12:23). The total size of the files is 20 bytes. The prompt 'zhome:~/linux_tutorial\$' is followed by a green cursor.

```
wiehe@zhome:~/linux_tutorial$ ls -ltr
total 20
-rw-rw-r-- 1 wiehe wiehe  92 Aug 30 11:54 ACTG.pl
-rw-rw-r-- 1 wiehe wiehe 169 Aug 30 12:20 aa_sequence.pl
-rw-rw-r-- 1 wiehe wiehe  42 Aug 30 12:22 hello_world.pl
-rw-rw-r-- 1 wiehe wiehe  24 Aug 30 12:23 output.txt
-rw-rw-r-- 1 wiehe wiehe  21 Aug 30 12:23 data.dat
zhome:~/linux_tutorial$
```

- 
- Vi（文本编辑）
 - ssh