Bash Cheat Sheet

Updated on 22 January 2024 by Huzaif Sayyed

The command line interface, with its powerful and versatile features, is an essential tool for any developer, system administrator, or power user. Among the various command line interfaces available, Bash (Bourne Again SHell) stands out as one of the most widely used and powerful shells. Whether you're a beginner or an experienced user, having a Bash cheat sheet can help you navigate and leverage its capabilities effectively. In this blog post, we'll provide you with a handy Bash cheat sheet to enhance your bash command scripting.

Links

- Bash Official Doc
- Shell Scripting Cheatsheet
- Download Bash Cheat Sheet PDF
- ★ Want More Cheatsheet

Hello World! Bash Program

Create a hello.sh

```
#!/bin/bash
echo "Hello World"
```

Run the bash file using `./hello.sh` or `sh hello.sh` or `bash hello.sh`

Navigating the File System

Change Directory

```
cd [directory]
```

List Contents

```
ls [options] [directory]
```

Present Working Directory

```
pwd
```

Create Directory

```
mkdir [directory]
```

Remove Directory (and its contents)

```
rm -r [directory]
```

File Operations

Create Empty File

```
touch [filename]
```

H3 Inside Cheatsheet Item

Copy File

```
cp [source] [destination]
```

Move/Rename File

```
mv [oldname] [newname]
```

Remove/Delete File

```
rm [filename]
```

Text Processing

Display File Contents

```
cat [filename]
```

View File Page by Page

```
less [filename]
```

Search for a String in Files

```
grep [pattern] [filename]
```

Replace String in Files

```
sed 's/old-text/new-text/' [filename]
```

File Permissions

Change Permissions

```
chmod [permissions] [filename]
```

Change Ownership

```
chown [user:group] [filename]
```

System Information

Display System Information

```
uname -a
```

Display Disk Usage

```
df -h
```

Display Memory Usage

```
free -m
```

Process Management

List Running Processes

```
ps aux
```

Kill Process

```
kill [PID]
```

Background Process

```
command &
```

Variables and Environment

Set Variable

```
variable_name=value
```

Display Variable

```
echo $variable_name
```

Environment Variables

```
export VARIABLE_NAME=value
```

Shell Scripting

Shebang (Script Header)

```
#!/bin/bash
```

The shebang `(#!)` is a line at the beginning of a script specifying the interpreter to execute it.

Conditional Statements

```
if [ condition ]; then
  # commands
fi
```

Looping (for loop)

```
for i in {1..5}; do
  # commands
done
```

File Archives and Compression

Create Tar Archive

```
tar -cvf archive.tar [files/directories]
```

Extract Tar Archive

```
tar -xvf archive.tar
```

Compress with gzip

```
gzip [filename]
```

Decompress gzip

```
gunzip [filename.gz]
```

Network Operations

Check Network Connectivity

```
ping [hostname/IP]
```

Trace Route

```
traceroute [hostname/IP]
```

Transfer Files (SCP)

```
scp [source] [user@destination]:[path]
```

Text Editors

Nano Editor

```
nano [filename]
```

Useful commands within nano: Ctrl + X (Exit), Ctrl + O (Save), Ctrl + W (Search)

Vim Editor (Advanced)

```
vim [filename]
```

Useful commands within vim: :wq (Save and Quit), :q! (Quit without saving)

System Logs

Display Last System Logs

```
dmesg | tail
```

View System Logs

```
cat /var/log/syslog
```

Job Control

Display Running Jobs

```
jobs
```

Bring Job to Foreground

```
fg [job ID]
```

Suspend Job

```
Ctrl + Z
```

Environment Variables

List All Environment Variables

```
env
```

Set Temporary Environment Variable

```
VARNAME=value command
```

Command History

Display Command History

```
history
```

Repeat Last Command

```
!!
```

Repeat Command by Number

```
!123
```

User Management

Add User

```
sudo adduser [username]
```

Delete User

```
sudo userdel [username]
```

Change User Password

```
sudo passwd [username]
```

File Permissions (Advanced)

Access Control Lists (ACL)

```
setfacl -m u:[user]:rwx [filename]
```

Default Permissions

```
chmod [permissions] [filename]
```

Congratulations on reaching the end of this Bash Programming Language Cheatsheet! This resource is designed to make your coding experience easy and efficient. Feel free to bookmark this page or download the PDF for future reference. Happy Bash Programming Commanding!

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Bash Programming Language, Programming Language Cheatsheet

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