Termux

Termux is a free and open-source terminal emulator for Android which allows for running a Linux environment on an Android device. Termux installs a minimal base system automatically; additional packages are available using its package manager, based on Debian's. [2]

Most commands available in Linux are accessible in Termux, as well as built-in Bash commands. There are several other shells available, such as Zsh and tcsh.[3]

Overview

Packages are cross-compiled with Android NDK and have compatibility patches to get them working on Android. Since all files are installed in the application directory, rooting is not required.[4]

There are more than one thousand packages available, and users can submit requests for new ones. Alternatively, packages can be compiled from source, as Termux supports a variety of build tools including CMake, Meson, GNU Autotools, as well as compilers for C++, Rust, Go, Swift, and other programming languages. Termux can also install interpreters for languages like Ruby, Python, and JavaScript.

Terminal-based text editors such as Emacs and Vim can be installed. It is also possible to execute GUI applications in Termux by using a VNC server and installing a desktop environment (Xfce, LXQt, MATE) or window manager.[5]

User interface

Termux's user interface is fairly simple, only displaying the extra keys row and the terminal output. Color scheme and font can be changed through Termux: Styling.

The extra-keys row can also be customized. Users can add more function keys and controls by editing `~/.termux/termux.properties`.

Termux has mouse/touch support which can be used to interact with programs such as htop and other ncurses-based applications. Scrolling is done by swiping up or down in the terminal buffer.

Configuration

Users configure Termux by editing `~/.termux/termux.properties`.

Add-ons

Termux also includes 7 add-ons:

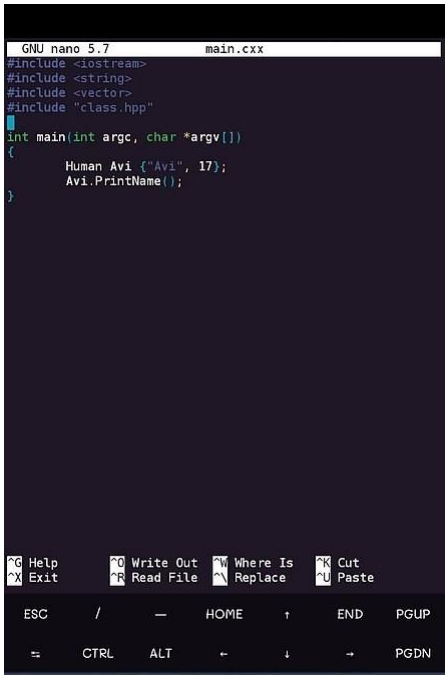
- Termux:API: exposes Android functionality to CLI applications
- Termux:Styling: allows changing the color scheme and font of the terminal
- Termux:Boot: executes Termux commands at boot
- Termux:GUI: allows for some Termux apps to have a GUI using default Android resources; does not work with X11/Wayland apps
- Termux:Widget: lets users run scripts in a dedicated widget or a shortcut in the Home screen
- Termux:Float: runs terminal session in a floating window
- Termux:Tasker: integrates Tasker with Termux

Add-ons must be installed from the same source as the application so that the same User ID is used.

History

Termux was initially released in 2015. Support for requesting packages and features was added through GitHub issues in the app's repository.

Termux



nano running on termux

Original author(s)	Fredrik Fornwall (https://github.com/fornwall)
Initial release	30 May 2015
Stable release	0.118.1[1] (16 June 2024)
Repository	https://github.com/termux/termux-app
Written in	Java, C, C++
Operating system	Android
Platform	x86-64, ARM64, i686, ARMv7
Size	105 MB

People can also contribute to the project by adding new features and packages.

In January 2020, the Termux development team ended support for devices running Android 5-6, making Android version 7 the minimum OS requirement.

Type	Terminal Emulator, Command-line interface
License	GPLv3 only
Website	termux.com (https://termux.com)

Termux `v0.101` was the last version to be updated in the Google Play Store. Since November 2020, Google Play has enforced apps targeting API level 29, which breaks the execution of binaries in private application directories. According to Google:

> Untrusted apps that target Android 10 cannot invoke `exec()` on files within the app's home directory. This execution of files from the writable app home directory is a W^X violation. Apps should load only the binary code that's embedded within an app's APK file.[6]

The Termux development team suggests moving to F-Droid in order to continue getting updates, as F-Droid does not impose such restrictions. It is also possible to download APK files from the project's GitHub repository.

In May 2021, Bintray, which had been the primary host for the Termux packages, shut down its services.[7] Termux migrated to Hetzner, another hosting service.[8]

Installation

The installation process extracts the bootstrap archive from the APK file, sets correct permissions for the executable, and sets up directories like the home directory. The Play Store version of Termux isn't being updated anymore, users are encouraged to install Termux from F-Droid or GitHub in order to receive latest updates.

Package management and distribution

Packages in Termux are installed through the application's package manager (`pkg`) and use the .deb format. However, normal Debian packages cannot be installed as Termux is not FHS compliant.[9] Users can also build and submit packages.

Package availability

Termux has more than 1000 packages available as of 2021.

Package repositories

Termux has 3 repositories available. Repositories included in the default Termux bootstrap installation include:

- `main` is the main repository containing all CLI utilities and other popular Linux tools and language compilers/interpreters.
- `x11-repo` contains X11-based packages and graphical applications.
- `root-repo` contains packages useful for rooted devices. Some of these packages can be used without root, but functionality may be limited.

References

1. "Release 0.118.1" (https://github.com/termux/termux-app/releases/tag/v0.118.1) . 16 June 2024. Retrieved 19 June 2024.
2. Seth Kenlon (August 11, 2020). "Use a Linux terminal on your Android phone" (https://opensource.com/article/20/8/termux) . opensource.com. Retrieved August 17, 2021.
3. "ZSH - Termux Wiki" (https://wiki.termux.com/wiki/ZSH) . Termux. July 30, 2020. Retrieved August 17, 2021.
4. "The Termux Wiki" (https://wiki.termux.com/wiki/Main_Page) . Termux. July 30, 2021. Retrieved August 17, 2021.
5. "Graphical Environment - Termux Wiki" (https://wiki.termux.com/wiki/Graphical_Environment) . Termux. July 30, 2021. Retrieved August 17, 2021.
. "Behavior changes: apps targeting API 29+" (https://developer.android.com/about/versions/10/behavior-changes-10) . Android Developers. Retrieved 2021-12-01.
7. "Into the Sunset: Bintray, JCenter, GoCenter, and ChartCenter" (https://jfrog.com/blog/into-the-sunset-bintray-jcenter-gocenter-and-chartcenter/) . JFrog. 2021-02-03. Retrieved 2021-12-01.
. "Termux" (https://termux.dev/en/) . Termux. Retrieved 1 June 2023.
9. "Differences from Linux - Termux Wiki" (https://wiki.termux.com/wiki/Differences_from_Linux) . termux.com. 30 July 2021. Retrieved 18 August 2021.

External links

- Media related to Termux at Wikimedia Commons
- Official website (https://termux.com)
- Termux (https://f-droid.org/packages/com.termux/) Android package at the F-Droid repository
- Termux (https://github.com/termux/termux-app/) on GitHub
- Termux packages (https://github.com/termux/termux-packages/) on GitHub
- Termux wiki (https://wiki.termux.com/wiki/Main_Page)

COMMANDS	USAGE
cp -v	used to prints informative massage
cp -r	used to copy any directory
mv -u	update-move when source is newer than destination
mv -v	to move any directory
ls -n	to display UID and GID directory
ls --version	to check the version of ls command
cd --	show last working directory from where we moved
ls -l	show file action like - modified, date and time, owner of file, permissions Etc.
ls help	show display how to use "ls" command
cp -n	no file overwrite
cd ~	move to users home directory from anywhere
mv [file1 name] [new file2 name]	move or rename two file at a time
cd -	move one directory back from current location
mv [file name]	move any file and folder
ls	list directory
ls -a	list all files including hidden files
pwd	it show your current working directory
mv -i	interactive prompt before overwrit
wget [url]	install tool , apt install wget
git clone [url]	install any tools with git clone, apt install git
ls -al	formatted listing with hidden files
mv -f	force move by overwriting destination files without prompt
ls -i	Display number of file or directory

COMMANDS	USAGE
cp	copy any file
cd /	change to root directory
cd	change directory
cd ..	change current directory to parent directory
curl -O [url]	apt install curl
rm	remove or delete files
rm [filename]	remove any text files
rmdir [dir name]	remove any directory
rm -rf	force remove a directory or a folder
rm -r [name]	delete a directory called name
apt remove [package name]	uninstall / remove a package
touch [file name]	create new file
mkdir [name]	create a directory or folder
more [file name]	output the contents of file
head [file name]	output the first 10 line of file
tail -f [file name]	output the contents of file as it grows
apt install zip	install zip file tool
zip name.zip [file]	compress file using this commands
unzip [zip file]	to unzip file
ftp	launch ftp client from terminal
-p	use passive mode
bye	terminate current ftp session, exit
ascii	set file transfer to ascii protocols
bell	bell sound after each command
status	shows current status about ftp server
open host	open a connection to remote host

COMMANDS	USAGE
remotehelp [cmdname]	request help from ftp server
account [password]	supply a password required by remote
uname -m	used to find the architecture of your device
du	display directory space usage
df	display disk usages
cal	show display calendar
w	show display who is currently online
cat /proc/meminfo	show memory related information
cat /proc/cpuinfo	show cpu information
whoami	show your login name
fingure username	shows information about user
date	show the current date and time
uptime	show the system current uptime
man command	show manual a command
free	display memory and swap usage
kill	send signal to process
kill- l	list all of the signal that are possible to send with kill
lspci	show PCI devices
lsusb	show usb devices
apt search [qurey] pkg search [qurey]	find a package
locate [file]	find all files with filename
locate [query]	find all path names contains a pharse
whereis [command]	find location binary /source/man file for a command
which [command]	find of an executable
grep pattern [files]	searching for pattern in files
grep -r pattern files	searching for certain pattern in files

COMMANDS	USAGE
command | grep pattern	search for pattern in the output of command
find / -atime40	to find all the files, which are accessed 40 days back
find / -cmin -60	find change files in last 1 hour
find / -type d -name mll	find all directories whose name is mll in directory
find . -type f -perm 0777 -print	find all tghe files, whose permission are 777
ifconfig	shows all configuration a network interface like ip, mac
ifconfig eth0	used view the network setting on the interface eth0
ifconfig wlan0	view the network setting on wlan0
ping [host]	to ping host ip and show results
arp	check network card & show ip adress
host	display specific server
netstat	review network connection
nslookup	find out DNS related query
tracerout ipadress	display number of hops & respone time to get to a remote system and website
whois domain	get whois information of domain
telnet [ip address [post]	telnet connection
dig domain	get DNS information of domain
scp	copies file, over a source
uname -a	used to display kernal information
whereis app	shows possible location for an app
nano [file name]	display and edit text files
apt show	view package information
append [local-file] remote file	append a local file to one on the remote
$	execute a macro

Termux Commands list pdf for beginners

- **PACKAGE MANAGEMENT** : Linux terminals require a package manager for installation, uninstallation, updating, and managing software packages. Termux comes with its own package manager. 'pkg' here are some package management Termux commands :-

1. **$ pkg update**	Update installed packages to the latest version
2. **$ pkg upgrade**	Upgrade installed packages to the latest version
3. **$ pkg install {package_name}**	To install package like python, git ect.
4. **$ pkg uninstall {package_name}**	To uninstall a package from Termux.
5. **$ pkg list-installed**	List of installed packages.

- **DIRECTORY AND FILE MANAGEMENT :** Directory and file managing in Linux is a must-have skill for any Linux user. You can make use of the commands below to create, move, copy, delete, and customise files :

1. **$ cd {directory_name}**	Move to specific directory
2. **$ cd**	Go back to the past directory.
3. **$ ls**	List of all files in present directory
4. **$ cd $HOME**	Go back to the home directory.
5. **$ cp {file_name}**	Copy files.
6. **$ rm {file_name}**	Remove file (delete).
7. **$ rm -rf {directory_name}**	Remove directory (delete).
8. **$ touch {file_name}**	To create a new file in Termux.
9. **$ mkdir {directory_name}**	Create a new directory in Termux.

- **FILE EDITING :** Nano and vim text editors are essential for script editing and file configuration in Termux. Here are some basic Termux file editing commands :

1. **$ cat {file_name}**	To open a text file.
2. **$ nano {file_name}**	To modify a file, using the Nano text editor.
3. **$ vim {file_name}**	To do any advance editing.

- Credit's : This pdf list' was made by www.termuxcommands.com

Termux Commands list pdf for beginners

- **NETWORKING :** Termux networking commands allow users to do many types of network-related work on their device. Here are some basic Termux networking commands :

1. $ ifconfig	Display information about your network.
2. $ curl {url}	Download or display a web page from a URL.
3. $ wget {url}	The command is to download a file from a specific URL.

- **MANAGEMENT OF SYSTEM AND PROCESS :** Termux allows you to manage system processes and connect with the system of your Android device using various commands :

1. $ ps	List of running processes.
2. $ kill {process_id}	To end a running process (kill)
3. $ top	Display the current state of your system's resources.
4. $ uptime	Provide information about your system uptime.

- **BASIC COMMANDS :** These commands serve a few roles :

1. $ termux-setup-storage	Allow access to your device shared storage.
2. $ whoami	Your current username in Termux.
3. $ clear	To clear the current Termux terminal screen.
4. $ exit	Exit the current session or terminal.

Repository	Command to subscribe to repository
game-packages	`pkg install game-repo`
science-packages	`pkg install science-repo`
termux-root-packages	`pkg install root-repo`
x11-packages (Android 7+ only)	`pkg install x11-repo`

Command	Description
`pkg autoclean`	Remove outdated .deb files from the cache.
`pkg clean`	Remove all .deb files from the cache.
`pkg files <package>`	List files installed by specified package.
`pkg list-all`	List all available packages.
`pkg list-installed`	List currently installed packages.
`pkg reinstall <package>`	Re-install specified package.
`pkg search <query>`	Search package by query.
`pkg show <package>`	Show information about specific package.

Termux Basic Commands

- **`pkg update`**: Updates the package list.
- **`pkg upgrade`**: Upgrades installed packages.
- **`pkg install [package_name]`**: Installs a new package (e.g., `pkg install python`).
- **`termux-setup-storage`**: Requests permission for storage access (to access your files).
- **`termux-wake-lock`**: Prevents the device from sleeping while Termux is running.
- **`termux-wake-unlock`**: Releases the wake lock set by `termux-wake-lock`.

File Management

- **`ls`**: Lists files and directories in the current directory.
- **`cd [directory_path]`**: Changes the directory (e.g., `cd /sdcard`).
- **`mkdir [directory_name]`**: Creates a new directory.
- **`rm [file_name]`**: Deletes a file.
- **`cp [source] [destination]`**: Copies a file from one location to another.
- **`tar -xzvf [archive_name.tar.gz]`**: Extracts a compressed archive.
- **`zip -r [archive_name.zip] [directory_name]`**: Creates a ZIP archive of a directory.
- **`unzip [archive_name.zip]`**: Extracts a ZIP archive.

Text Editing and Processing

- **nano** `[file_name]`: Opens the Nano text editor.
- **cat** `[file_name]`: Displays the content of a file.
- **grep** `[word] [file_name]`: Searches for a specific word in a file.
- **join** `[file1] [file2]`: Joins lines of two files on a common field.
- **less** `[file_name]`: Views the content of a file one screen at a time.
- **more** `[file_name]`: An older pager program similar to `less`.

Network Tools

- **ping** `[website_address]`: Pings a website.
- **curl** `[website_address]`: Retrieves the content of a website.
- **wget** `[file_link]`: Downloads a file from the internet.
- **ifconfig**: Configures or displays network interface parameters for a network interface controller.
- **iptables** `-L`: Lists the set of rules used by the iptables firewall.
- **host** `[domain]`: Performs DNS lookups.

Special Packages and Tools

- **`git`**: Version control system.
- **`python`**: Installs the Python programming language.
- **`ssh`**: Used for secure shell connections.
- **`postgresql`**: Installs PostgreSQL, an advanced open source database system.
- **`nmap`**: Network exploration tool and security/port scanner.
- **`openssh`**: Installs OpenSSH, a suite of secure networking utilities based on the SSH protocol.
- **`r`**: Installs R, a language and environment for statistical computing and graphics.

Extended File Management Commands

- **`touch`** `[file_name]`: Creates a new empty file.
- **`mv`** `[source] [destination]`: Moves or renames a file or directory.
- **`find`** `[directory] -name [search_pattern]`: Searches for files or directories within a specified directory.
- **`diff -r [directory1] [directory2]`**: Compares files in two directories recursively.
- **`tree [directory_name]`**: Displays a tree representation of directory structure.
- **`df -h`**: Shows disk space usage of all mounted filesystems in a human-readable format.
- **`fdisk -l`**: Lists the partition tables for the specified devices and their partitions.

System Information and Management

- `top`: Displays real-time system processes and resource usage.
- `df`: Shows disk space usage.
- `uptime`: Shows how long the system has been running.
- `who`: Shows who is logged on.
- `w`: Shows who is logged in and what they are doing.
- `last`: Shows a listing of last logged in users.

Networking and Connectivity

- `nmap [ip_address/domain]`: Scans for open ports on a network host.
- `ssh [user]@[host]`: Connects to a remote host via SSH.
- `scp [source] [user]@[host]:[destination]`: Securely copies files between hosts over SSH.

Package Management and Customization

- **`pkg list-installed`**: Lists all installed packages.
- **`pkg search [package_name]`**: Searches for a package in the repositories.
- **`termux-change-repo`**: Allows changing the repositories for updating and installing packages.

Development Tools

- **`git clone`** `[repository_url]`: Clones a Git repository.
- **`python -m http.server`**: Starts a simple HTTP server in the current directory (useful for testing web pages).
- **`gem install [gem_name]`**: Installs Ruby gems.
- **`make`**: Builds and compiles a project from source code.
- **`gradle`** `build`: Builds a project using Gradle, often used for Java and Android projects.
- **`vim`** `[file]`: Edits files using Vim, a powerful text editor.

Reference:

- https://f-droid.org/en/
- https://f-droid.org/en/packages/com.termux/
- https://en.m.wikipedia.org/wiki/Termux
- https://github.com/termux
- https://github.com/termux/termux-app
- https://github.com/topics/termux-tools
- https://github.com/topics/termux-tool?o=desc&s=updated
- https://github.com/topics/termux-tool
- https://github.com/topics/termux-tools?l=shell&o=desc&s=updated
- https://github.com/topics/termux-hacking

Available On: