Sun City Computer Club

Linux – what is it anyway?

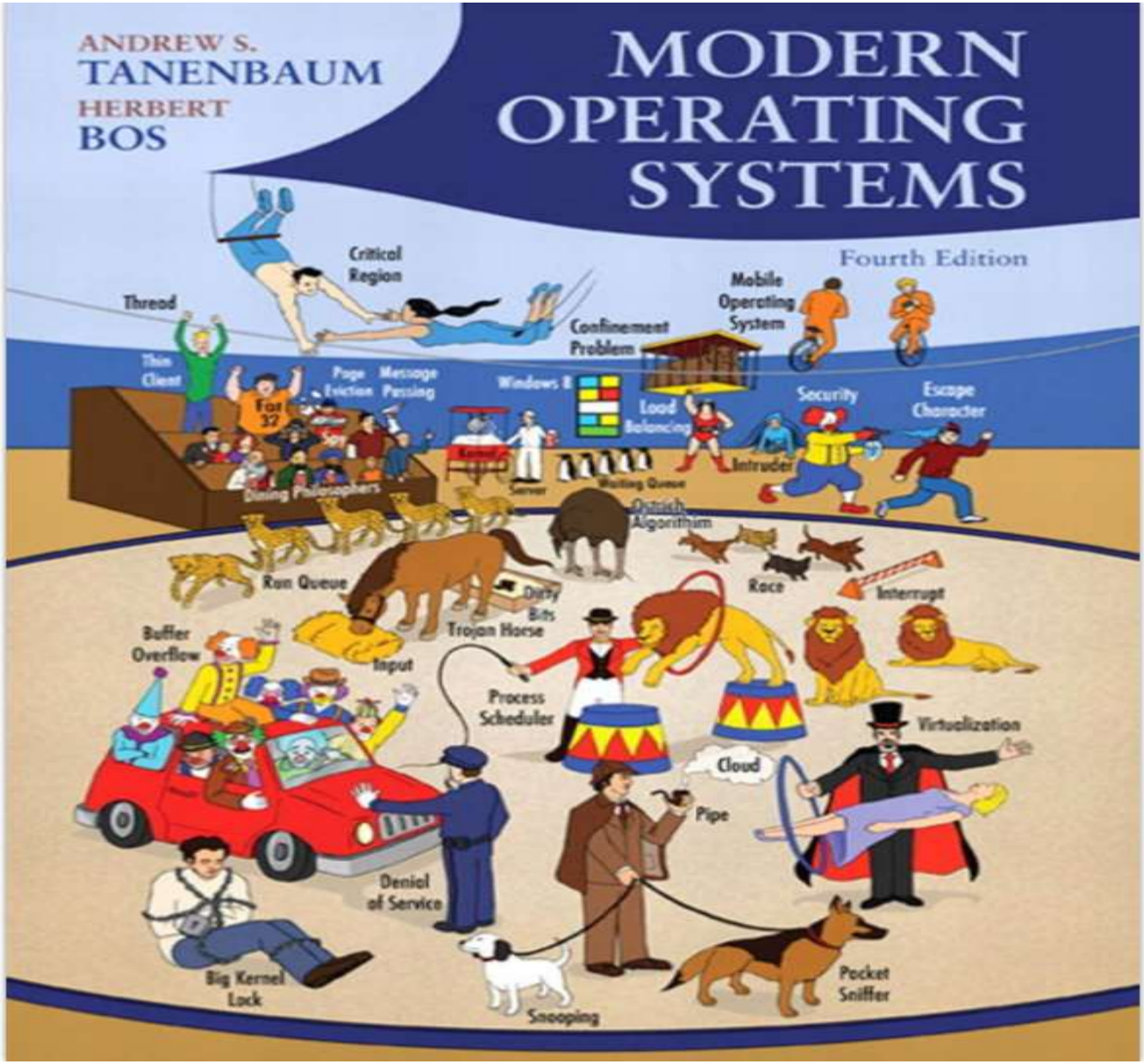
Seminar Series

- Audio recording of this session as MP4 file
- Audio recording available at link shown above
- Click on the green link
- Download the MP4 file
- View that MP4 file in any browser, tablet, smart TV, etc.

SIG attendees are required to be members of the chartered club sponsoring that SIG.
Sun City Community Association By-law

- Linux is an operating system choice
- Windows
- MacOS
- ChromeOS
- Raspberry Pi OS
- Android
- ChromeOS

- Many many others SunOS, RSX, COS, etc.


ANDREW S.
TANENBAUM
HERBERT
BOS
MODERN
OPERATING
SYSTEMS
Fourth Edition
Critical Region
Thread
Thin Client
Page Eviction
Message Passing
Windows 8
Confinement Problem
Load Balancing
Mobile Operating System
Security
Escape Character
Intruder
Dining Philosophers
Server
Waiting Queue
Ostrich Algorithm
Run Queue
Dirty Bits
Trojan Horse
Race
Interrupt
Buffer Overflow
Input
Process Scheduler
Virtualization
Cloud
Pipe
Denial of Service
Big Kernel Lock
Snooping
Pocket Sniffer

- Vacuum tube, relays, plugboards
- Transistors, batch
- Integrated circuits, multiprocessing
- Personal Computers
- Distributed
- Smart devices

Operating System

- Job & Job queue
- Batch
- Punch Cards
- Paper tape, Magnetic tape
- Disk drive block addressable
- Upward compatible
- Time Sharing
- Multics Multiplexed Information and Computing Service

Operating system concepts

Multics

- Security
- Virtual Memory
- Shared programs & data
- Crash detection & rollback
- Discretionary & nondiscretionary controls

- Hard to implement Expensive to fund

Minicomputer

- Digital Equipment PDP
- UNiplexed Information and Computing Service
- Bell Labs licensed to universities
- Rewritten, enhanced, expanded, …
- AT&T *what?* Our business is telephones

UNIX PROGRAMMER'S MANUAL

K. Thompson

D. M. Ritchie

November 3, 1971

Personal Computer

- CP/M, VM, and others
- IBM PC Unix & VMS -> DOS
- MS-DOS Microsoft
- Apple-DOS Basic
- Lisa -> MacIntosh MacOS
- Systems so Graphics, Sound, Disk, network, virtual memory, etc.
- Unix rewritten for microprocessors
- Linux Linus Torvalds
- Command Line interface

Personal Computer

- Mach
- Kernel (always running)

Layers for computer system control

Peripheral control, languages, graphics, etc.

Jobs > NeXT

Open Systems Foundation OSF/1

Microsoft says “Hey”

Windows

Small memory 640kB, 8-bit CPU, PIO, SIO,

Graphics like Apple

Dynamically Linked Library (DLL)

The Registry

- Kernel
  - Windows micro kernel Fixed
  - Linux monolithic kernel Variable
- Filesystem
  - Windows Discrete C: D:
  - Windows case insensitive
  - Linux hierarchical
  - Linux Case sensitive
- Elements
  - Windows less control
  - Linux build to suit customizable

Personal Computer

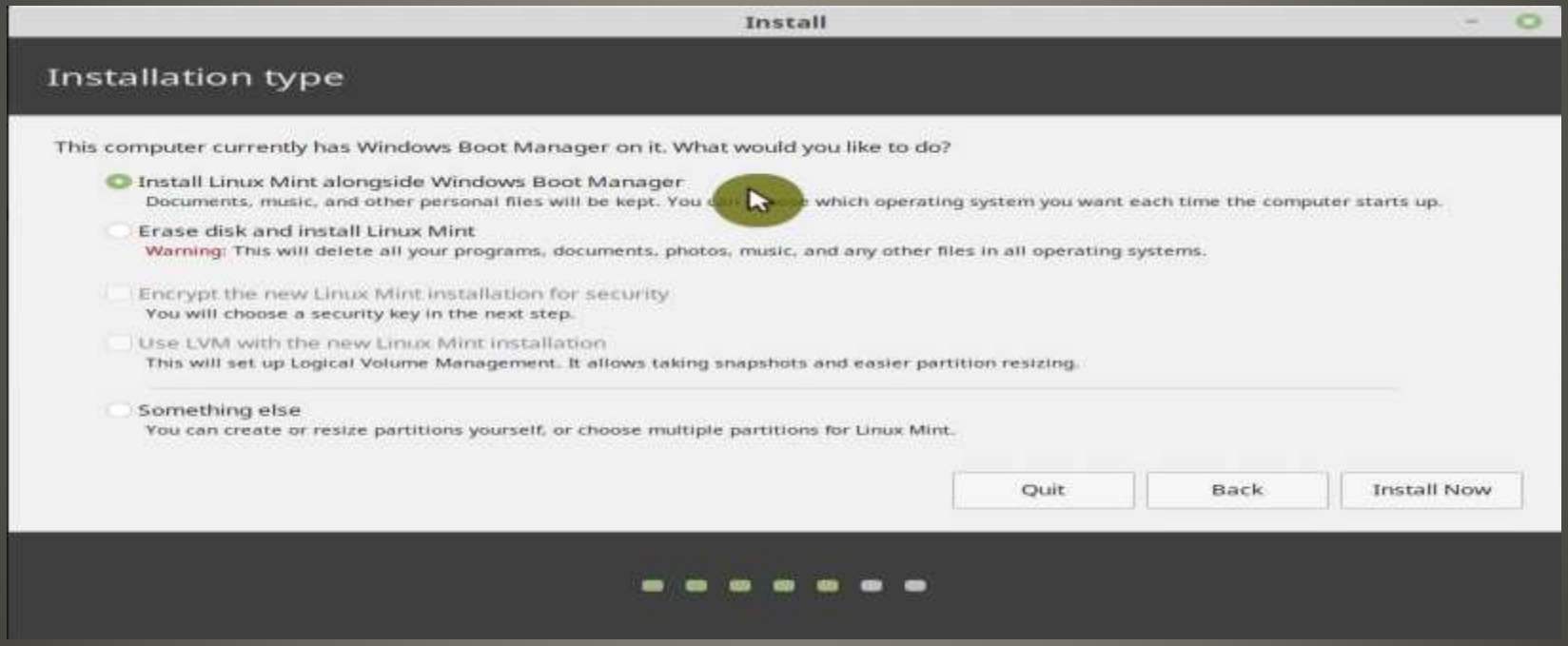
- Cost
  - Windows costs, license restrictions
  - Linux Free, Open-Source license
- Boot partition
  - Windows primary partition
  - Linux primary or logical partition

Personal Computer

- Know your CPU
  Intel, AMD, PowerPC, M1, etc.
  Search -> sysinfo -> Processor
- BIOS Know your Brand
  Search documentation
  BIOS password know or set
  Change boot order
  Check boot options
  Secure boot vs Windows 11 vs security

Dual Boot Windows Linux

- Know your distro Know your disk sizes
- Create bootable Linux distro to Match



Dual Boot Windows Linux

Dual boot Windows Linux

- Shrink Windows partition the right partition
- Install Linux
- KNOW your options
- CAUTION
- Set default boot - Double check boot order

- OPTIONS
- Old laptop/desktop Linux uses less resources
- Live distro
- WSL2, VM, Hosting service,

Processes

- Process creation is cheap in Linux
- Process pipes

  build a process from processes
- Process in Windows

  Use DLLs, registry, Microsoft provided libraries

- Advantages
  One hardware resource
- Disadvantages
  One hardware resource

Dual Boot

Open Source vs. Closed Source

- Microsoft Licensing & product choice
- Linux Distribution (distro) choices

- Microsoft point & click drag & drop icons, click to open, etc.
  Full Graphical User Interface (GUI)

- Linux command line, terse command names, more difficult to learn

- Linux is an operating system choice
- Windows
- MacOS
- ChromeOS
- Raspberry Pi OS
- Android
- ChromeOS

- Yeahbut
- *I don’t/won’t learn yet another operating environment*
- YouTube
- Windows Subsystem for Linux
- Virtual Machine
- Live system boot
- eBay
- Cygwin

Linux

- Not a product
- Entire ecosystem
- A kernel
- Free and open-source FOSS
- MANY choices
- MANY usages
- ONCE a desktop Hardly any indication

Windows DLL

- Advantages

  Less resources, modular, ease of development & installation, key portions of app updated / features added, programming language independent, smaller installation files, etc.

- Disadvantages

  One vulnerability infects all.

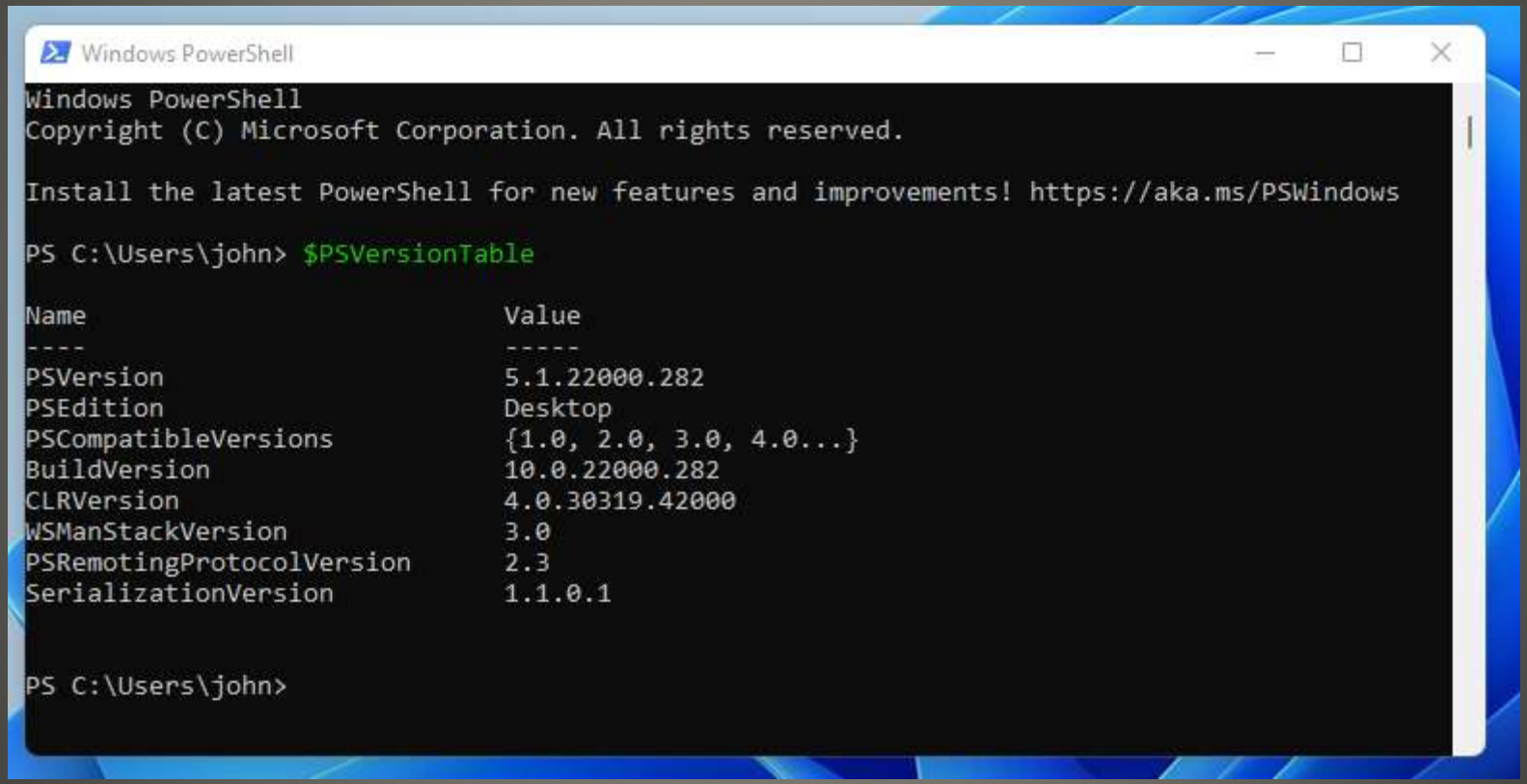
  Computer virus

- WSL2

One Method	**Another Method**
PowerShell	Enable WSL feature
Install WSL2	WSL2 requirements
Initial distro	Enable VM feature
	Update Linux kernel
	Setting WSL2 as default

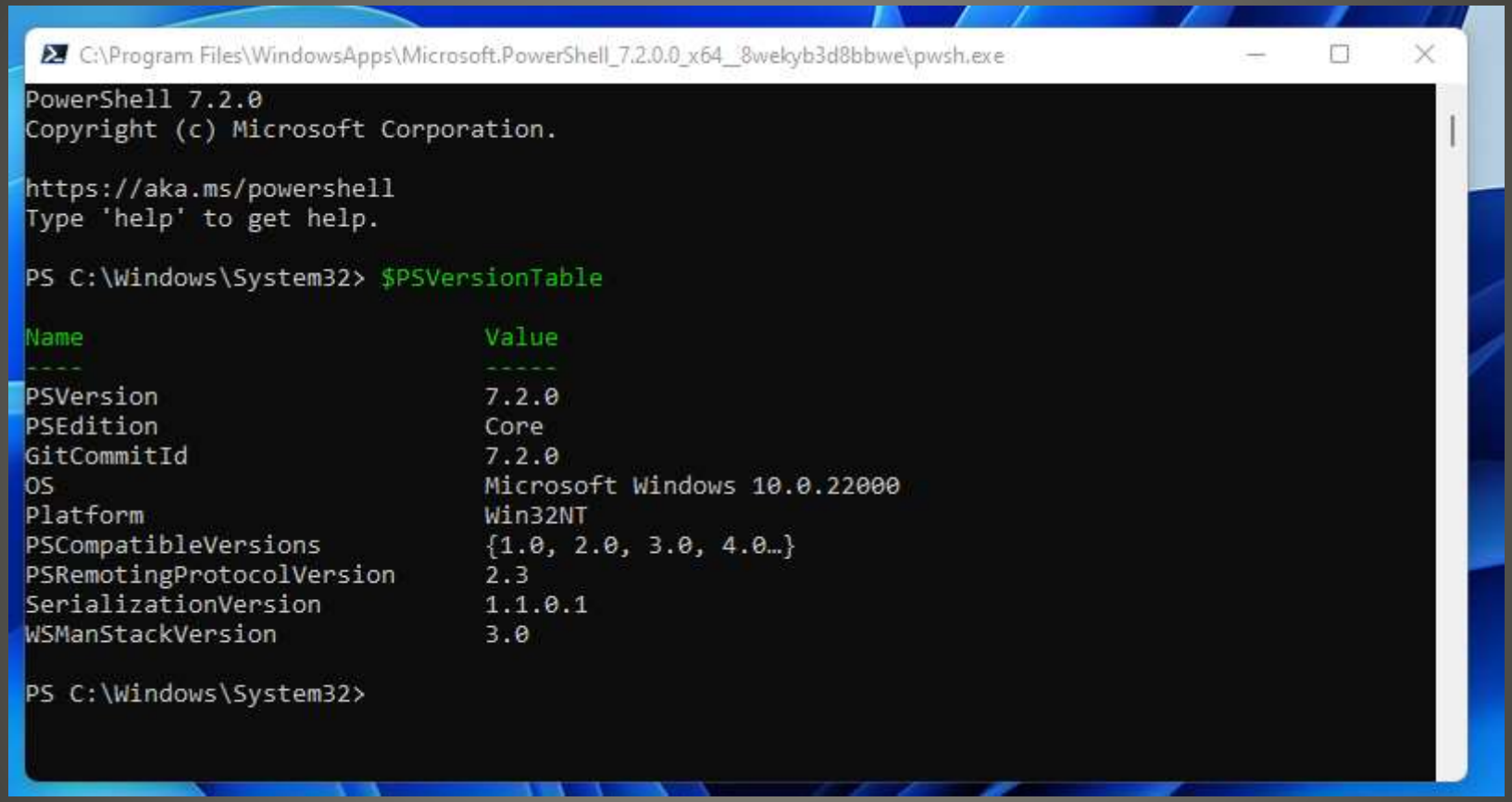
Windows Subsystem for Linux 2

- User Access Code UAC Please
- PowerShell version



PowerShell – An Aside

- Microsoft Store

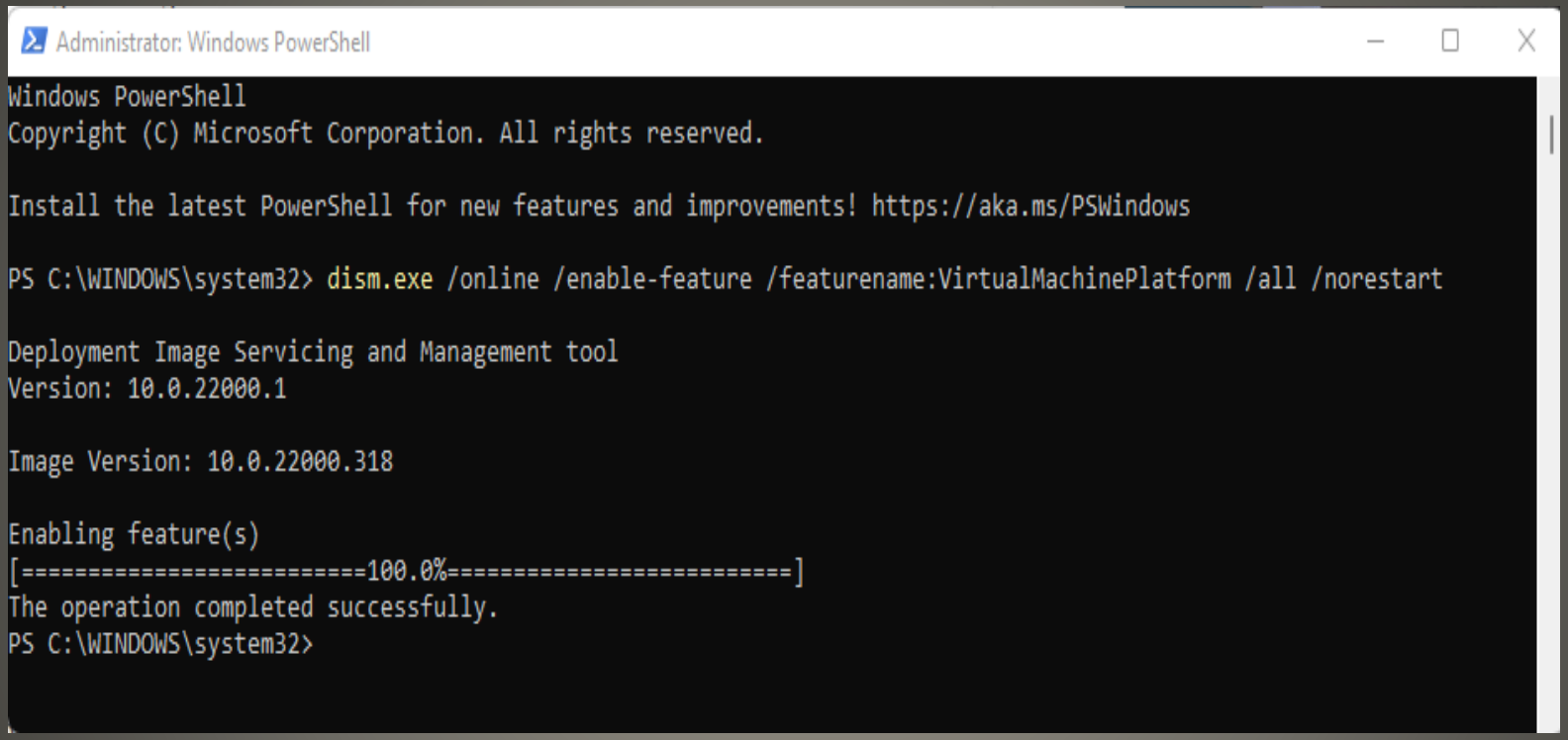


PowerShell

- PowerShell Two versions
- 5.1 and 7

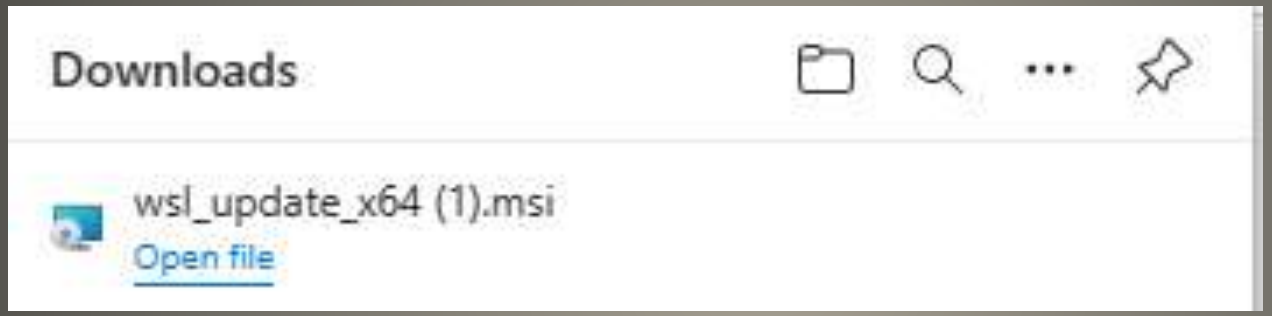
Works on MacOS, Linux, etc.

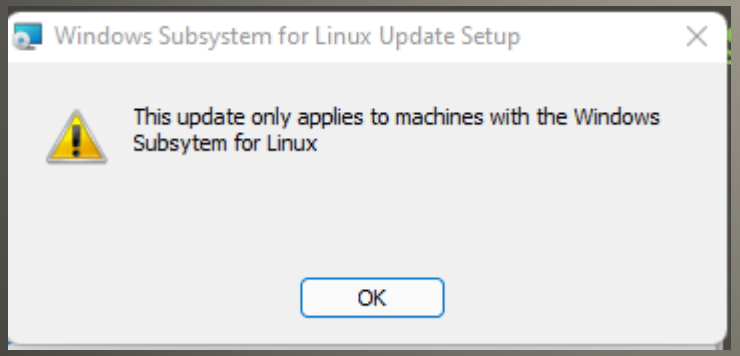
- Enable Virtual Machine Feature

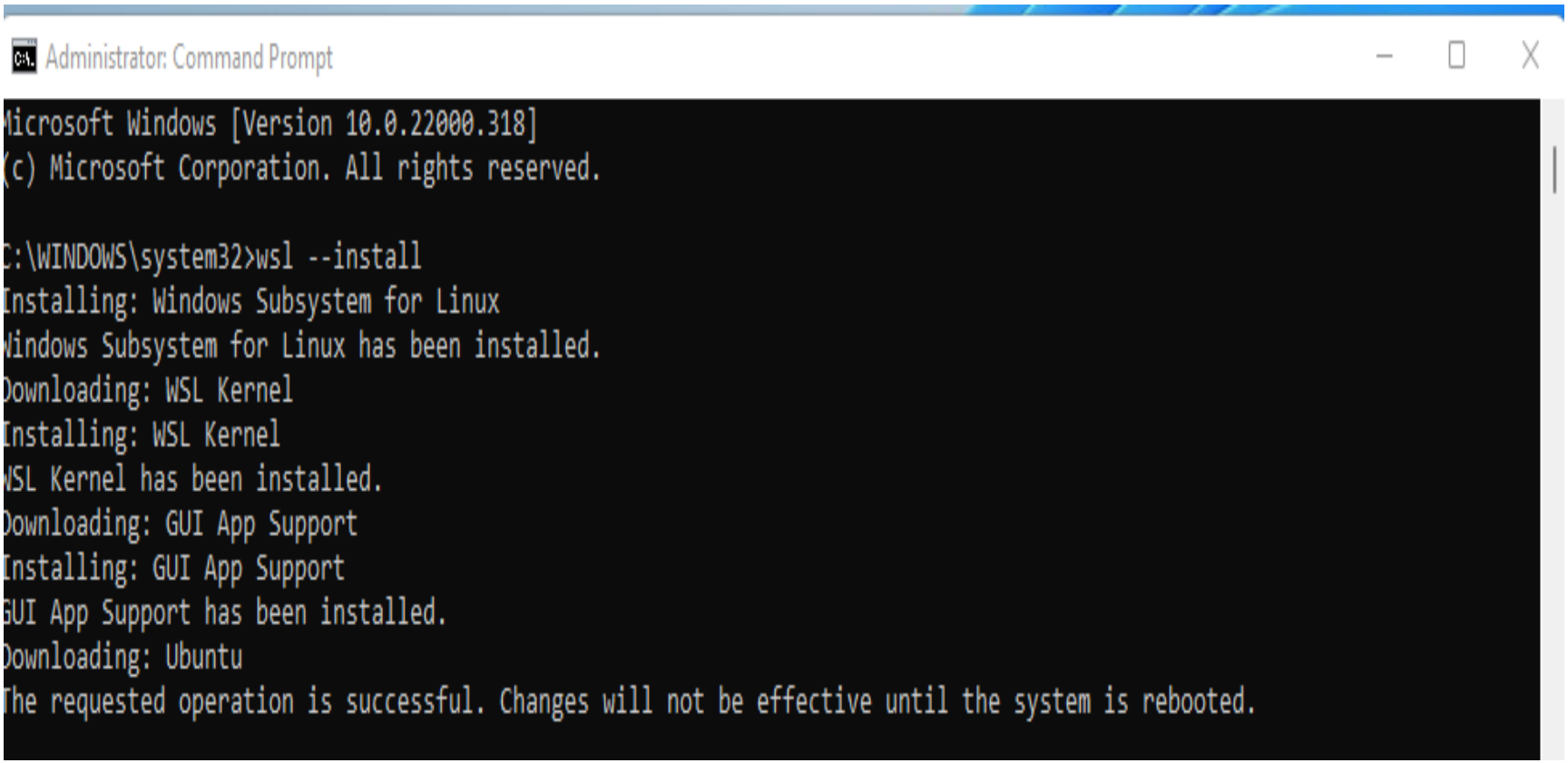


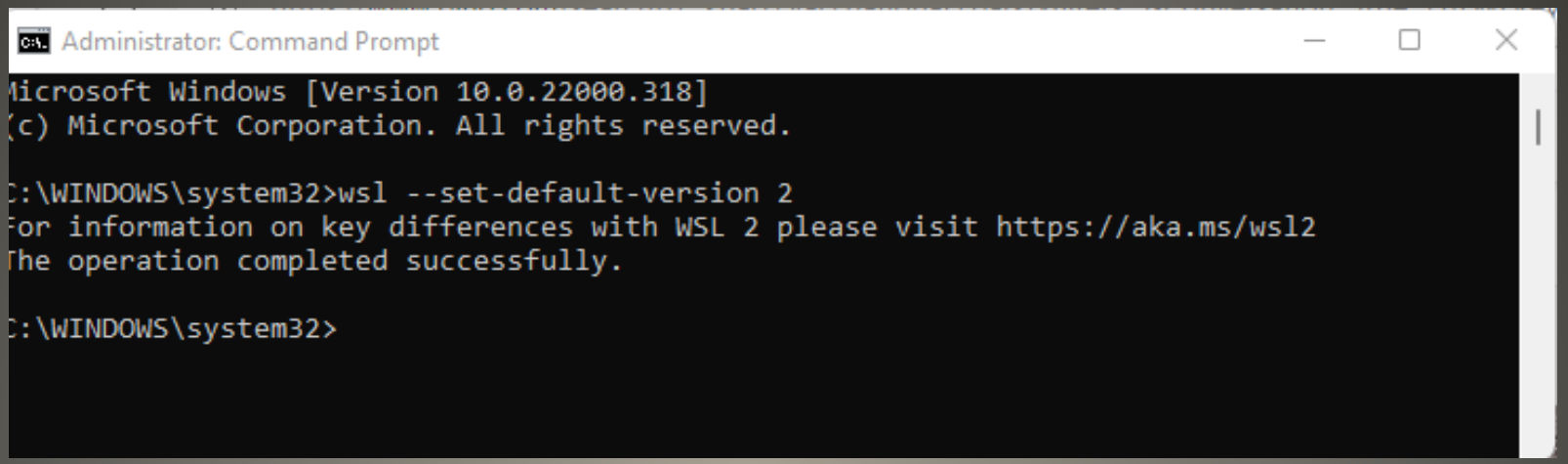
Aside Over

- Update Linux Kernel
- https://wslstorestorage.blob.core.windows.net/wslblob/wsl_update_x64.msi

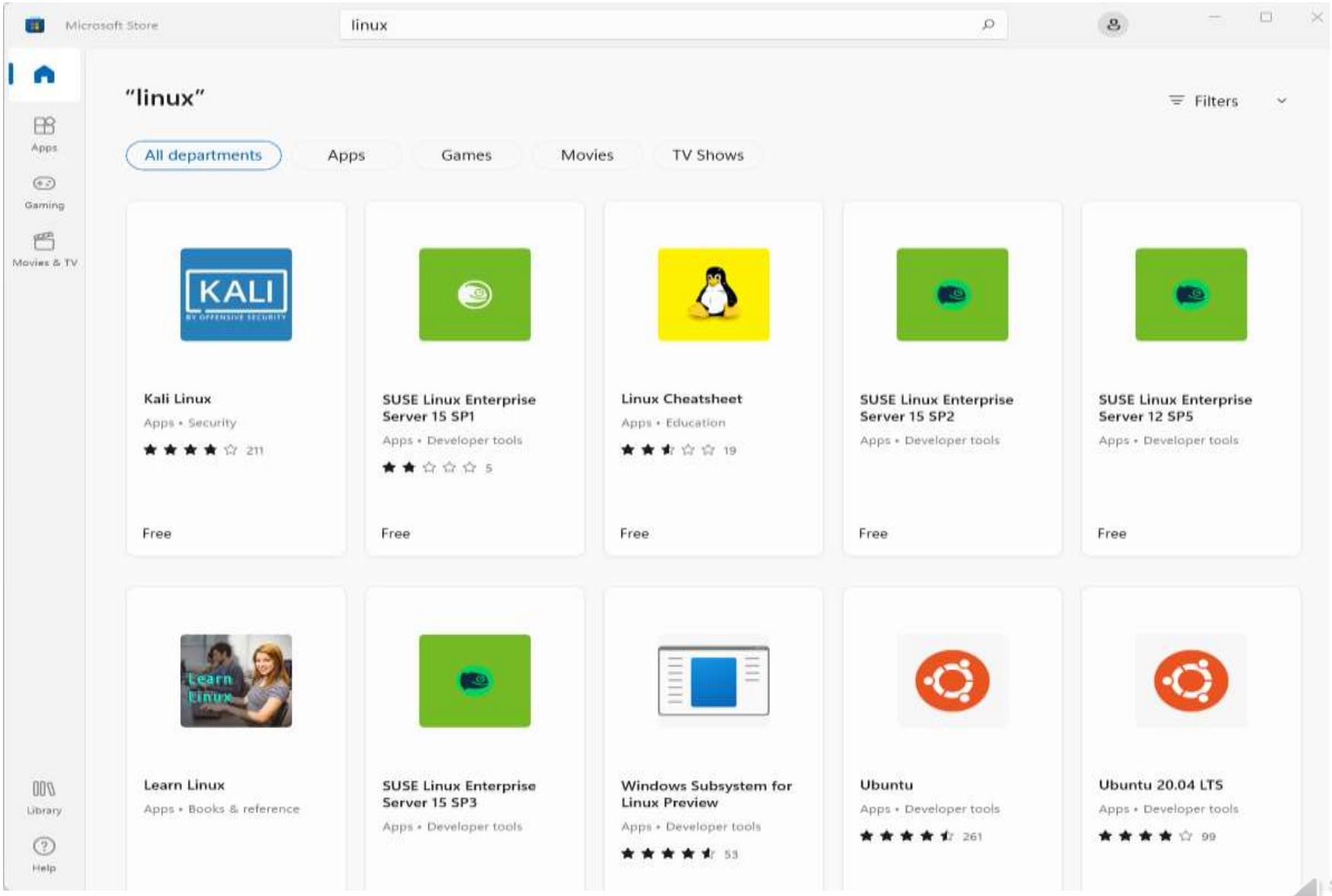





Administrator: Command Prompt
Microsoft Windows [Version 10.0.22000.318]
(c) Microsoft Corporation. All rights reserved.
C:\WINDOWS\system32>wsl --install
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Downloading: WSL Kernel
Installing: WSL Kernel
WSL Kernel has been installed.
Downloading: GUI App Support
Installing: GUI App Support
GUI App Support has been installed.
Downloading: Ubuntu
The requested operation is successful. Changes will not be effective until the system is rebooted.



AFTER reboot set WSL default 2


Microsoft Store
linux
"linux"
Filters
Apps
Gaming
Movies & TV
Library
Help
All departments
Apps
Games
Movies
TV Shows
Kali Linux
Apps • Security
211
Free
SUSE Linux Enterprise Server 15 SP1
Apps • Developer tools
5
Free
Linux Cheatsheet
Apps • Education
19
Free
SUSE Linux Enterprise Server 15 SP2
Apps • Developer tools
Free
SUSE Linux Enterprise Server 12 SP5
Apps • Developer tools
Free
Learn Linux
Apps • Books & reference
SUSE Linux Enterprise Server 15 SP3
Apps • Developer tools
Windows Subsystem for Linux Preview
Apps • Developer tools
53
Ubuntu
Apps • Developer tools
261
Ubuntu 20.04 LTS
Apps • Developer tools
99

Microsoft Store

linux

Apps

Gaming

Movies & TV

Kali Linux

Kali Linux

Get

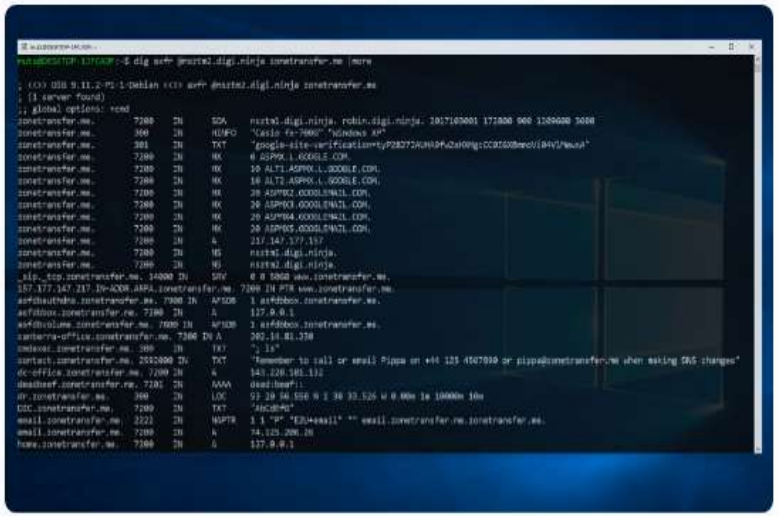
3.8 ★ Average

211 Ratings

The Kali for Windows application allows one to install and run the Kali Linux open-source penetration testing distribution natively, from...

Security

Screenshots



Description

The Kali for Windows application allows one to install and run the Kali Linux open-source penetration testing distribution natively, from the Windows 10 OS. To launch the Kali shell, type "kali" on the command prompt, or click on the Kali tile in the Start Menu.

The base image does not contain any tools, or a graphical interface in order to keep the image small, however these can be installed via apt commands very easily. For more information about what you can do with this app, check https://www.kali.org/kali-on-windows-app.

Note: Some tools may trigger Antivirus warnings when installed, please plan ahead accordingly. Make sure to visit our Kali on WSL tutorial page at https://www.kali.org/news/kali-linux-in-the-windows-app-store...

Show more

Microsoft Store

linux

Apps

Gaming

ovies & TV

Library

Kali Linux

Kali Linux

Open

3.8 ★ Average

211 Ratings

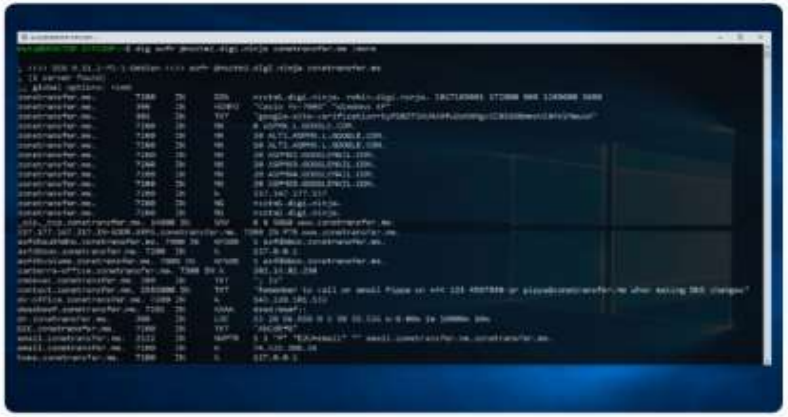
The Kali for Windows application allows one to install and run the Kali Linux open-source penetration testing distribution natively, from...

Security

EVERYONE

Age Rating: ESRB, EVERYONE

Screenshots



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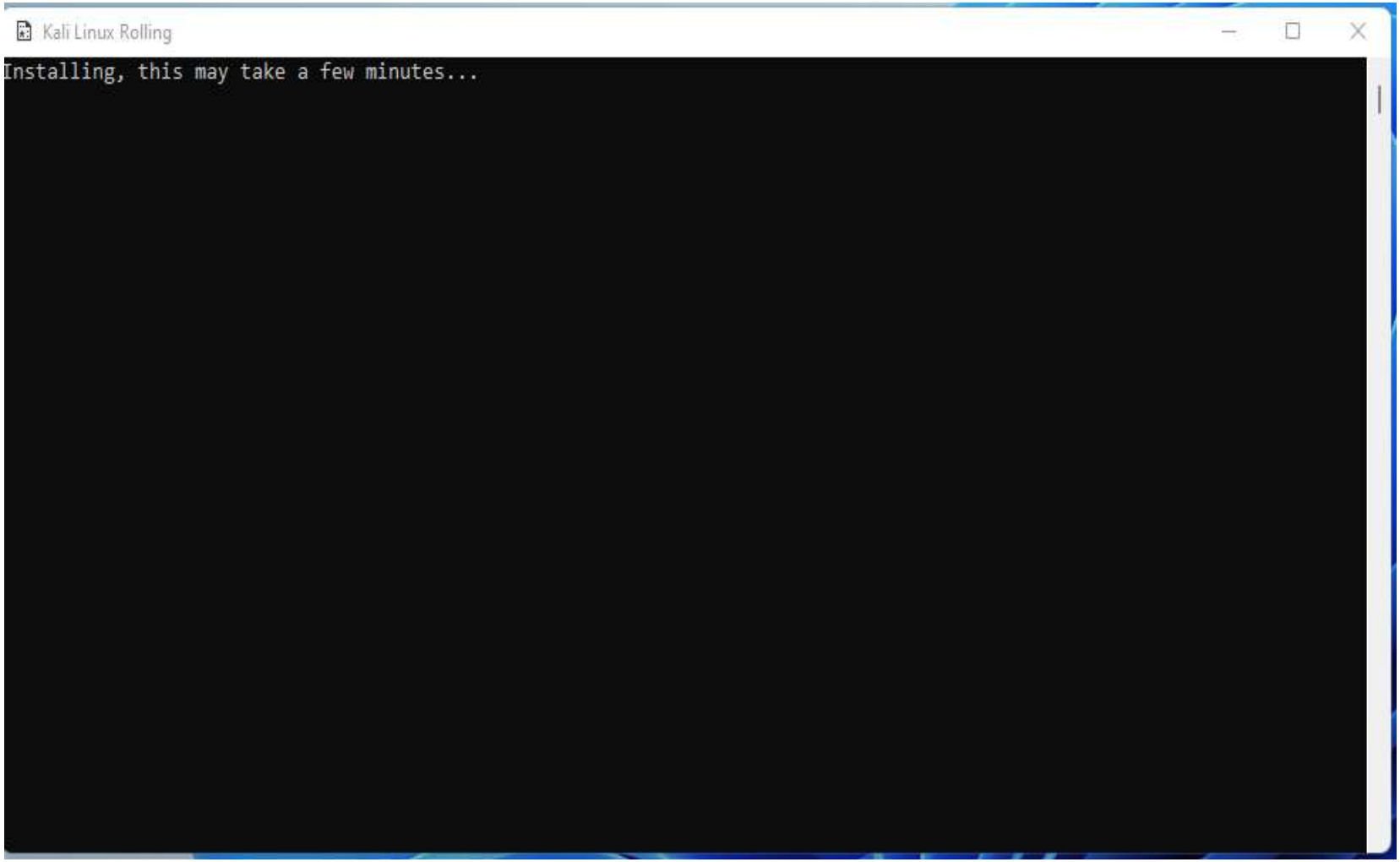
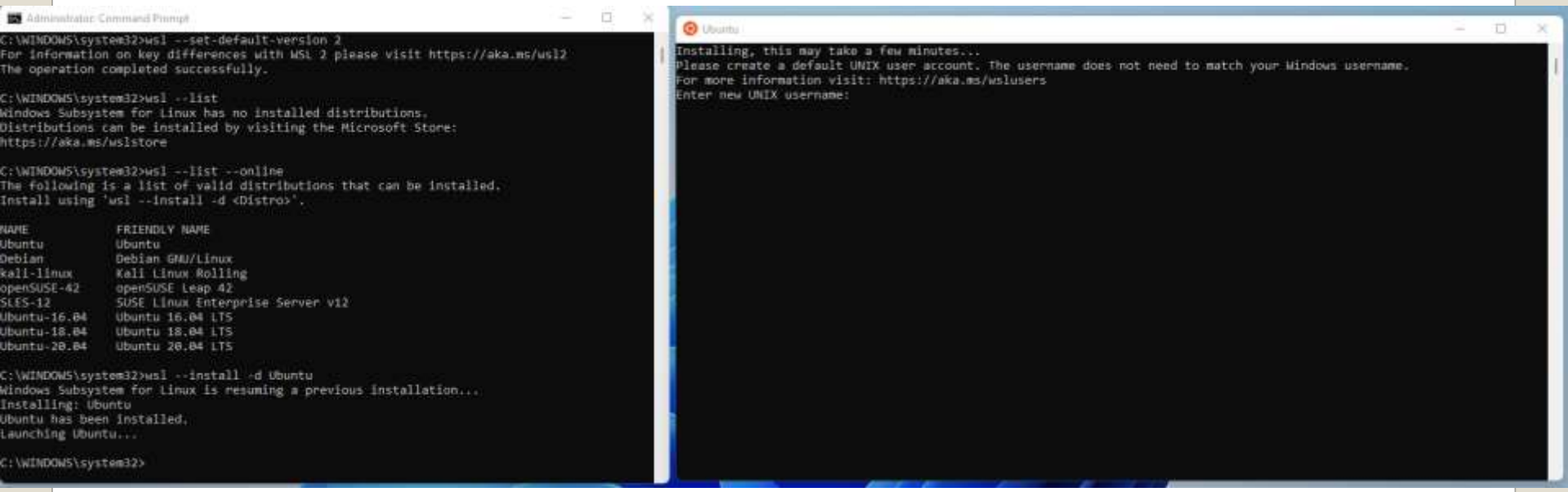
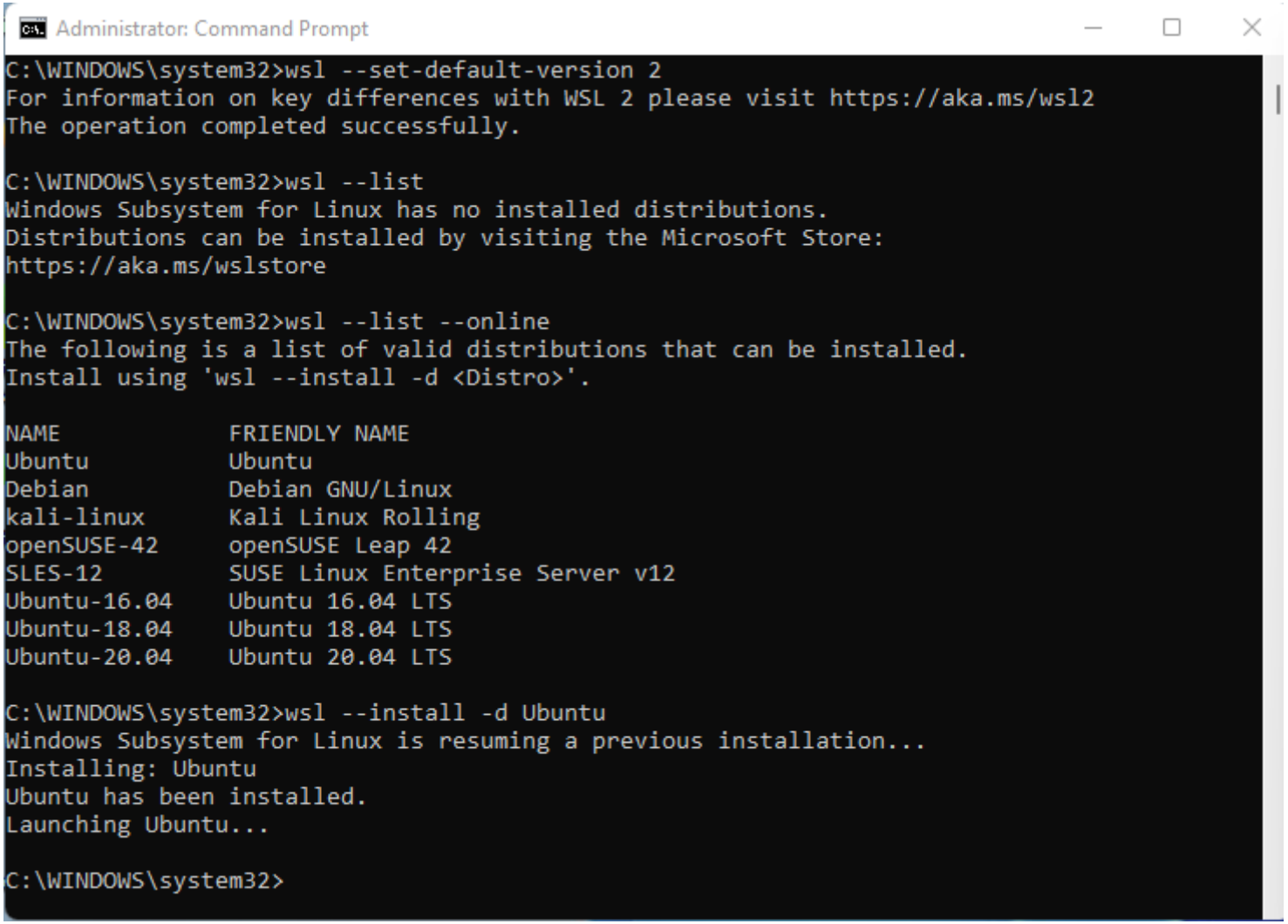
Show more

Ratings and reviews

3.8


Kali Linux Rolling
Installing, this may take a few minutes...


Administrator: Command Prompt
C:\WINDOWS\system32>wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
C:\WINDOWS\system32>wsl --list
Windows Subsystem for Linux has no installed distributions.
Distributions can be installed by visiting the Microsoft Store:
https://aka.ms/wslstore
C:\WINDOWS\system32>wsl --list --online
The following is a list of valid distributions that can be installed.
Install using 'wsl --install -d <Distro>'.
NAME FRIENDLY NAME
Ubuntu Ubuntu
Debian Debian GNU/Linux
kali-linux Kali Linux Rolling
openSUSE-42 openSUSE Leap 42
SLES-12 SUSE Linux Enterprise Server v12
Ubuntu-16.04 Ubuntu 16.04 LTS
Ubuntu-18.04 Ubuntu 18.04 LTS
Ubuntu-20.04 Ubuntu 20.04 LTS
C:\WINDOWS\system32>wsl --install -d Ubuntu
Windows Subsystem for Linux is resuming a previous installation...
Installing: Ubuntu
Ubuntu has been installed.
Launching Ubuntu...
C:\WINDOWS\system32>
Ubuntu
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: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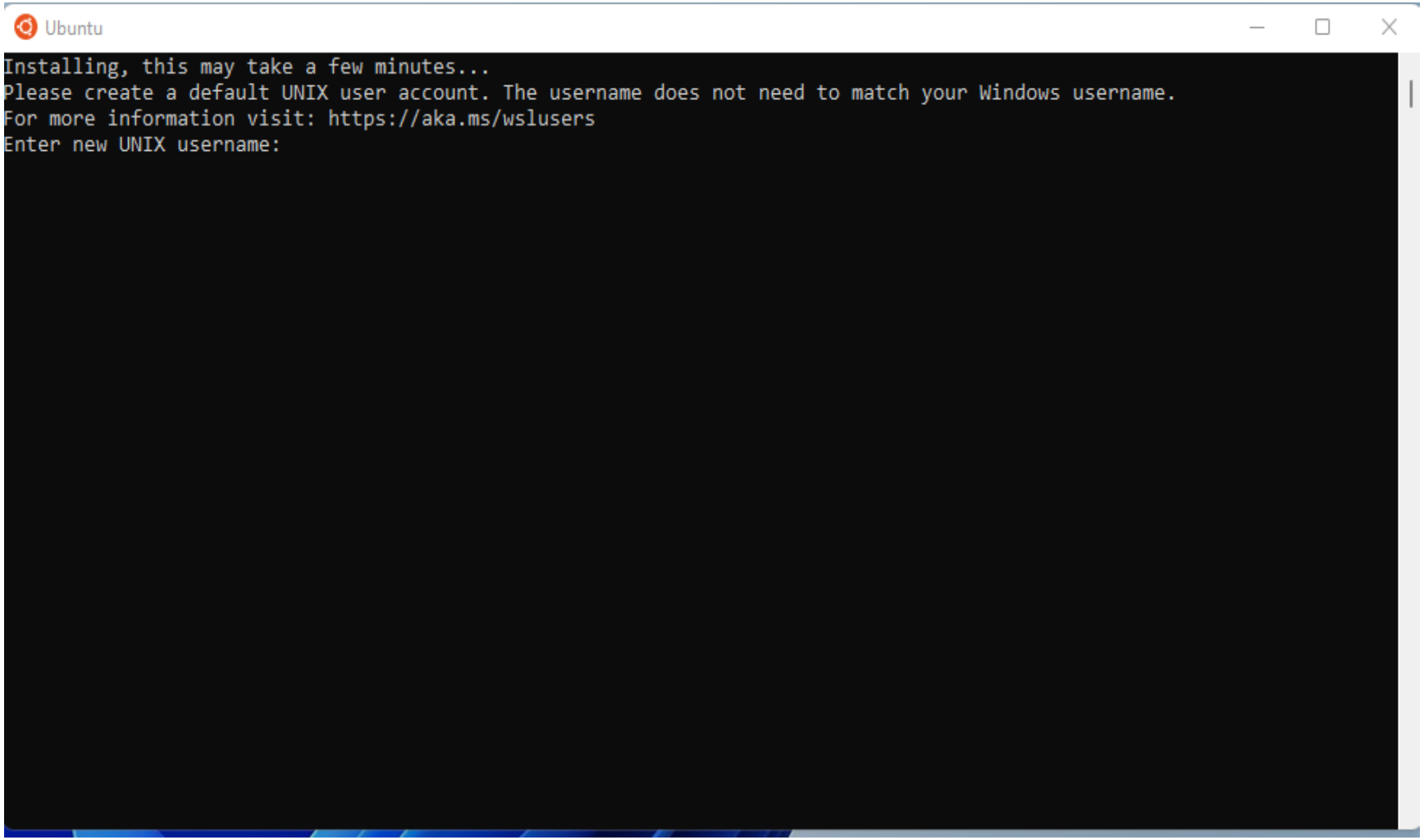
Launching Ubuntu...
C:\WINDOWS\system32>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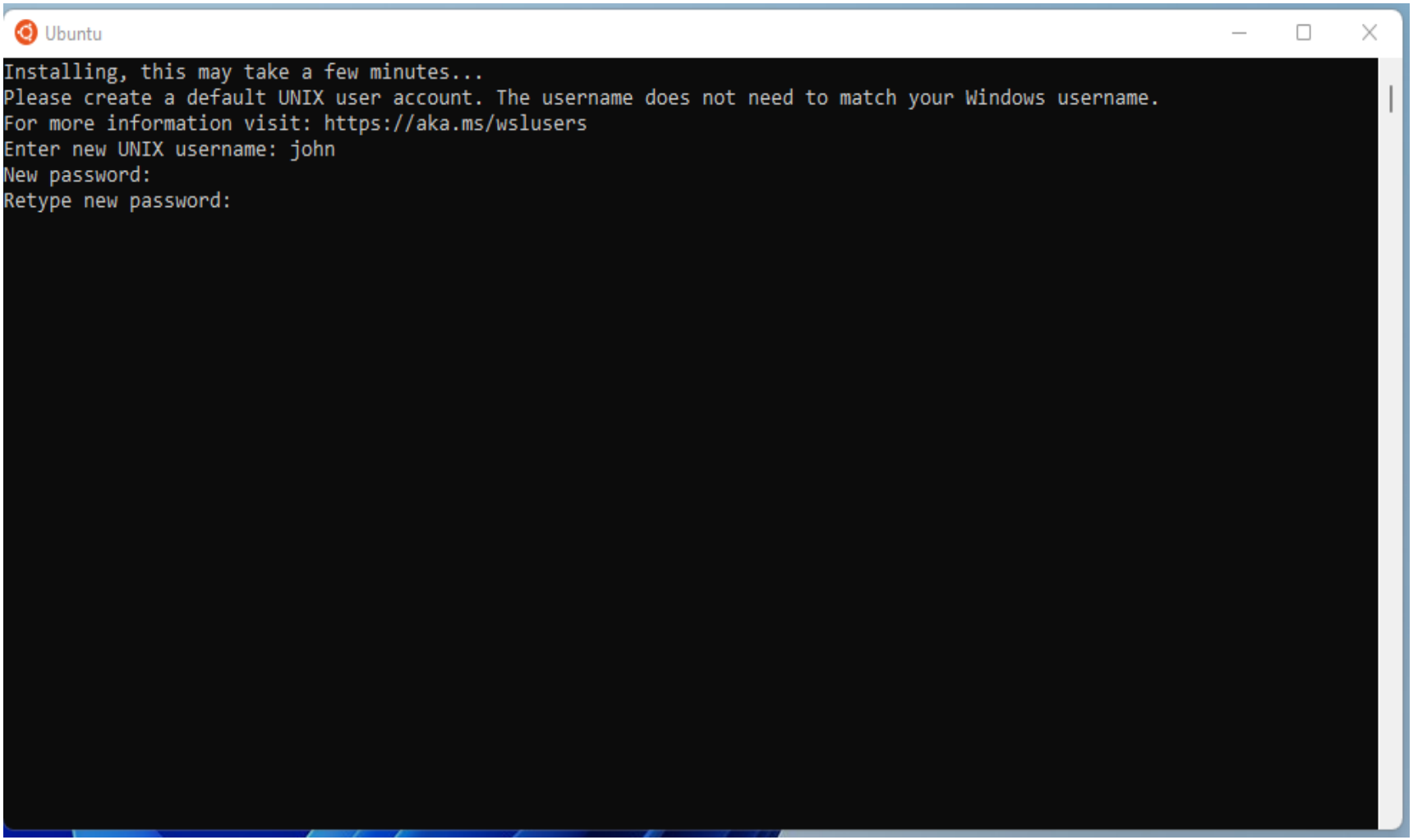
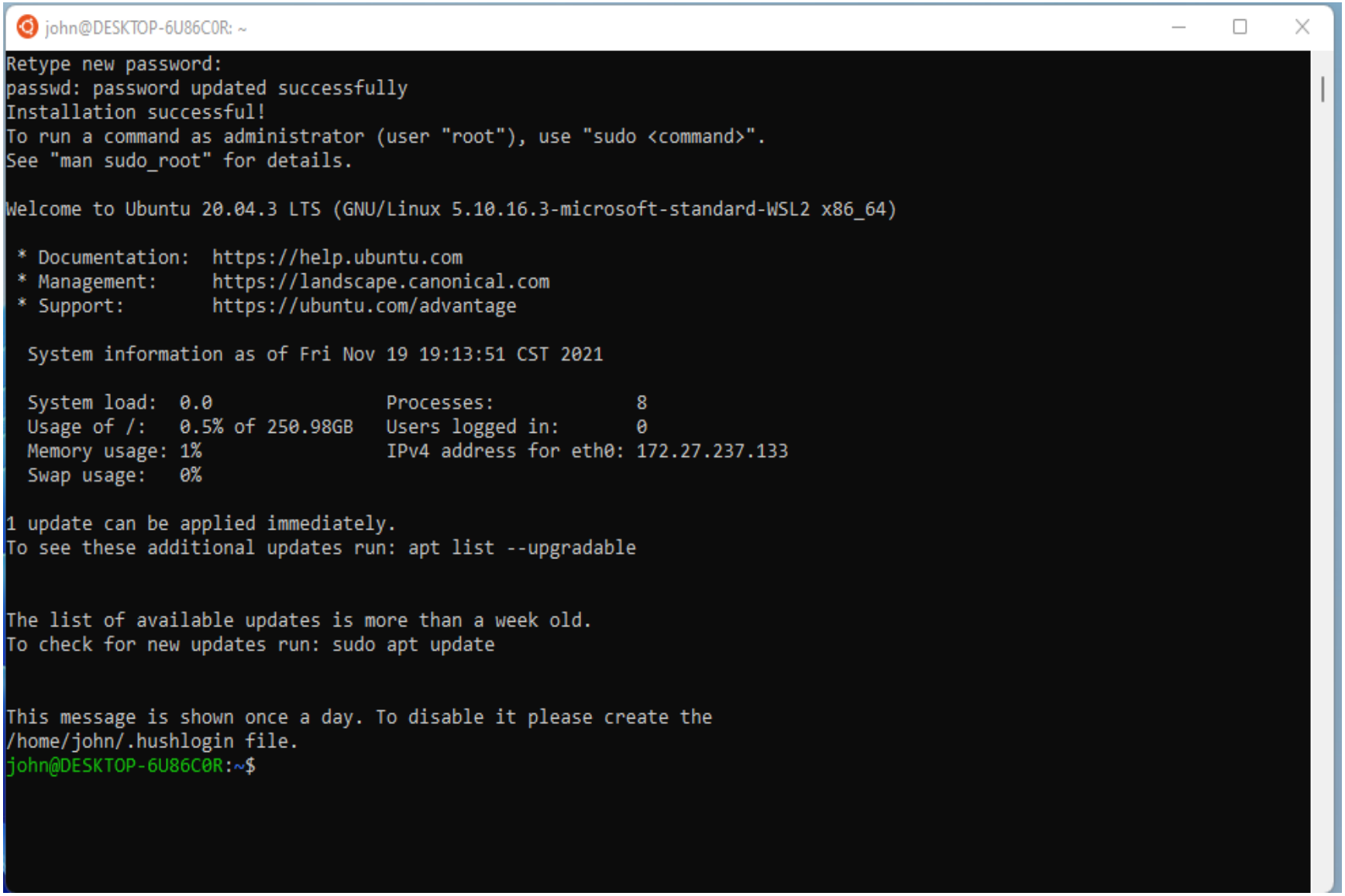
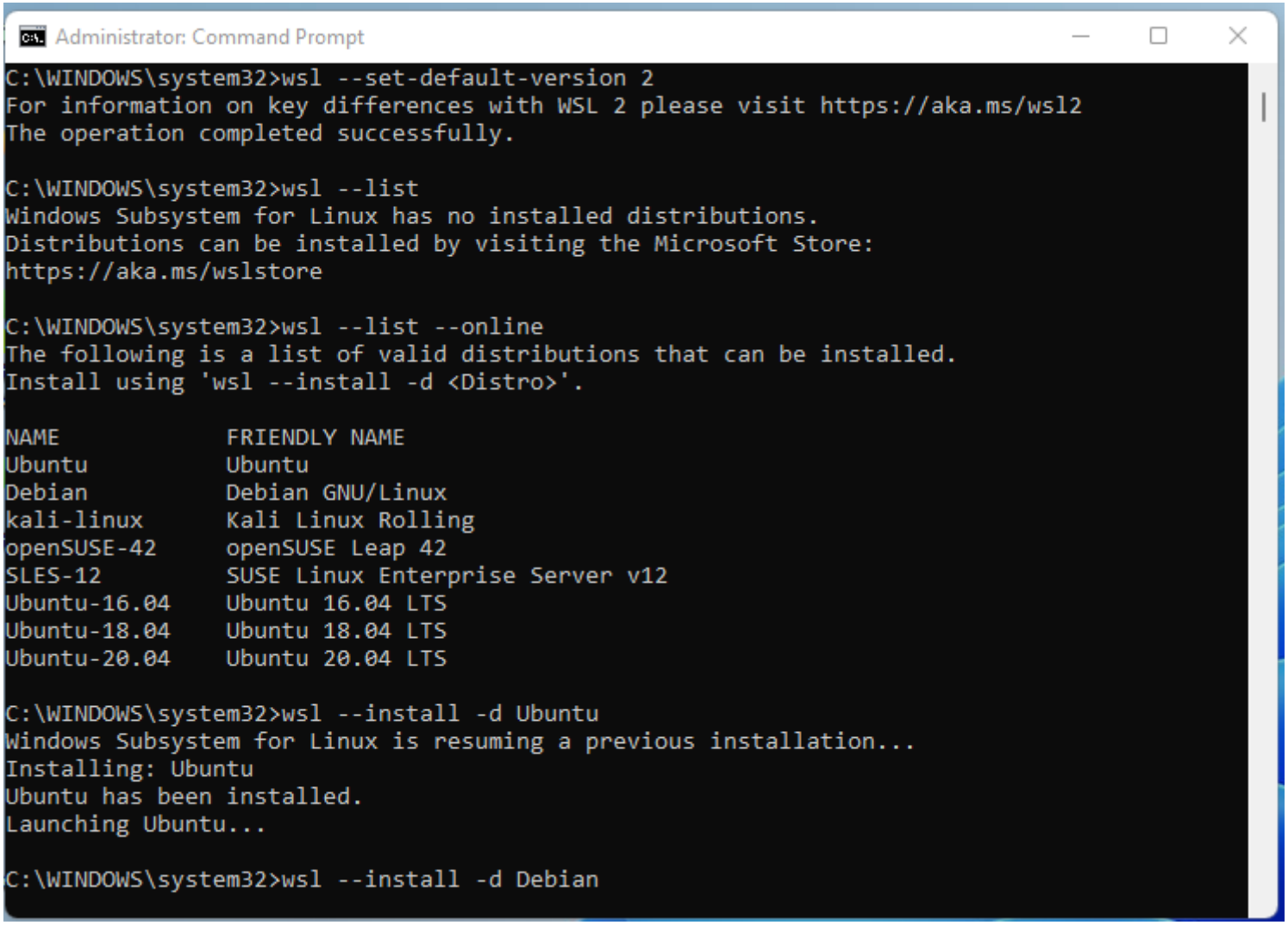

Ubuntu
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: john
New password:
Retype new password:


john@DESKTOP-6U86C0R: ~
Retype new password:
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.10.16.3-microsoft-standard-WSL2 x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
System information as of Fri Nov 19 19:13:51 CST 2021
System load: 0.0 Processes: 8
Usage of /: 0.5% of 250.98GB Users logged in: 0
Memory usage: 1% IPv4 address for eth0: 172.27.237.133
Swap usage: 0%
1 update can be applied immediately.
To see these additional updates run: apt list --upgradable
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
This message is shown once a day. To disable it please create the
/home/john/.hushlogin file.
john@DESKTOP-6U86C0R:~$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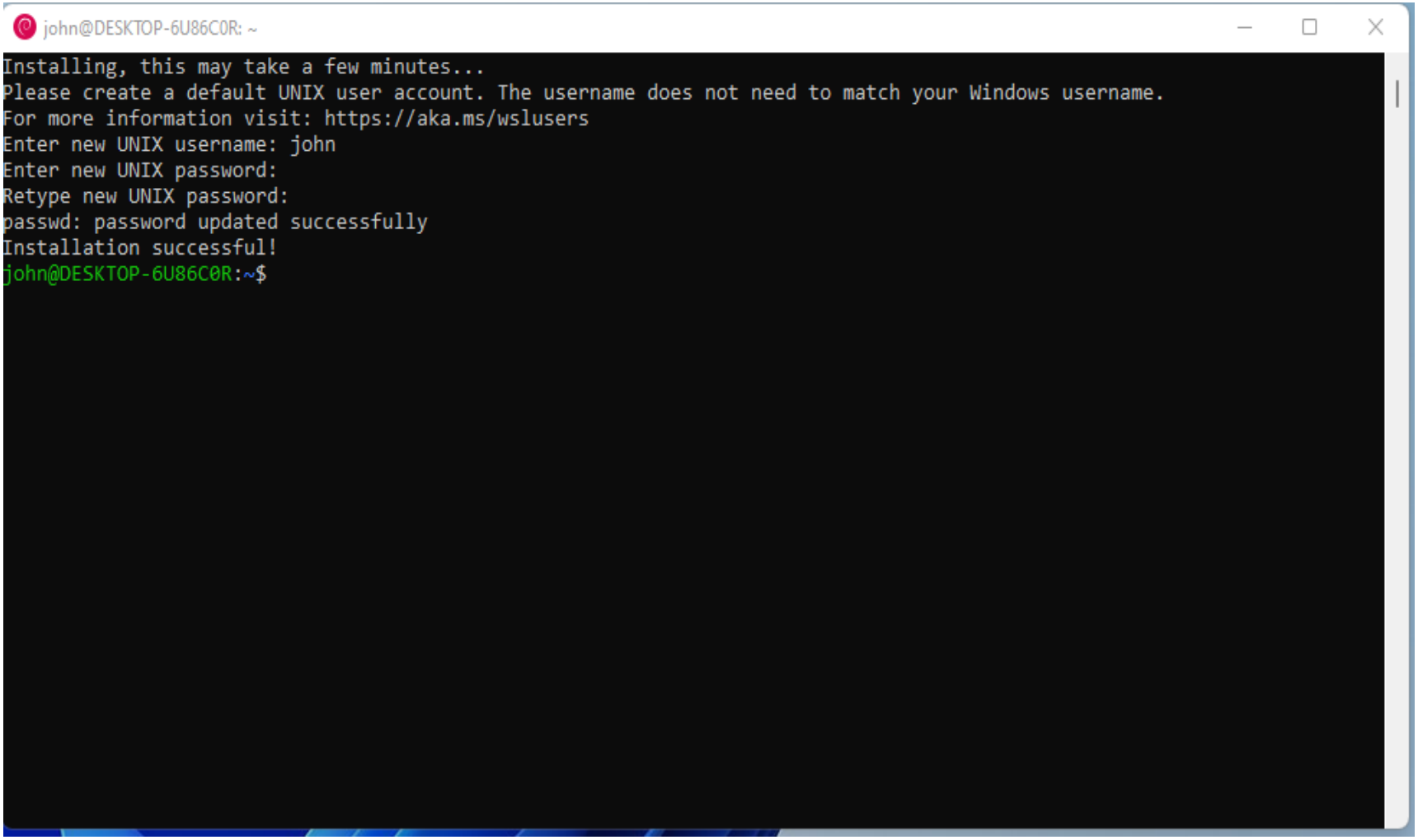
Launching Ubuntu...
C:\WINDOWS\system32>wsl --install -d Debian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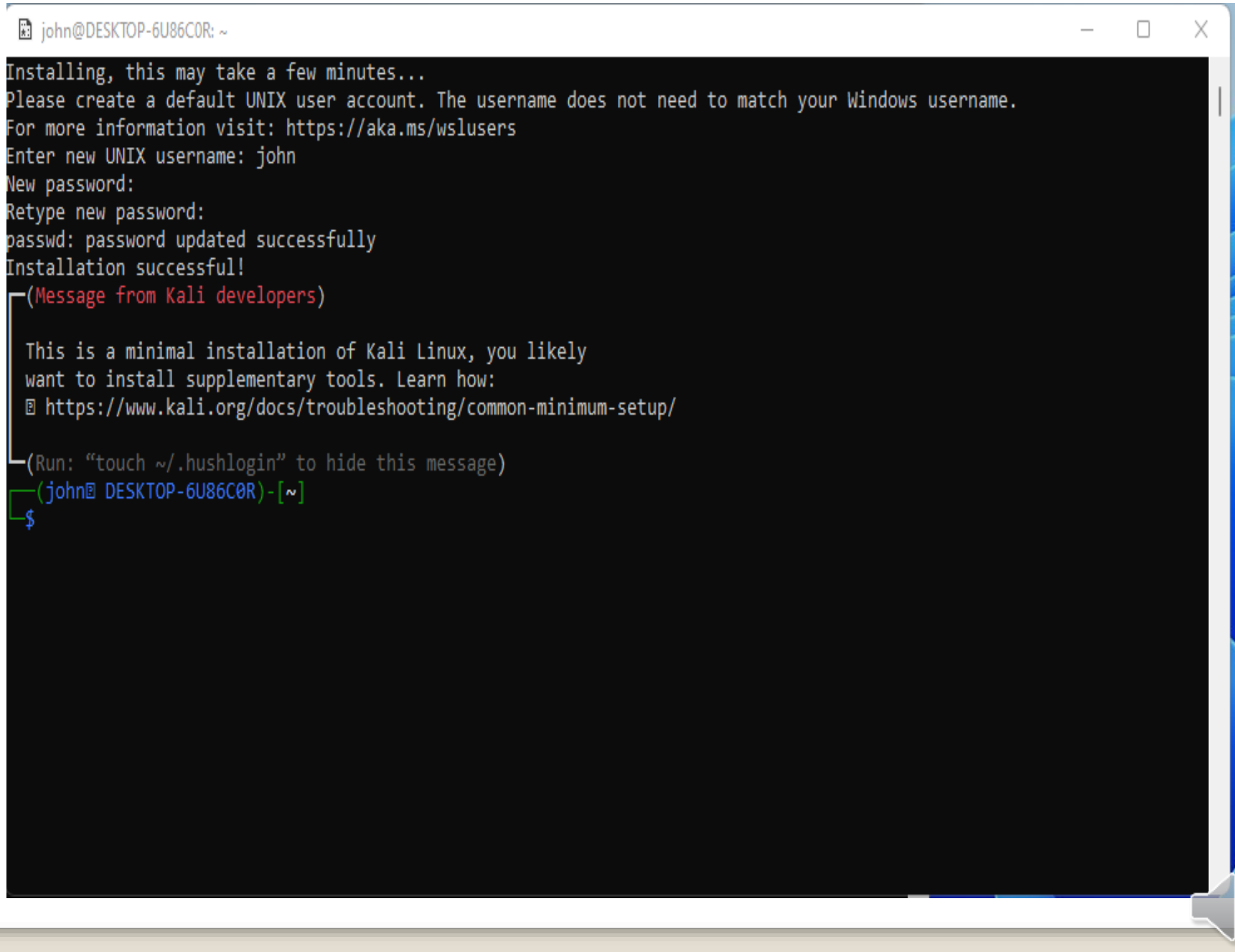
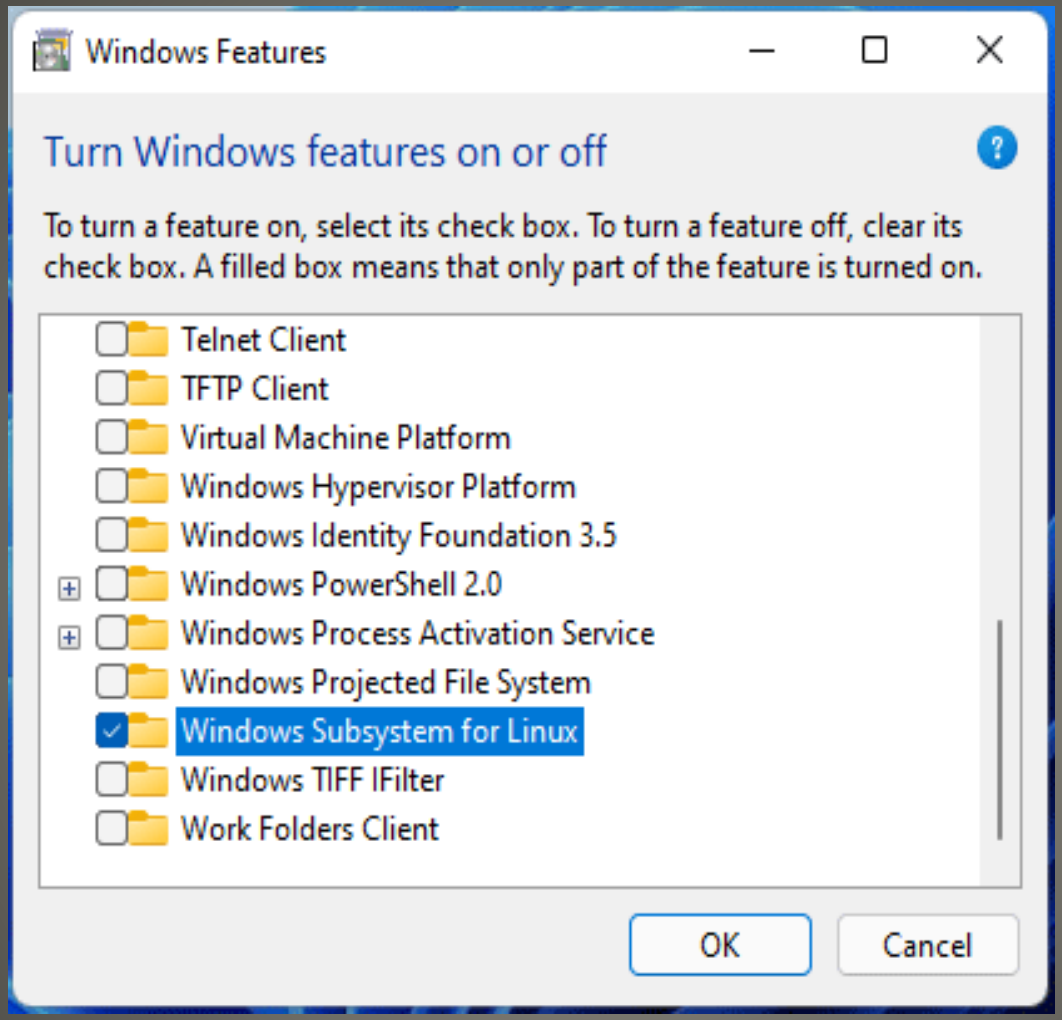
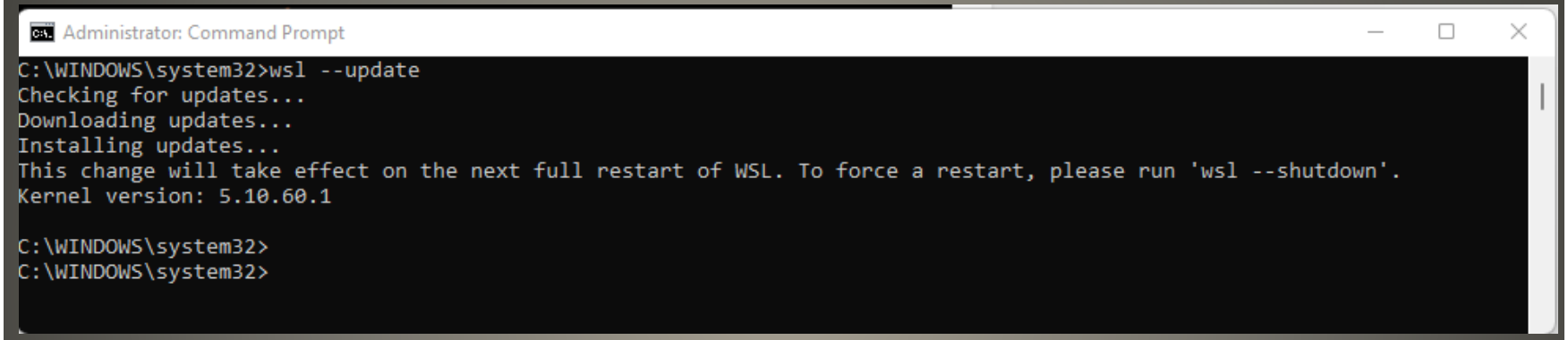
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: john
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Installation successful!
john@DESKTOP-6U86C0R:~$

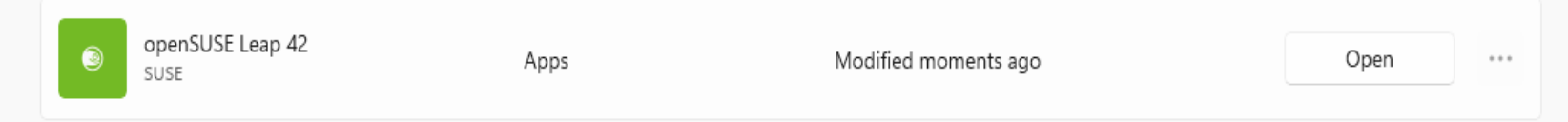

john@DESKTOP-6U86C0R: ~
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: john
New password:
Retype new password:
passwd: password updated successfully
Installation successful!
(Message from Kali developers)
This is a minimal installation of Kali Linux, you likely
want to install supplementary tools. Learn how:
https://www.kali.org/docs/troubleshooting/common-minimum-setup/
(Run: "touch ~/.hushlogin" to hide this message)
(john DESKTOP-6U86C0R)-[~]
$



Windows Features

- Ubuntu as default





Check for updates

- Another Way

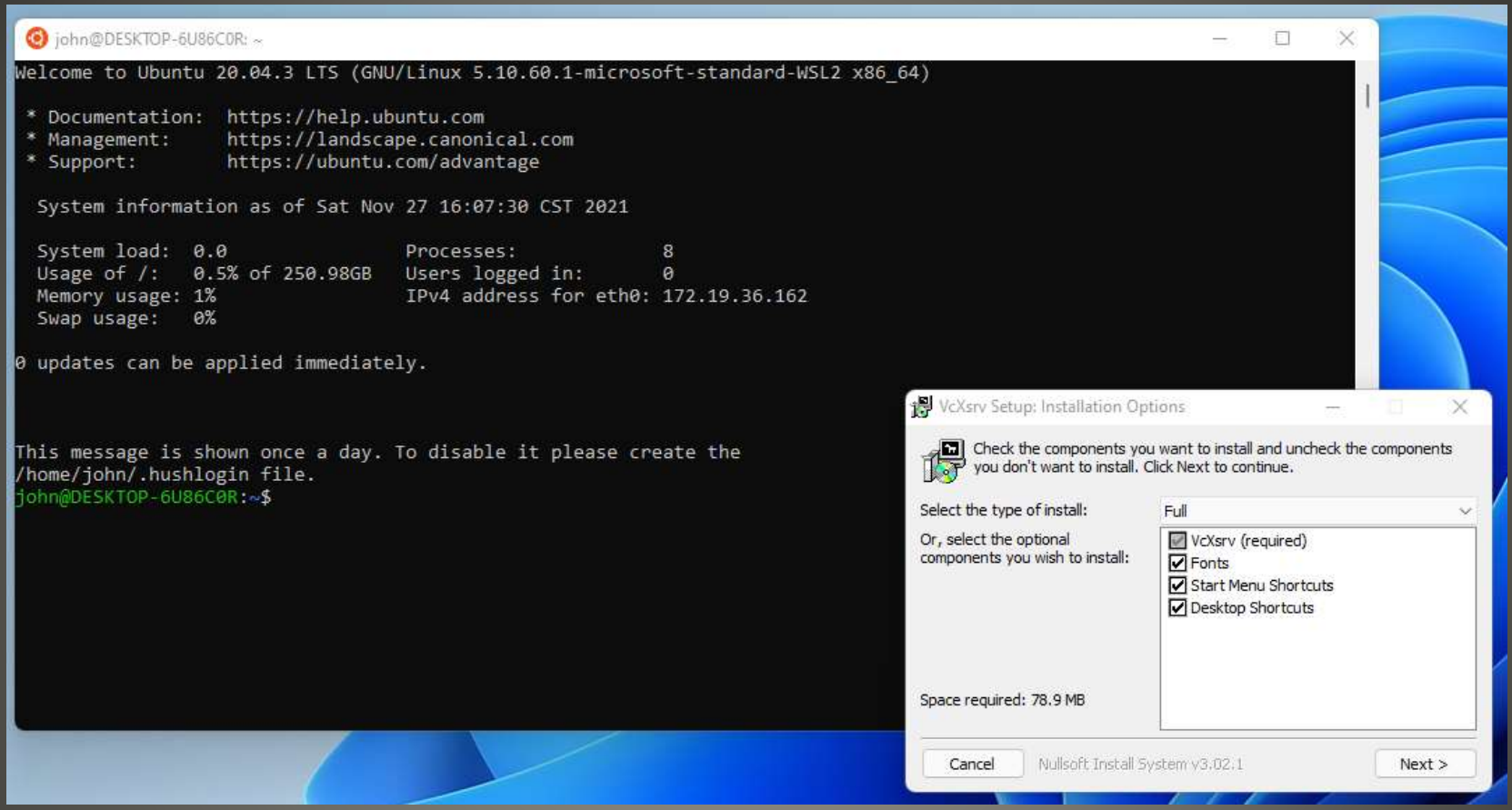
```
john@DESKTOP-6U86C0R:~$ sudo apt update
[sudo] password for john:
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1025 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
```

```
Get:41 http://archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [580 B]
Get:42 http://archive.ubuntu.com/ubuntu focal-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 20.7 MB in 4s (5384 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
87 packages can be upgraded. Run 'apt list --upgradable' to see them.
john@DESKTOP-6U86C0R:~$
```

Ubuntu update & upgrade

```
john@DESKTOP-6U86C0R:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages will be upgraded:
  accountsservice alsa-ucm-conf apport bind9-dnsutils bind9-host bind9-libs ca-certificates cloud-init
  cloud-initramfs-copymods cloud-initramfs-dyn-netconf cpio curl distro-info-data git git-man libaccountsservice0
  libasound2 libasound2-data libcurl3-gnutls libcurl4 libdrm-amdgpu1 libdrm-common libdrm-intel1 libdrm-nouveau2
  libdrm-radeon1 libdrm2 libgcrypt20 libgl1-mesa-dri libglapi-mesa libglx-mesa0 libicu66 libllvm12 libnetplan0
  libnss-systemd libntfs-3g883 libpam-modules libpam-modules-bin libpam-runtime libpam-systemd libpam0g libprocps8
  libpulse0 libpulsedsp libpython3.8 libpython3.8-minimal libpython3.8-stdlib libssh-4 libssl1.1 libsystemd0 libtdb1
  libudev1 libudisks2-0 linux-base mesa-vulkan-drivers netplan.io ntfs-3g open-vm-tools openssl overlayroot procps
  pulseaudio-utils python-apt-common python3-apport python3-apt python3-problem-report python3-software-properties
  python3-update-manager python3.8 python3.8-minimal rsync snapd software-properties-common squashfs-tools systemd
  systemd-sysv systemd-timesyncd tzdata ubuntu-advantage-tools udev udisks2 ufw update-manager-core vim vim-common
  vim-runtime vim-tiny xxd
87 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
34 standard security updates
Need to get 109 MB of archives.
After this operation, 1233 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Ubuntu upgrade

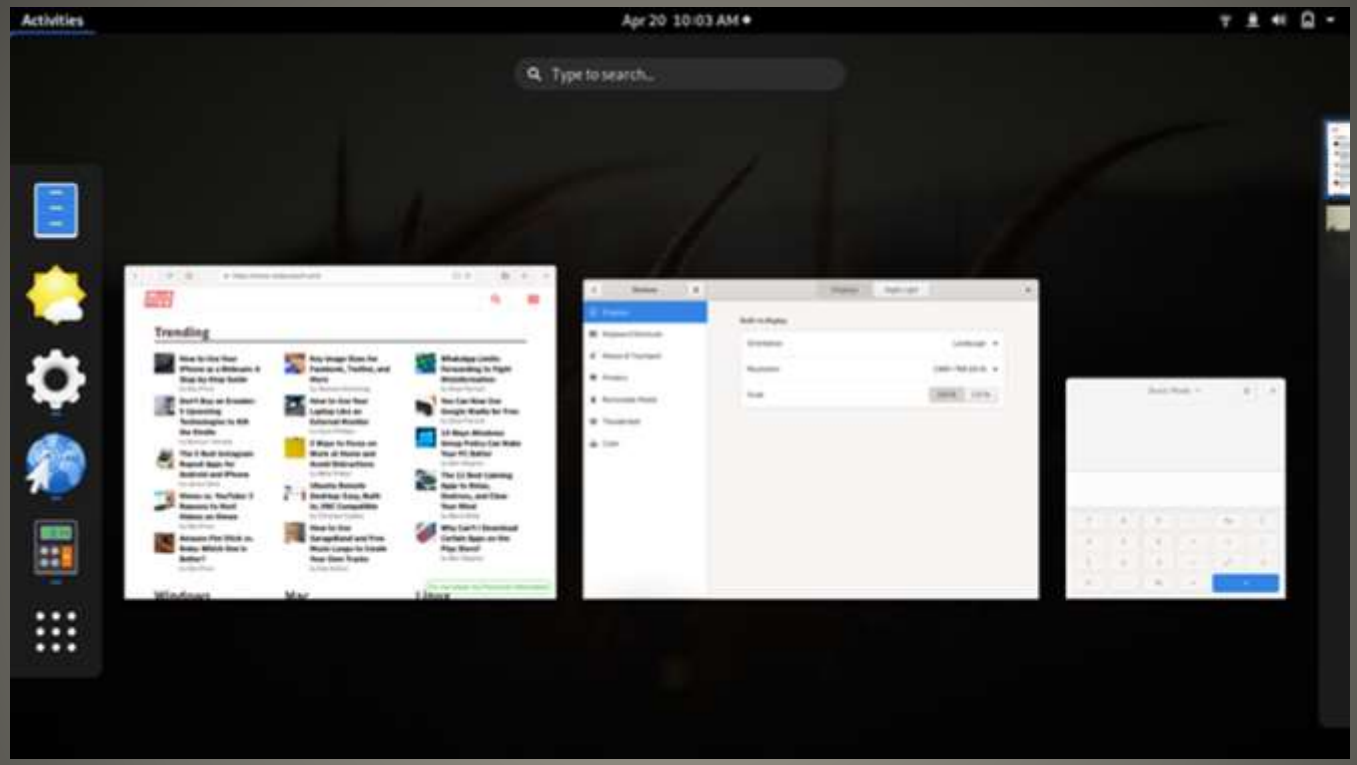


Need an X Server

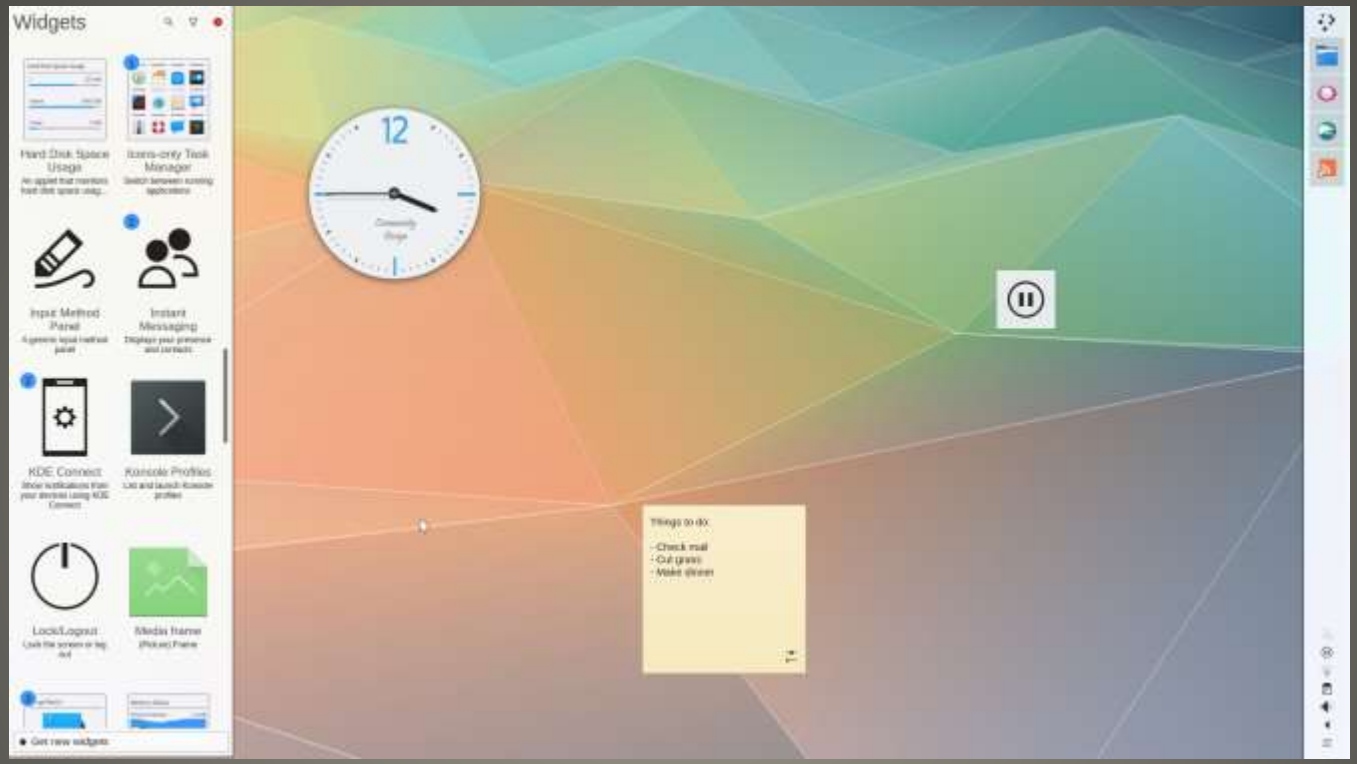
- Some choices:

https://www.makeuseof.com/tag/best-linux-desktop-environments/

Now a Desktop Environment



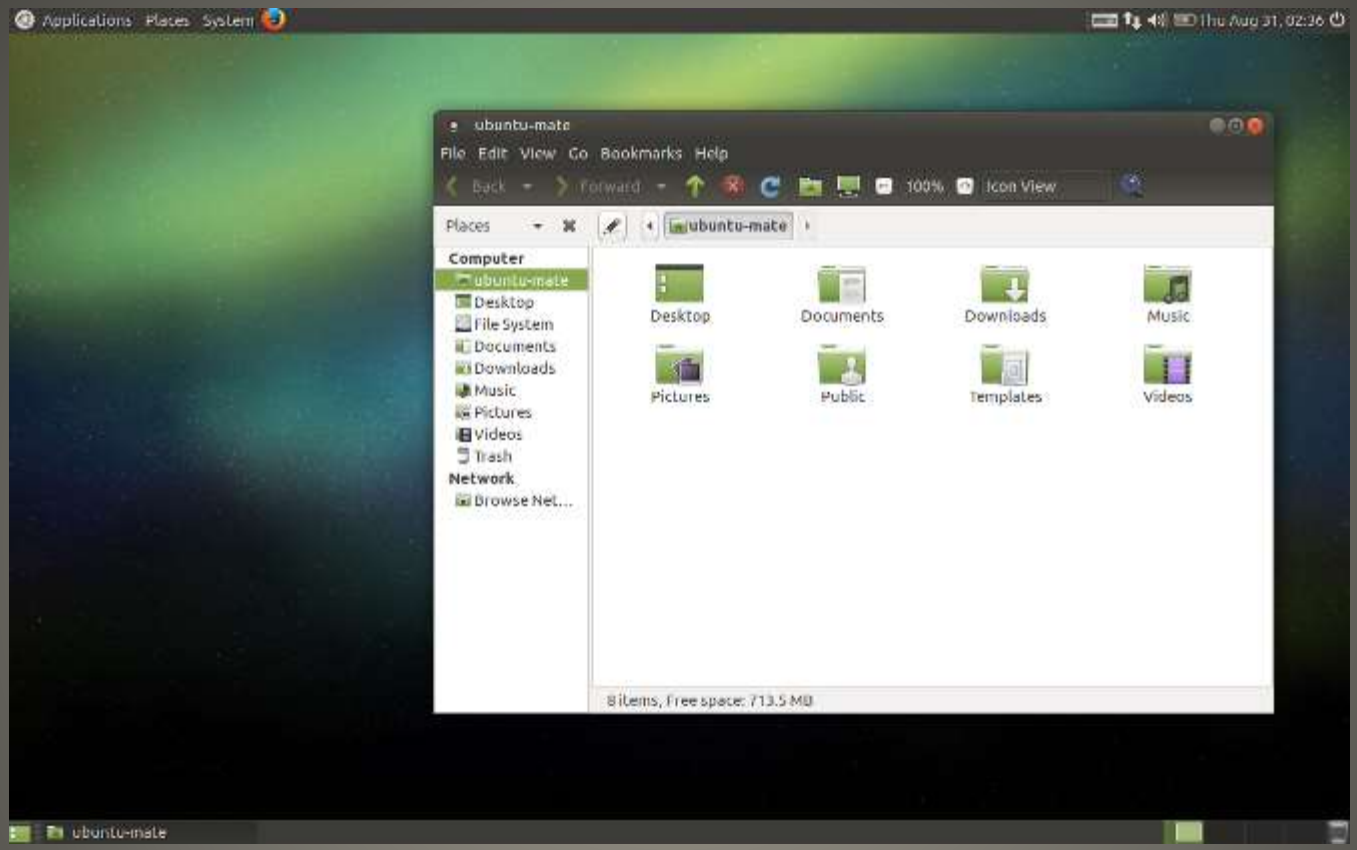
GNOME


Widgets
Hard Disk Space Usage
Icons-only Task Manager
Input Method Panel
Instant Messaging
KDE Connect
Konsole Profiles
Lock/Logout
Media frame
Get new widgets
12
Things to do:
- Check mail
- Cut grass
- Make dinner

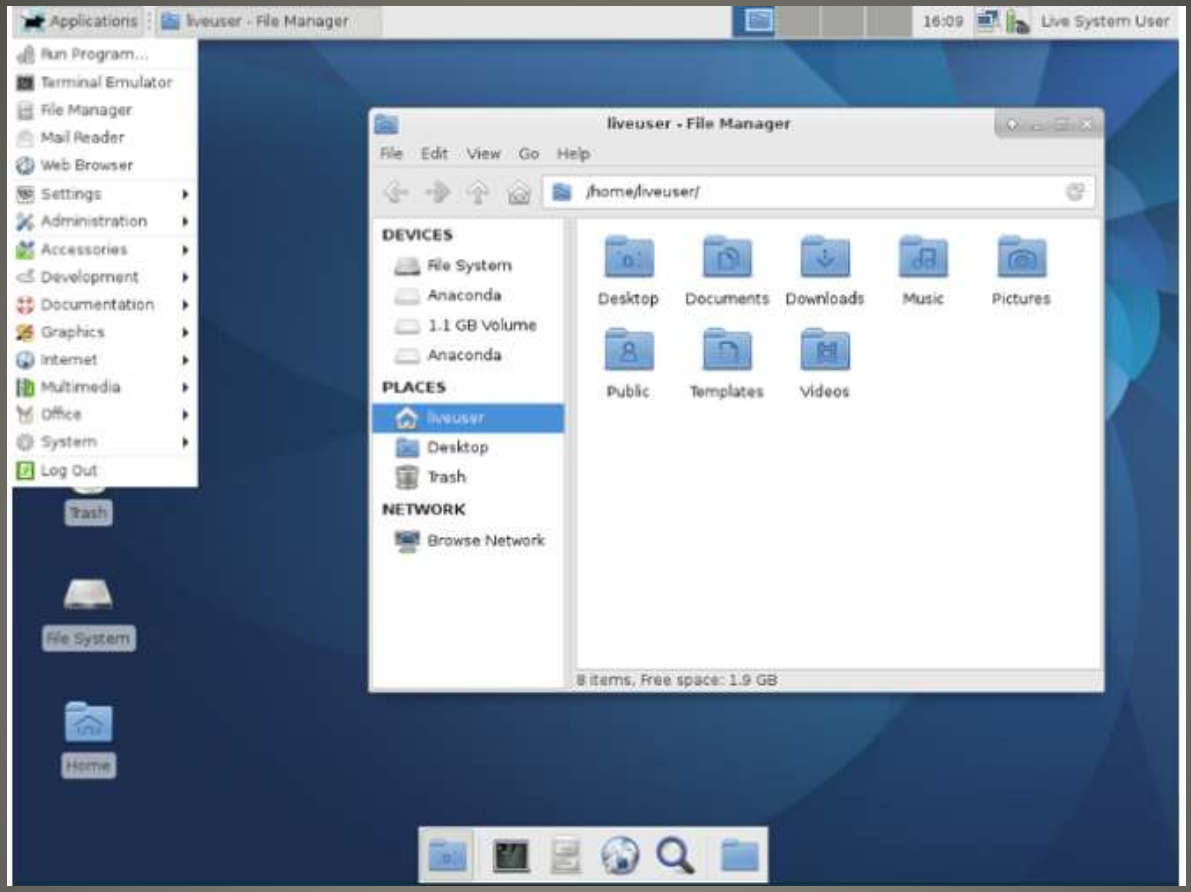
KDE Plasma

Computer
Home
File Edit View Go Bookmarks Help
mint
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 items, Free space: 983.7 MB
All Applications
Accessories
Graphics
Internet
Office
Sound & Video
Administration
Preferences
Places
Recent Files
Accessibility
Account details
Applets
Archive Manager
Backgrounds
Backup Tool
Bluetooth
Boot Repair
Calculator
Calendar
Celluloid
15:41

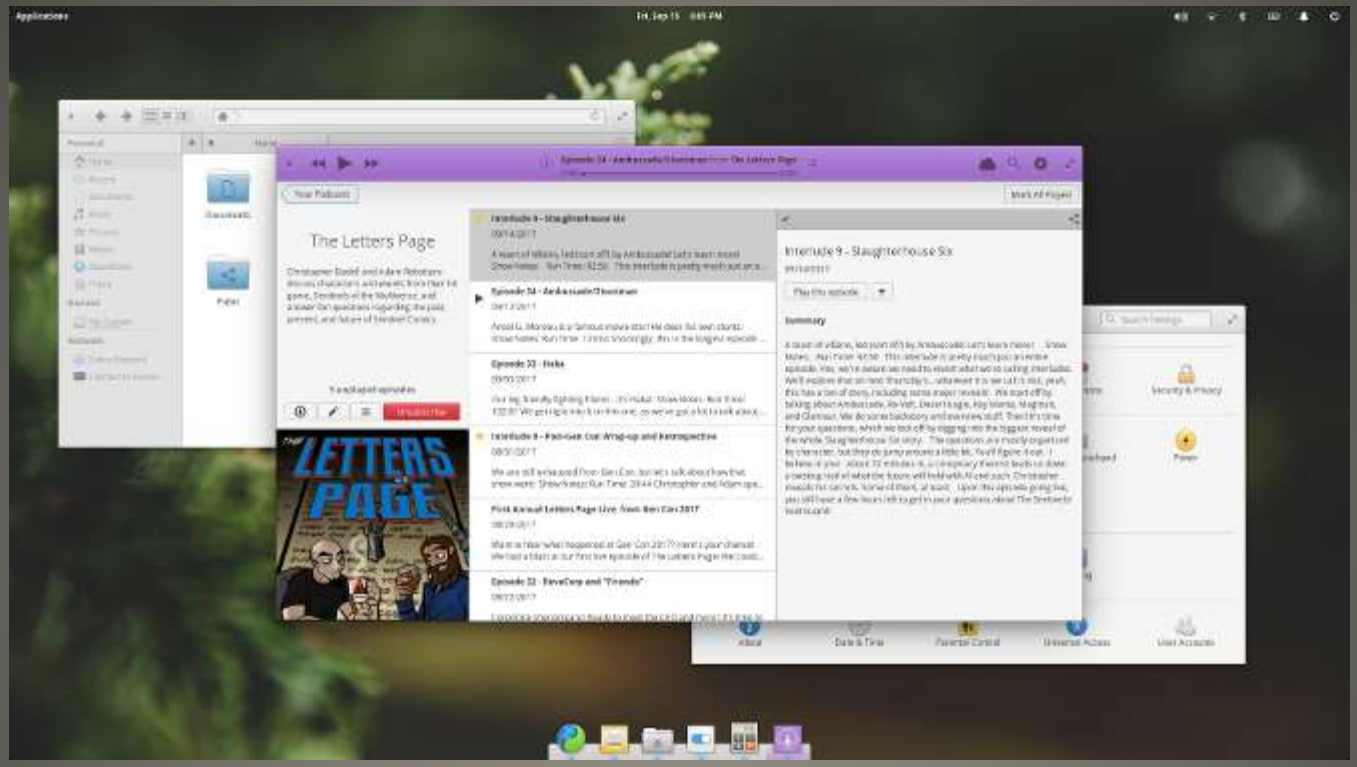
Cinnamon


Applications Places System
Thu Aug 31, 02:26
ubuntu-mate
File Edit View Go Bookmarks Help
Back Forward 100% Icon View
Places
ubuntu-mate
Computer
ubuntu-mate
Desktop
File System
Documents
Downloads
Music
Pictures
Videos
Trash
Network
Browse Net...
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 items, Free space: 713.5 MB
ubuntu-mate

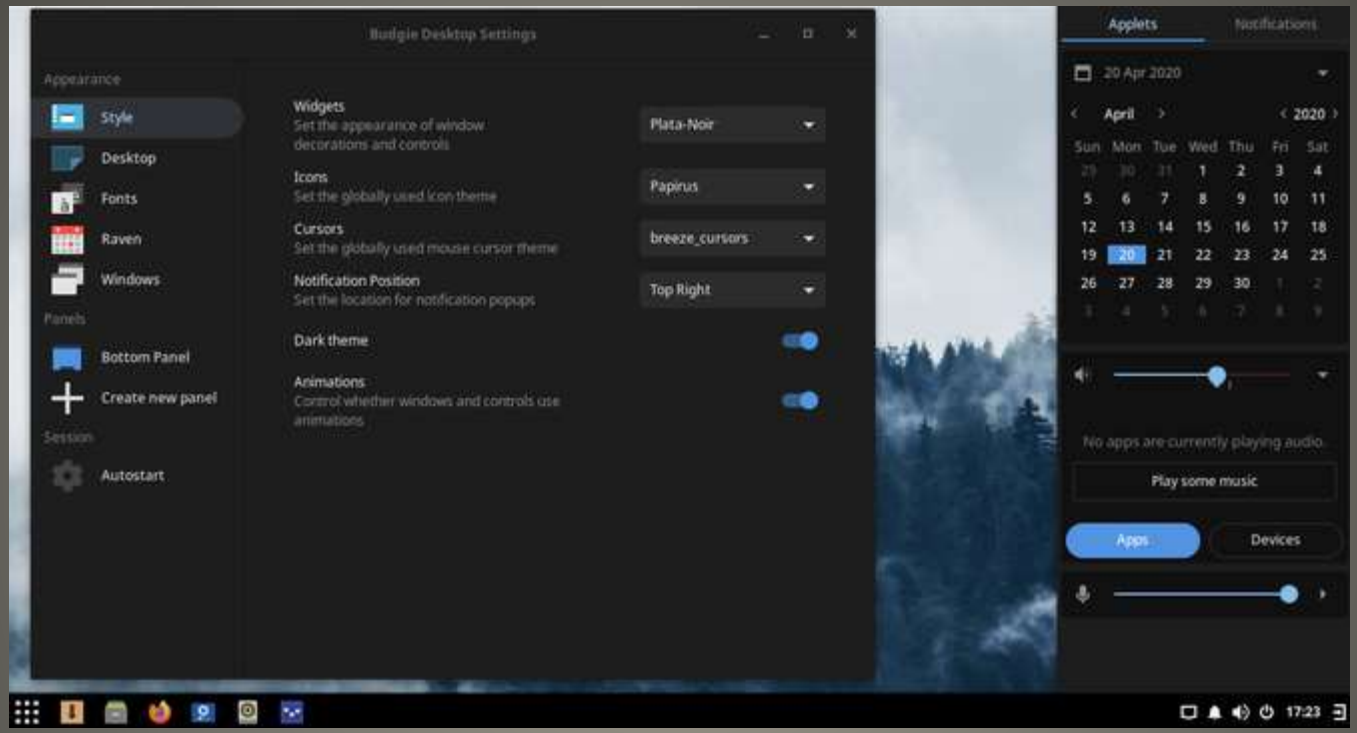
Mate


Applications
liveuser - File Manager
16:09
Live System User
Run Program...
Terminal Emulator
File Manager
Mail Reader
Web Browser
Settings
Administration
Accessories
Development
Documentation
Graphics
Internet
Multimedia
Office
System
Log Out
liveuser - File Manager
File Edit View Go Help
/home/liveuser/
DEVICES
File System
Anaconda
1.1 GB Volume
Anaconda
PLACES
liveuser
Desktop
Trash
NETWORK
Browse Network
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 items, Free space: 1.9 GB
Trash
File System
Home

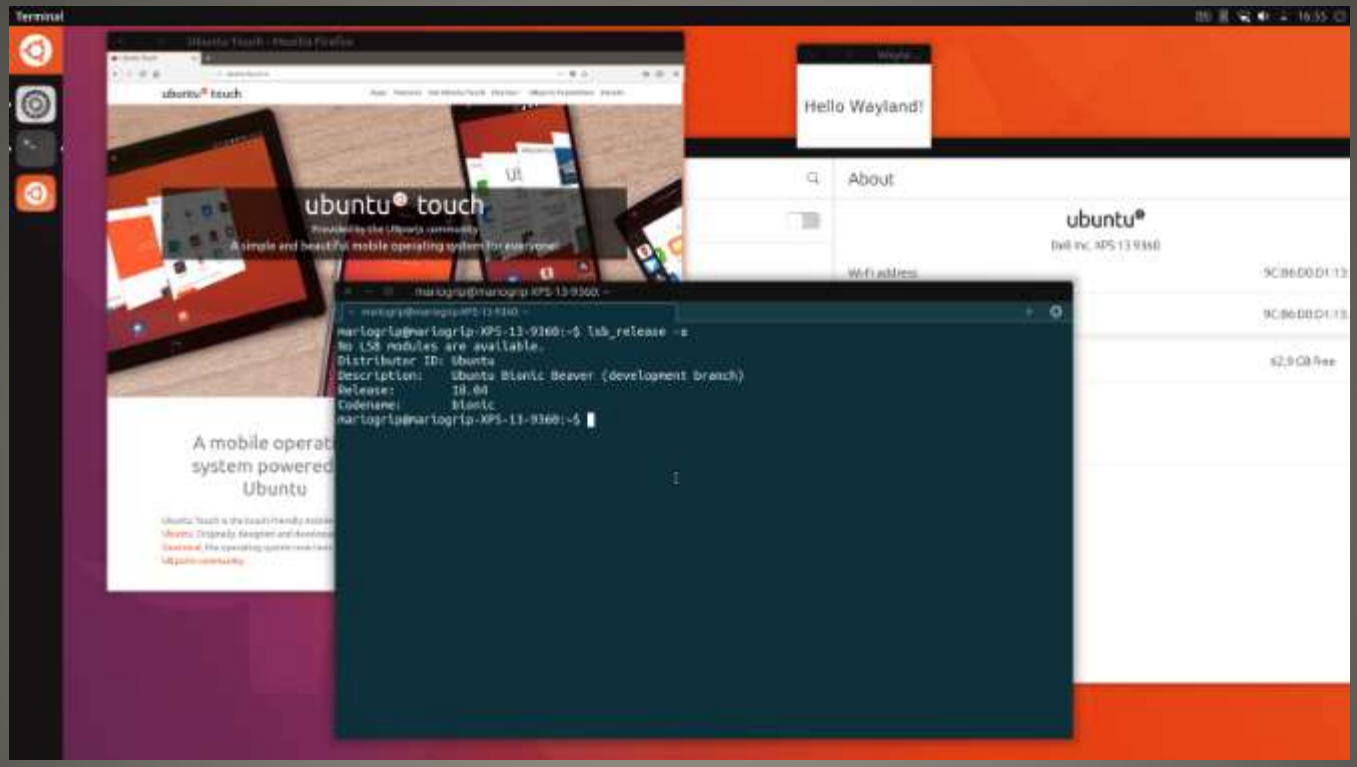
Xfce


The Letters Page
Interlude 9 - Slaughterhouse Six
LETTERS PAGE

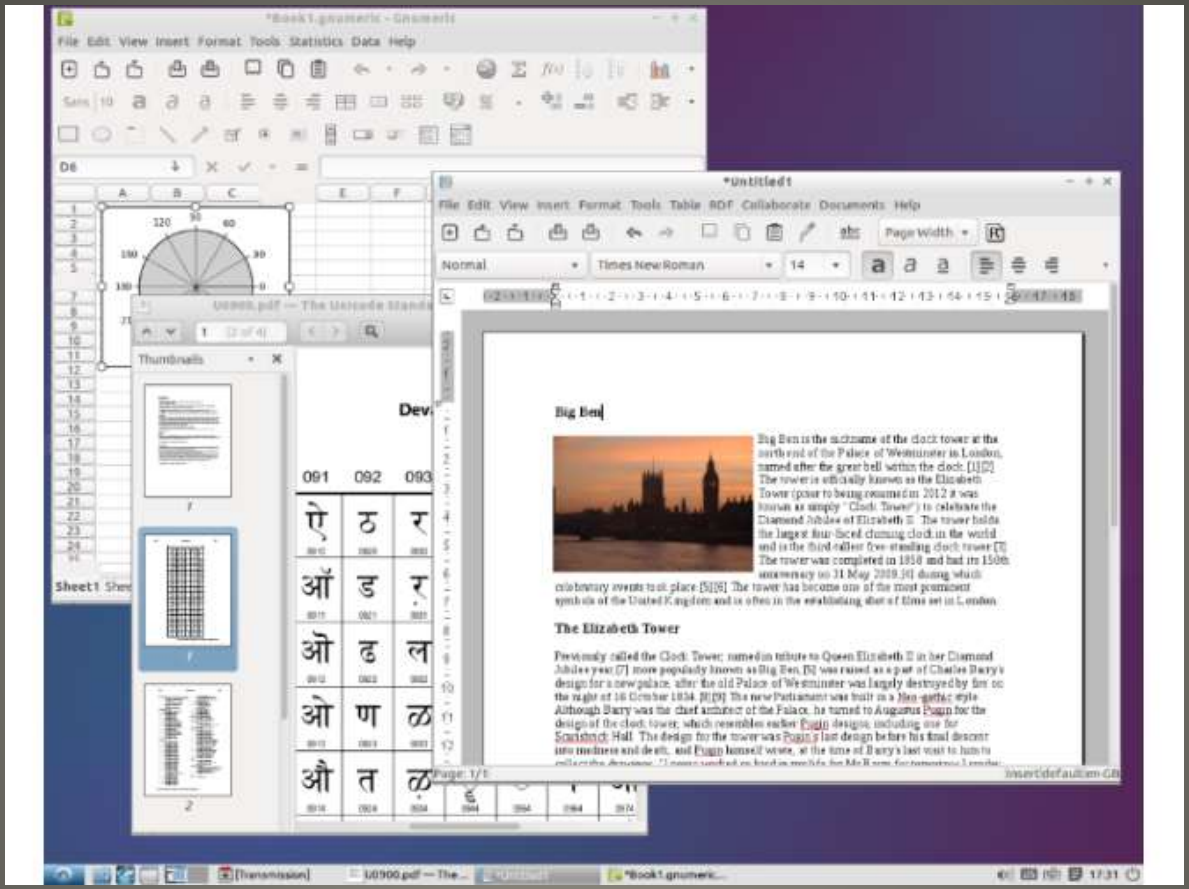
Pantheon


Budgie Desktop Settings
Appearance
Style
Desktop
Fonts
Raven
Windows
Panels
Bottom Panel
Create new panel
Session
Autostart
Widgets
Set the appearance of window decorations and controls
Plata-Noir
Icons
Set the globally used icon theme
Papirus
Cursors
Set the globally used mouse cursor theme
breeze_cursors
Notification Position
Set the location for notification popups
Top Right
Dark theme
Animations
Control whether windows and controls use animations
Applets
Notifications
20 Apr 2020
April
2020
Sun Mon Tue Wed Thu Fri Sat
No apps are currently playing audio
Play some music
Apps
Devices
17:23

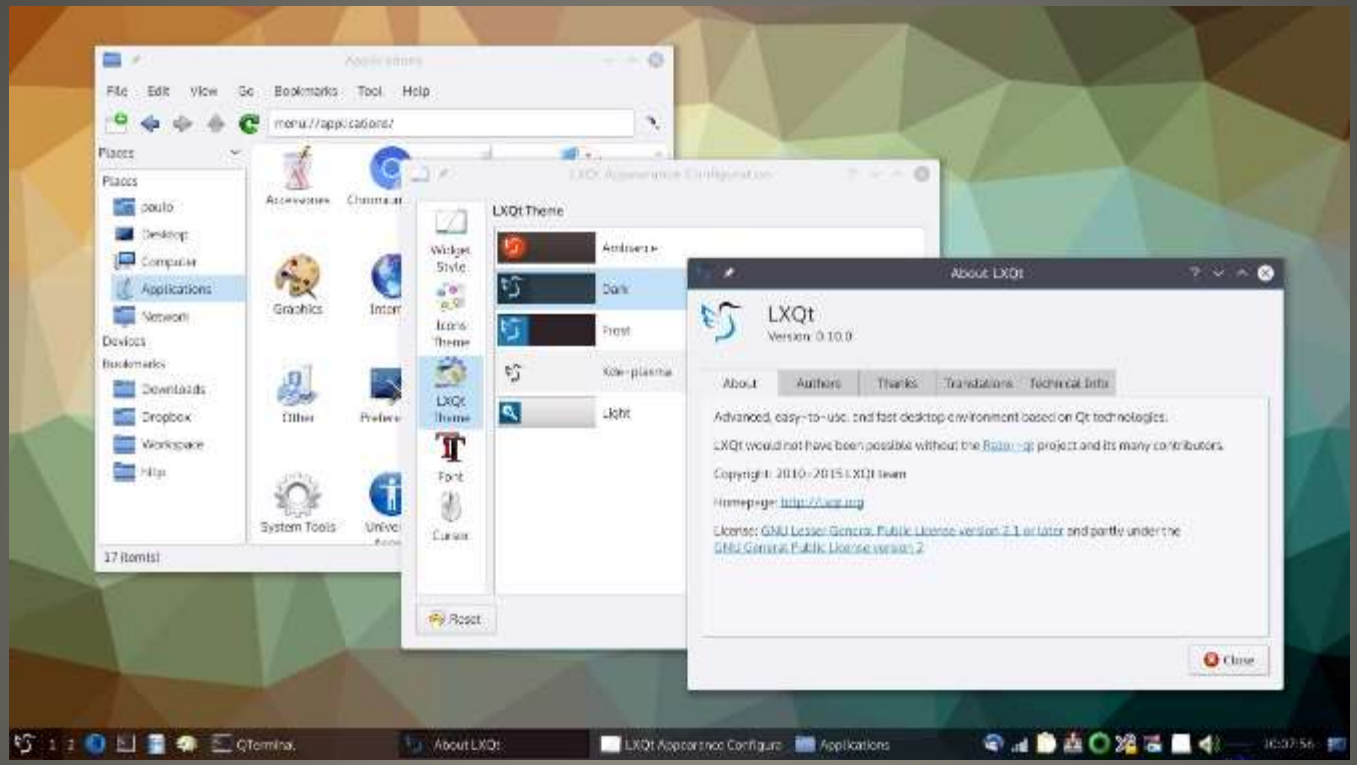
Budgie


Terminal
Hello Wayland!
About
ubuntu touch
A simple and beautiful mobile operating system for everyone
A mobile operat
system powered
Ubuntu
mariogrip@mariogrip-XPS-13-9360:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu Bionic Beaver (development branch)
Release: 18.04
Codename: bionic
mariogrip@mariogrip-XPS-13-9360:~$

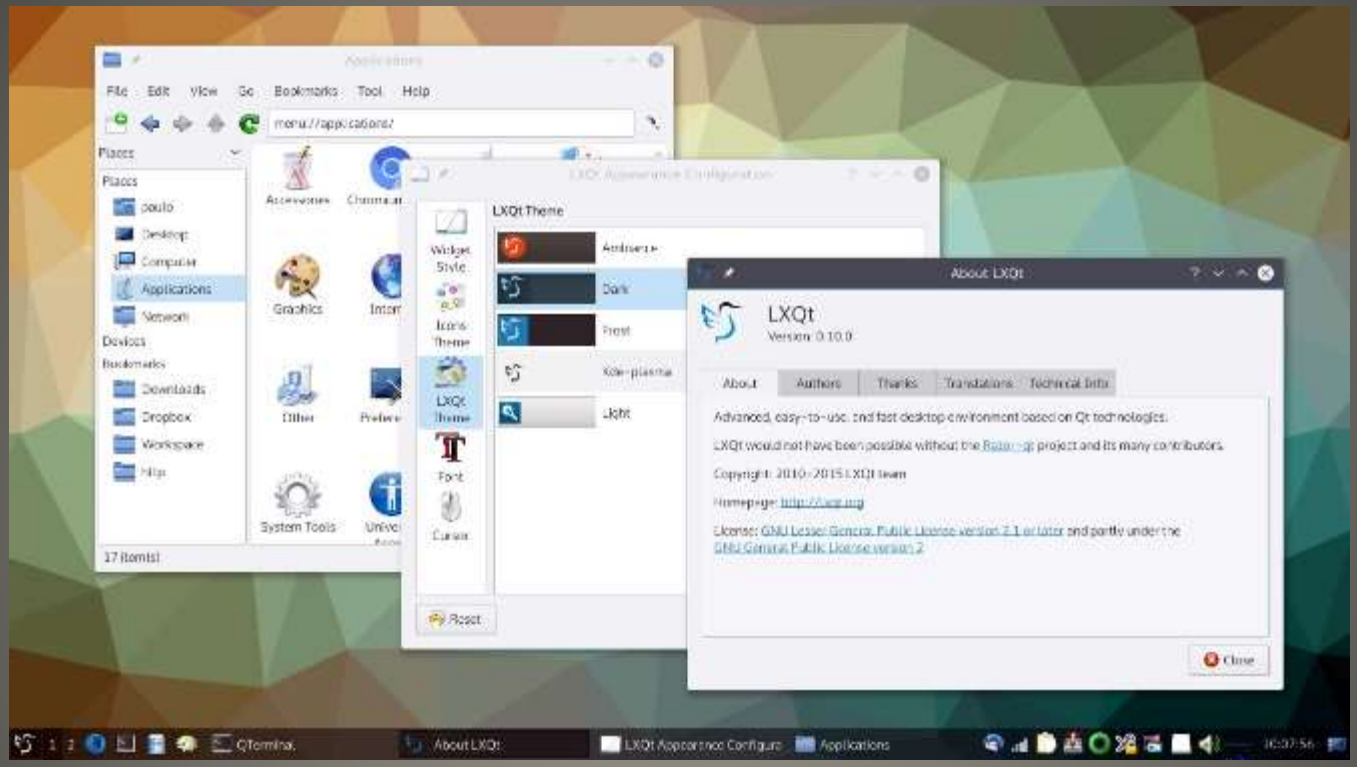
Unity


*Book1.gnumeric - Gnumeric
File Edit View Insert Format Tools Statistics Data Help
*Untitled1
File Edit View Insert Format Tools Table RDF Collaborate Documents Help
Big Ben
The Elizabeth Tower
Thumbnails
Sheet1

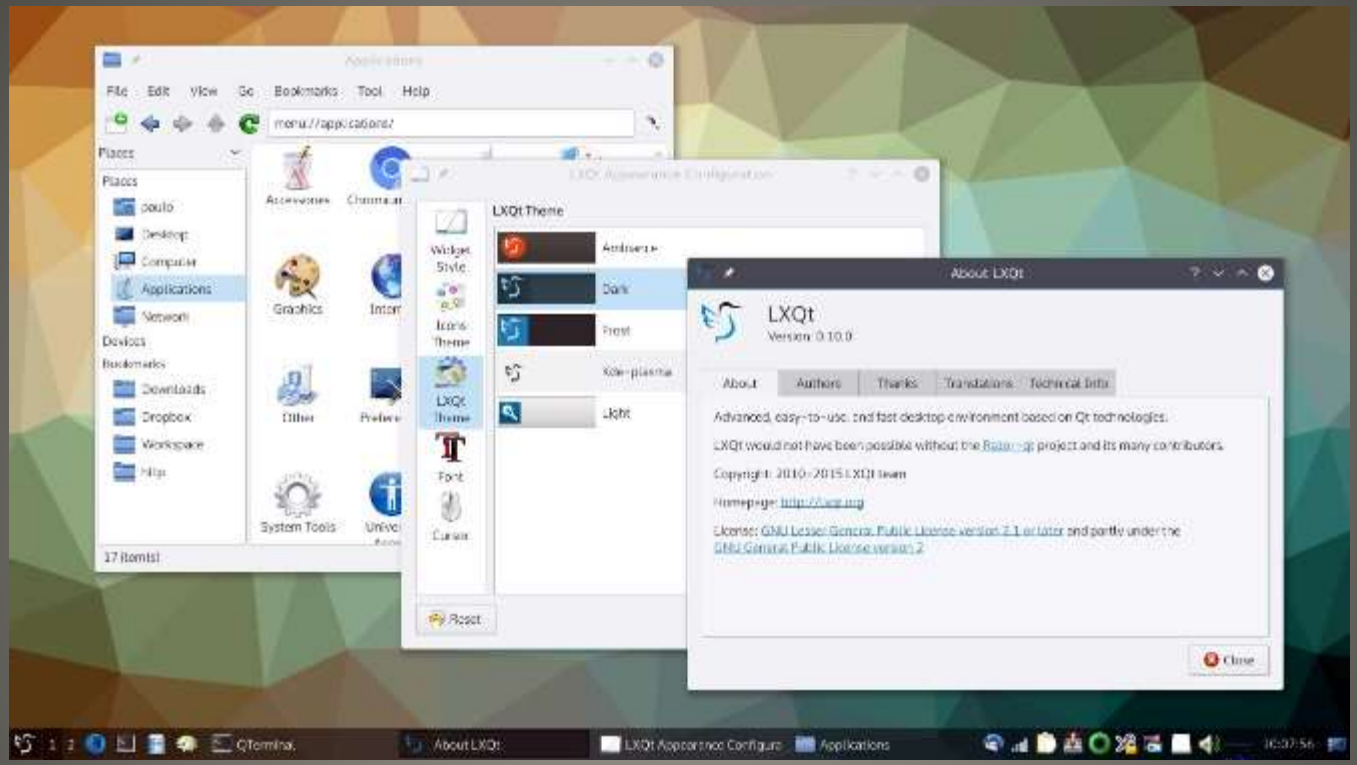
LXDE


File Edit View Go Bookmarks Tool Help
menu://applications/
Places
Places
paulo
Desktop
Computer
Applications
Network
Devices
Bookmarks
Downloads
Dropbox
Workspace
Hilip
17 item(s)
Accessories
Graphics
Other
System Tools
LXQt Theme
Widget Style
Icons Theme
LXQt Theme
Font
Cursor
Reset
Ambiance
Dark
Frost
Kde-plasma
Light
About LXQt
LXQt
Version: 0.10.0
About
Authors
Thanks
Translations
Technical Info
Advanced, easy-to-use, and fast desktop environment based on Qt technologies.
LXQt would not have been possible without the Razor-qt project and its many contributors.
Copyright: 2010-2015 LXQt team
Homepage: http://lxqt.org
License: GNU Lesser General Public License version 2.1 or later and partly under the GNU General Public License version 2
Close
QTerminal
About LXQt
LXQt Appearance Configura
Applications

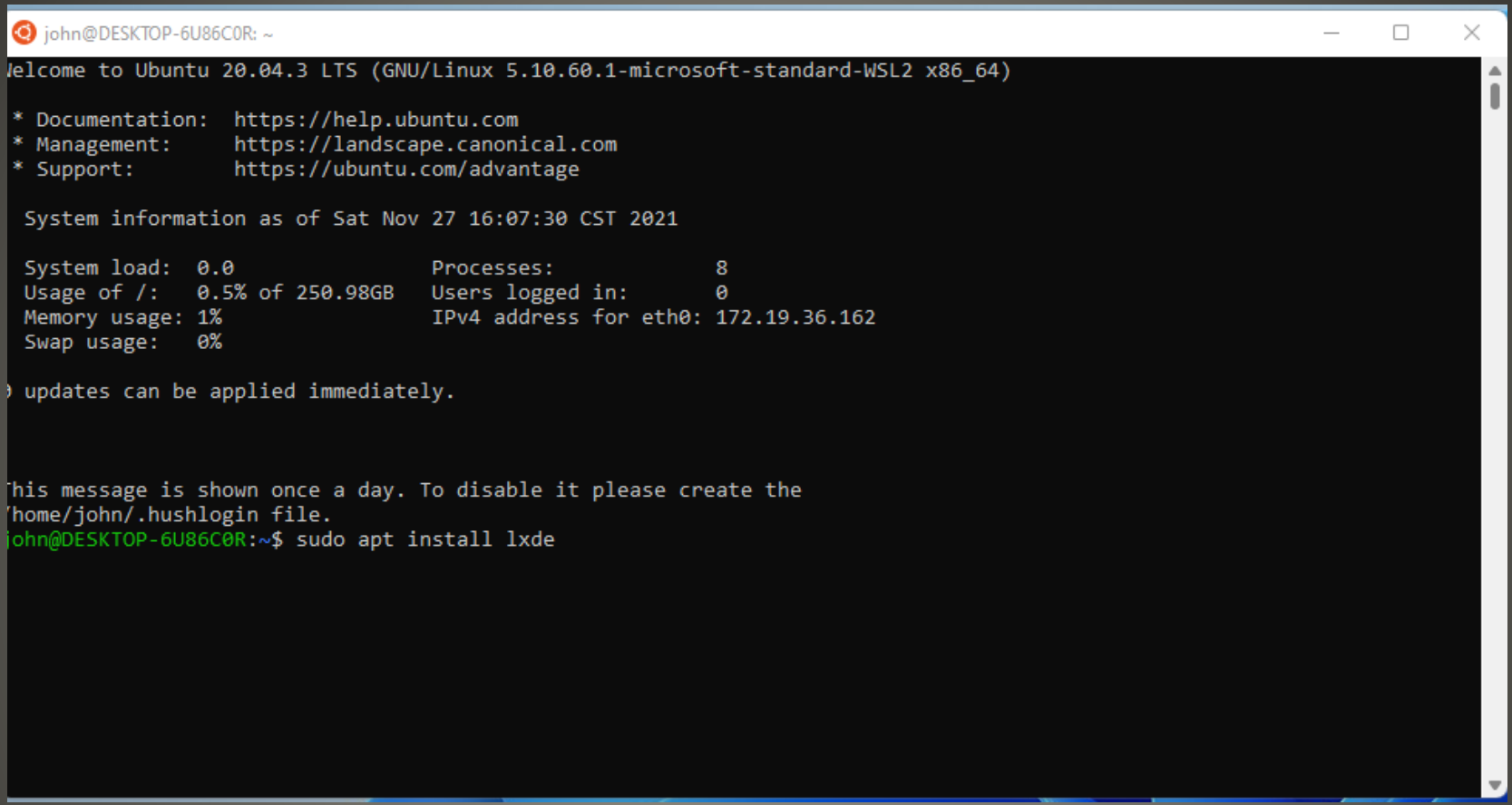
LXQt



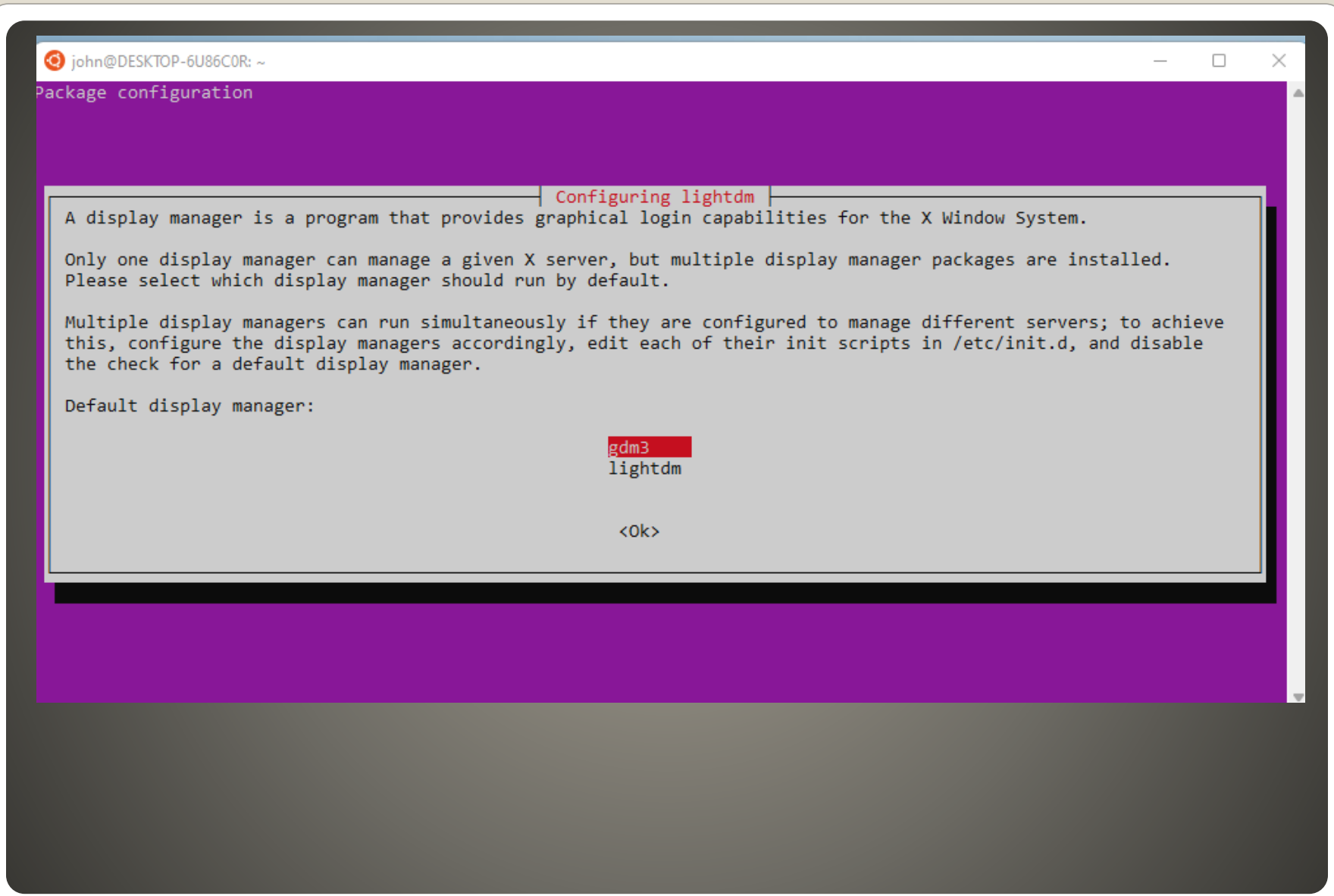
Enlightenment

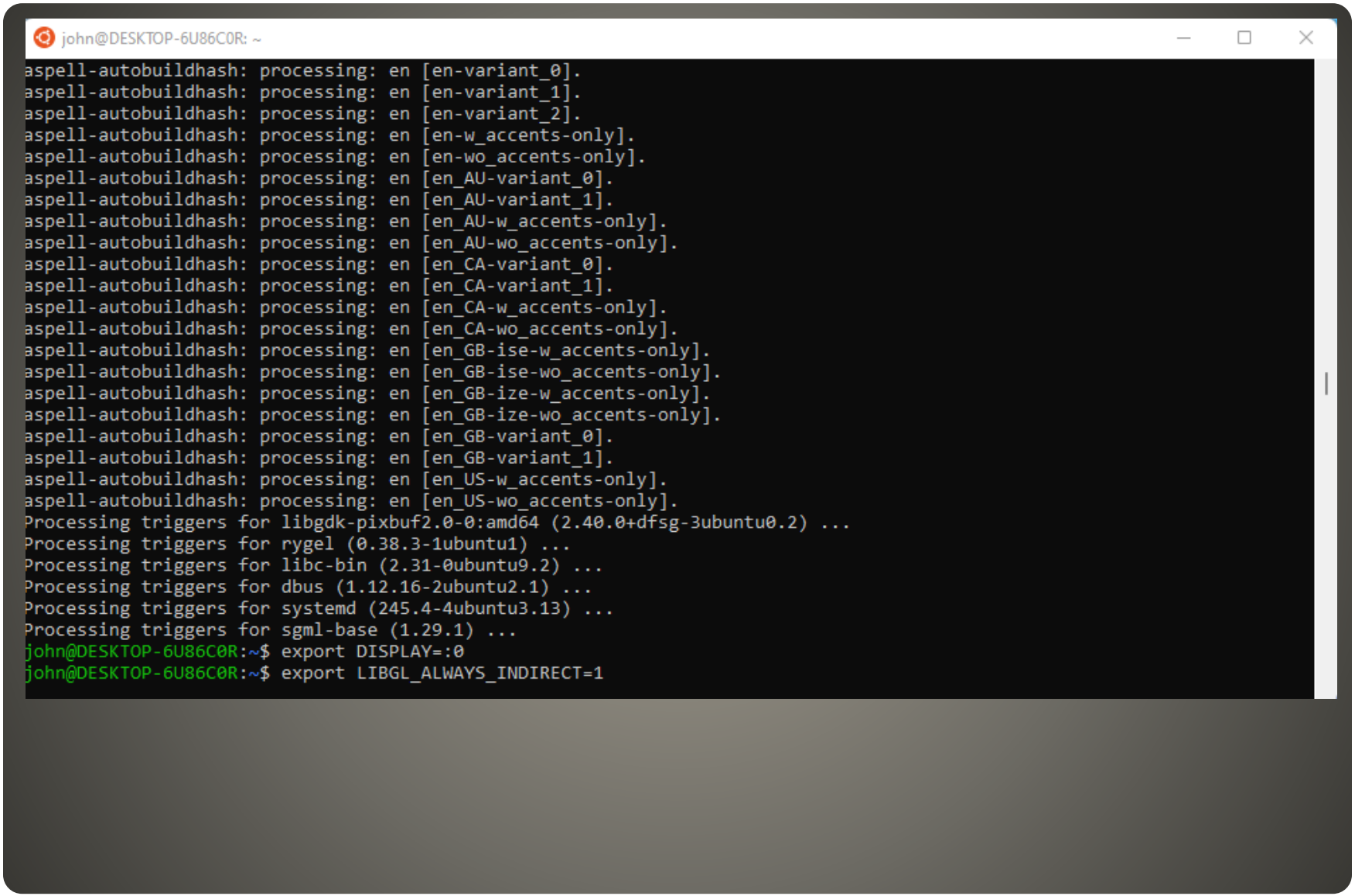

File Edit View Go Bookmarks Tool Help
Places
Devices
Bookmarks
17 Item(s)
LXQt Theme
Widget Style
Icons Theme
LXQt Theme
Font
Cursor
Reset
Dark
Light
About LXQt
LXQt
Version 0.10.0
About
Authors
Thanks
Translations
Technical Info
Advanced, easy-to-use, and fast desktop environment based on Qt technologies.
Close
QTerminal
About LXQt
LXQt Appearance Configure
Applications

Sugar



Install Desktop Environment


john@DESKTOP-6U86C0R: ~
Package configuration
Configuring lightdm
A display manager is a program that provides graphical login capabilities for the X Window System.
Only one display manager can manage a given X server, but multiple display manager packages are installed.
Please select which display manager should run by default.
Multiple display managers can run simultaneously if they are configured to manage different servers; to achieve this, configure the display managers accordingly, edit each of their init scripts in /etc/init.d, and disable the check for a default display manager.
Default display manager:
gdm3
lightdm
<Ok>


john@DESKTOP-6U86C0R: ~
aspell-autobuildhash: processing: en [en-variant_0].
aspell-autobuildhash: processing: en [en-variant_1].
aspell-autobuildhash: processing: en [en-variant_2].
aspell-autobuildhash: processing: en [en-w_accents-only].
aspell-autobuildhash: processing: en [en-wo_accents-only].
aspell-autobuildhash: processing: en [en_AU-variant_0].
aspell-autobuildhash: processing: en [en_AU-variant_1].
aspell-autobuildhash: processing: en [en_AU-w_accents-only].
aspell-autobuildhash: processing: en [en_AU-wo_accents-only].
aspell-autobuildhash: processing: en [en_CA-variant_0].
aspell-autobuildhash: processing: en [en_CA-variant_1].
aspell-autobuildhash: processing: en [en_CA-w_accents-only].
aspell-autobuildhash: processing: en [en_CA-wo_accents-only].
aspell-autobuildhash: processing: en [en_GB-ise-w_accents-only].
aspell-autobuildhash: processing: en [en_GB-ise-wo_accents-only].
aspell-autobuildhash: processing: en [en_GB-ize-w_accents-only].
aspell-autobuildhash: processing: en [en_GB-ize-wo_accents-only].
aspell-autobuildhash: processing: en [en_GB-variant_0].
aspell-autobuildhash: processing: en [en_GB-variant_1].
aspell-autobuildhash: processing: en [en_US-w_accents-only].
aspell-autobuildhash: processing: en [en_US-wo_accents-only].
Processing triggers for libgdk-pixbuf2.0-0:amd64 (2.40.0+dfsg-3ubuntu0.2) ...
Processing triggers for rygel (0.38.3-1ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for dbus (1.12.16-2ubuntu2.1) ...
Processing triggers for systemd (245.4-4ubuntu3.13) ...
Processing triggers for sgml-base (1.29.1) ...
john@DESKTOP-6U86C0R:~$ export DISPLAY=:0
john@DESKTOP-6U86C0R:~$ export LIBGL_ALWAYS_INDIRECT=1

Display settings

Select display settings

Choose how VcXsrv display programs

Multiple windows

Fullscreen

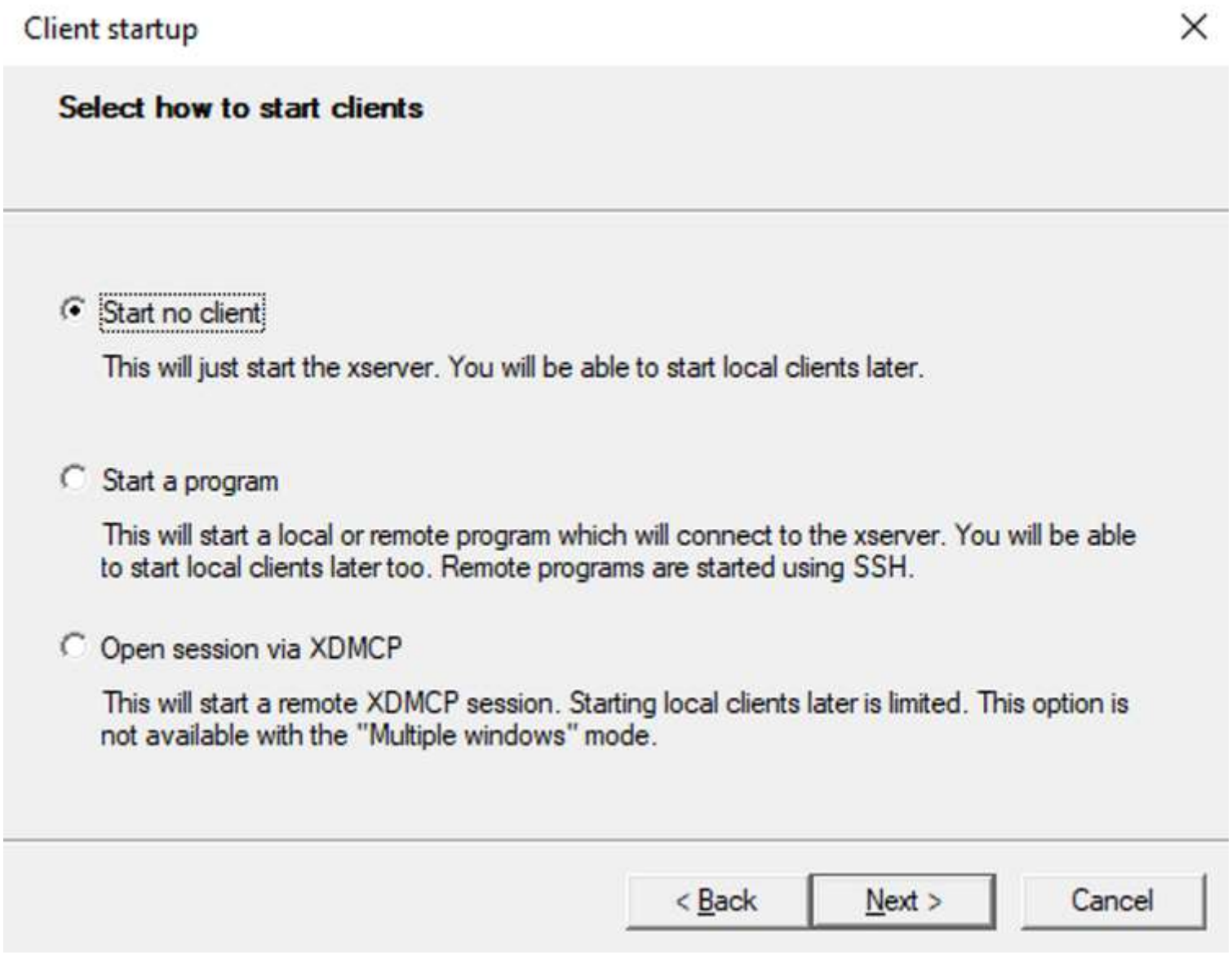
One large window

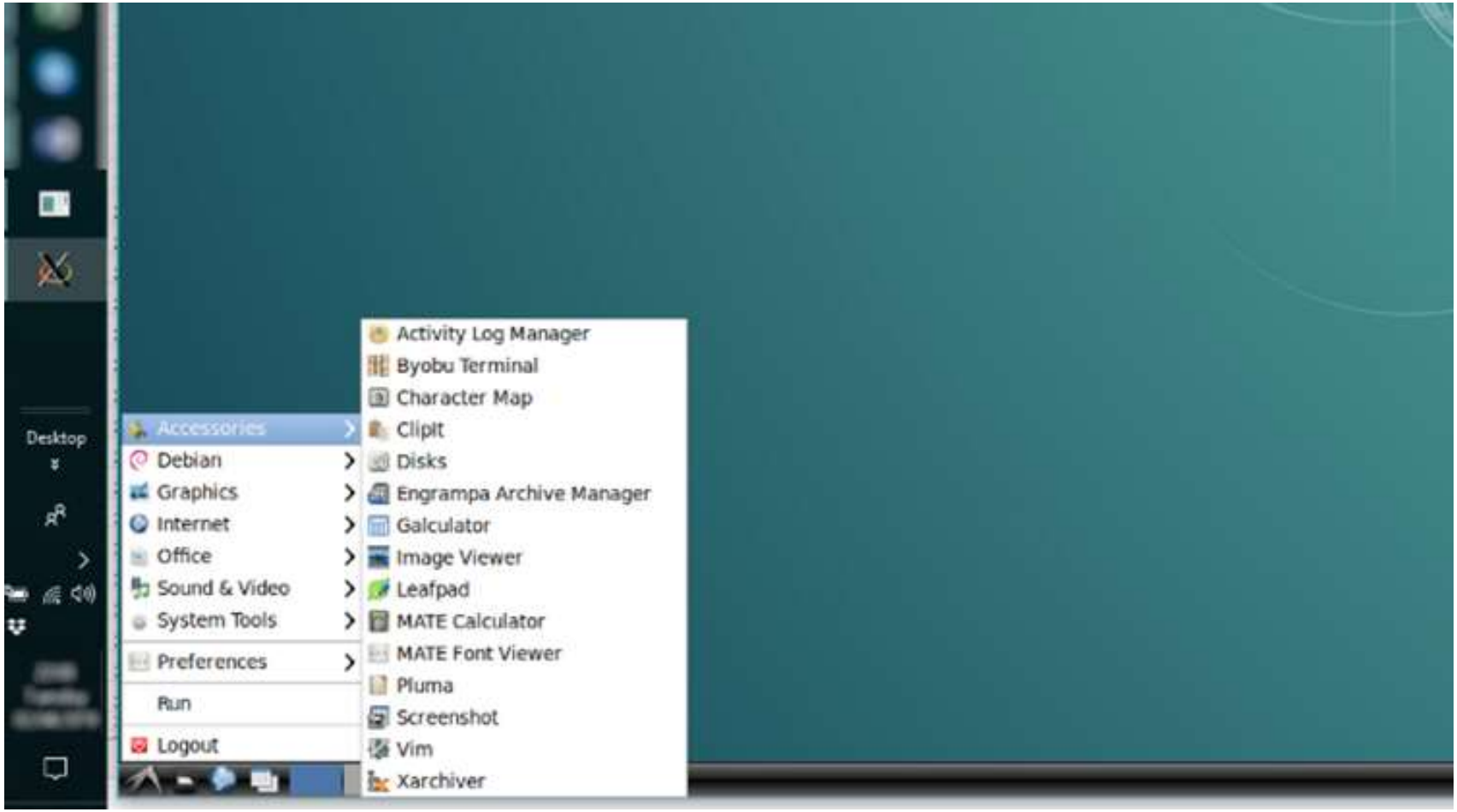
One window without titlebar

Display number 0

(Specify -1 to let vcxsrv automatically choose one)

< Back | Next > | Cancel


Client startup
Select how to start clients
Start no client
This will just start the xserver. You will be able to start local clients later.
Start a program
This will start a local or remote program which will connect to the xserver. You will be able to start local clients later too. Remote programs are started using SSH.
Open session via XDMCP
This will start a remote XDMCP session. Starting local clients later is limited. This option is not available with the "Multiple windows" mode.
< Back
Next >
Cancel


Desktop
Accessories
Debian
Graphics
Internet
Office
Sound & Video
System Tools
Preferences
Run
Logout
Activity Log Manager
Byobu Terminal
Character Map
ClipIt
Disks
Engrampa Archive Manager
Galculator
Image Viewer
Leafpad
MATE Calculator
MATE Font Viewer
Pluma
Screenshot
Vim
Xarchiver

- VM more efficient
- VM have more choices

  Linux, Windows 7, 8, 8.1, Vista, etc.

Linux in a VM

- Knowledge of disk partitioning
- Knowledge of BIOS
- Knowledge of Linux installation
- Getting files & directories back and forth

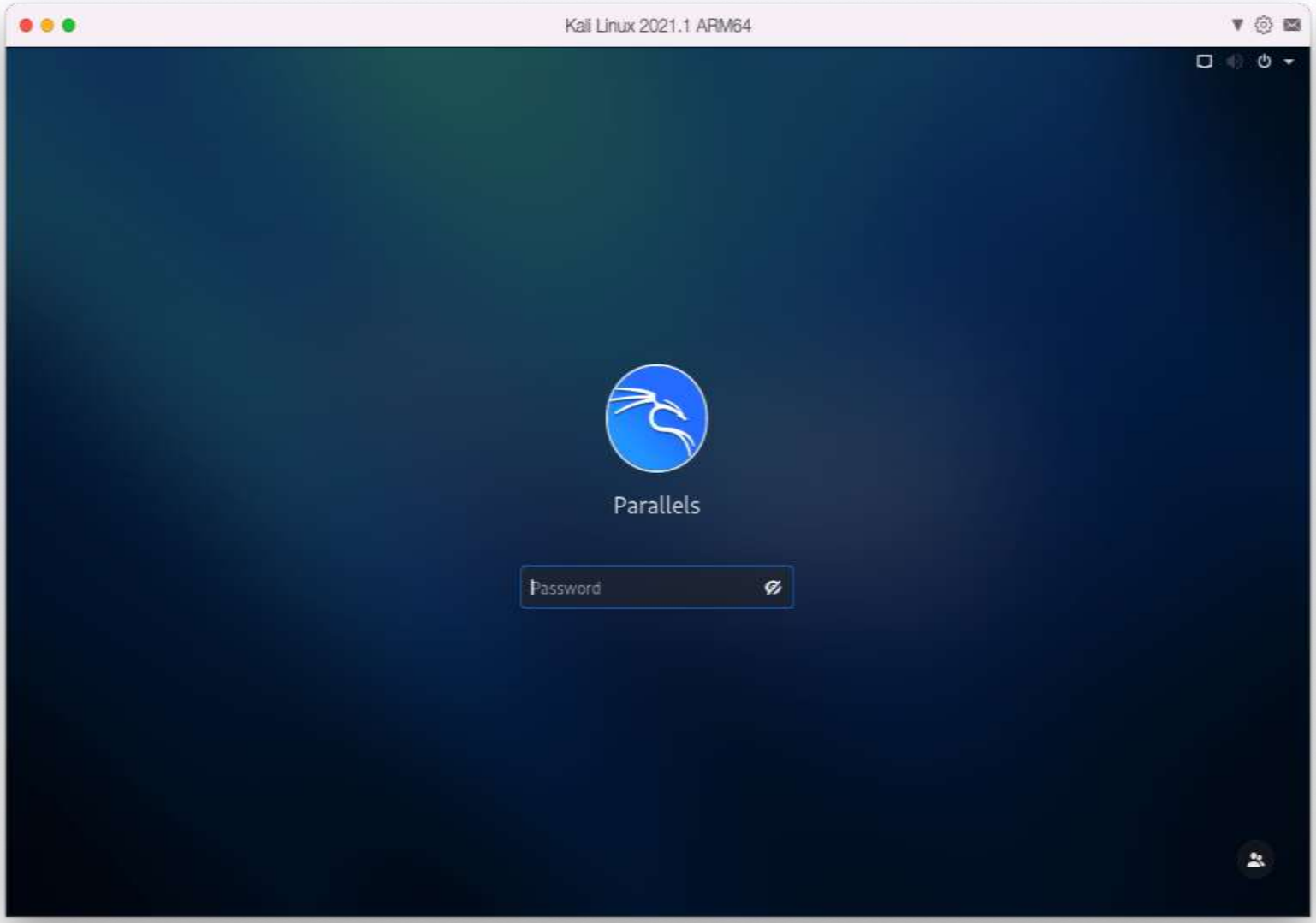
Dual Boot

- Usually no file persistence
- Perhaps a BIOS setting

Live boot

But I have a MAC

- What kind of MAC?
- PowerPC, Intel, M1,
- VM
- MacOS is Linux
- Parallels (cost)

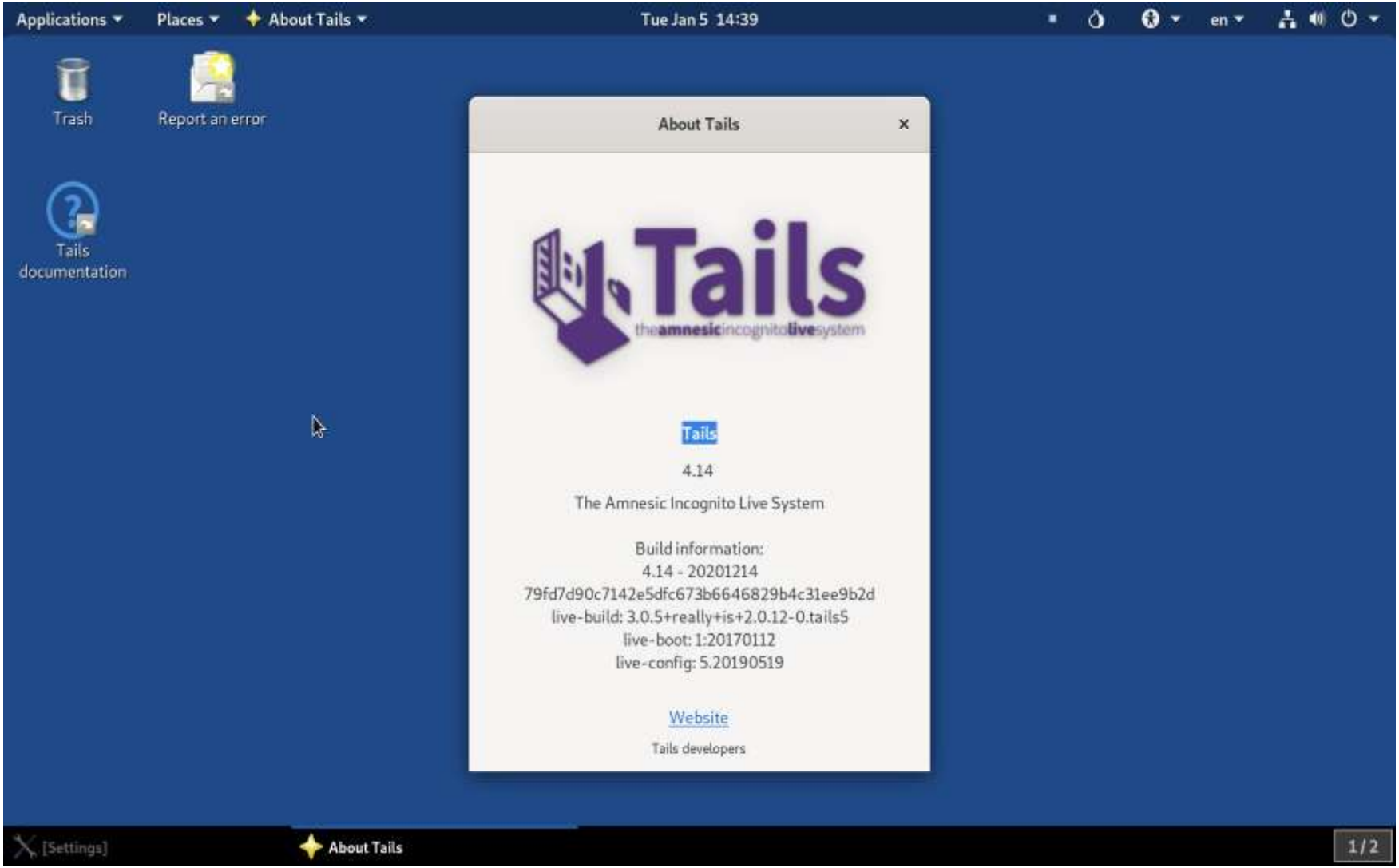

Kali Linux 2021.1 ARM64
Parallels
Password

Review

- Linux is an Operating system
- Linux can offer a more secure/safer environment
- Linux options abound
- Virtual machines
- WSL 2
- Dual boot
- Trash machine
- Cygwin
- Wubi
- Compiled apps
- Free shell
- Live Linux
- Raspberry Pi
- Container

TAILS

- The Amnesic Incognito Live System
- Goal - Preserving privacy & Anonymity
- Activists, Journalists, you
- Snowden, Electronic Frontier Foundation
- Safer - NOT safe not magic
- Encrypted Persistent Storage – Option
- USB, DVD, VM


Applications
Places
About Tails
Tue Jan 5 14:39
en
Trash
Report an error
Tails documentation
About Tails
Tails
the amnesic incognito live system
Tails
4.14
The Amnesic Incognito Live System
Build information:
4.14 - 20201214
79fd7d90c7142e5dfc673b6646829b4c31ee9b2d
live-build: 3.0.5+really+is+2.0.12-0.tails5
live-boot: 1:20170112
live-config: 5.20190519
Website
Tails developers
[Settings]
About Tails
1/2

- Security on the go
- Leave no trace

TAILS Advantages

- Helpful < - > Harmful
- Awareness, Preparedness, Understanding

Computer Club, Help Center, SIGs, Presentations, FirstTime, classes
Cyber Security SIG meetings, NEWSBLOG
Internet

- Questions, suggestions, comments?

SCCCCyber@gmail.com