Intro to WSL

KW-LUG Presentation
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Thanks to Windows Subsystem for Linux...

I can have the workflow of Linux in Windows!

MARVELOUS
What is WSL?

- It’s a kernel interface (lxcore/lxss) that allows 64-bit Linux binaries to run on a Win10/2019 kernel:
What is WSL?

- Add a distro userland (everything else except the Linux kernel), and you can run Linux distros natively on a Windows kernel
- You can start/access the Linux distro via a command (e.g. `kali.exe`)
- You can install multiple distros
- Primarily designed to support developers
- Microsoft is actively changing it all the time
Interested in the architecture?

How do I install it?

Windows Update

Update status

- Updates are available.
  - Feature update to Windows 10, version 1803

Preparing to install updates 82%

Update history

Update settings

We'll automatically download and install updates, except on metered connections (where charges may apply). In that case, we'll automatically download only those updates required to keep Windows running smoothly.

- Change active hours
- Restart options
- Advanced options

Looking for info on the latest updates?
- Learn more
For developers

Use developer features

These settings are intended for development use only.
Learn more

- Microsoft Store apps
  Only install apps from the Microsoft Store.

- Sideload apps
  Install apps from other sources that you trust, like your workplace.

- Developer mode
  Install any signed and trusted app and use advanced development features.

Developer Mode package installed. Remote tooling for desktop is now enabled.

Enable Device Portal

Turn on remote diagnostics over local area network connections.

- Off

Device discovery

Make your device visible to USB connections and your local network.

- Off

File Explorer

Apply the following settings for a more developer friendly File Explorer.

Create your own Windows app
Build a Universal Windows Platform (UWP) app and share it with the world through Microsoft Store.
Get info about UWP apps

Have a question?
Get help

Make Windows better
Give us feedback
Apps & features

Installing apps

Choose where you can get apps from. Installing only apps from the Store helps protect your PC and keep it running smoothly.

Allow apps from anywhere

Apps & features

Manage optional features

Manage app execution aliases

Search, sort, and filter by drive. If you would like to uninstall or move an app, select it from the list.

Search this list

Sort by: Name  Filter by: All drives

- 3D Builder
  Microsoft Corporation
  16.0 KB  12/28/2018

- Alarms & Clock
  Microsoft Corporation
  16.0 KB  12/27/2018

- App Installer
  Microsoft Corporation
  16.0 KB  12/28/2018

- Calculator
  Microsoft Corporation
  16.0 KB  12/27/2018

- Camera
  Microsoft Corporation
  16.0 KB  12/27/2018

- Dell SupportAssist
  15.2 MB  12/27/2018

- Feedback Hub
  16.0 KB

Related settings

Programs and Features

Have a question?

Get help

Make Windows better

Give us feedback
Uninstall or change a program

Turn Windows features on or off

To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.

- Telnet Client
- TFTP Client
- Windows Defender Application Guard
- Windows Hypervisor Platform
- Windows Identity Foundation 3.5
- Windows PowerShell 2.0
- Windows Process Activation Service
- Windows Projected File System (Beta)
- Windows Subsystem for Linux
- Windows TIFF IFilter
- Work Folders Client

OK Cancel

Currently installed programs
Total size: 602 MB
6 programs installed
C: \> Linux on Windows?
Totally.
Install and run Linux distributions side-by-side on the Windows Subsystem for Linux (WSL).

Get the apps

Books (192)  Show all

Linux Phrasebook
Linux Kernel Development
Linux for Developers
Linux for Developers
Linux for Developers
Essential Linux Device Drivers
Fundamentals of Linux
The Linux Programming
Run Linux on Windows
Install and run Linux distributions side-by-side on the Windows Subsystem for Linux (WSL).
Run Linux on Windows
Install and run Linux distributions side-by-side on the Windows Subsystem for Linux (WSL).
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.
Finish the install

- Click icon on Start, or
  - ubuntu.exe
  - opensuse-42.exe
  - sles-12.exe
  - debian.exe
  - kali.exe
What do I do now?

• After installation
  
  sudo passwd root
  su -
  apt-get update
  wget https://kali.sh/xfce4.sh && sh xfce.sh
  /etc/init.d/xrdp start (connect to localhost:3390)
  apt install metasploit-framework
  apt install ssh
  apt install xbill
  apt install apache2 (or whole LAMP stack)
  apachectl start (connect to localhost:80)
  ls /mnt/c
What do I do now?

- Paths (add exception in AV for first path):
  
  C:\Users\name\AppData\Local\Packages\KaliLinux.*\ 

  C:\Users\name\AppData\Local\Packages\KaliLinux.*\Local 
  State\rootfs 
  
  This is VolFs 
  Copying to it from Windows is flakey 
  Accessing Windows from VolFs is not flakey 
  (use symlinks to access Windows dev content via /mnt/c) 

  C:\Users\name\AppData\Local\Microsoft\WindowsApps\Kali 
  Linux.*\kali.exe
Final thoughts

• Designed for developers who don’t want to mess with VMs
• Many, many limitations (nmap?, wireshark?)
• Not bad for an admin station (ssh, python, etc.)
• Can be used to obtain ssh access to Windows via sshd (openssh-server)
• Can be used to look cool (look ma, no VMs!)