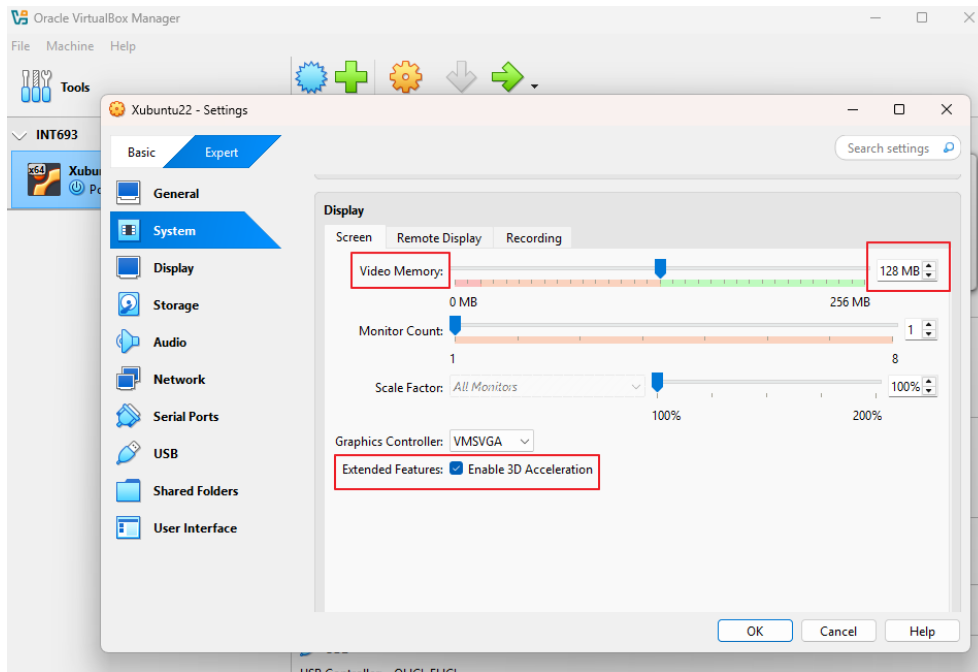


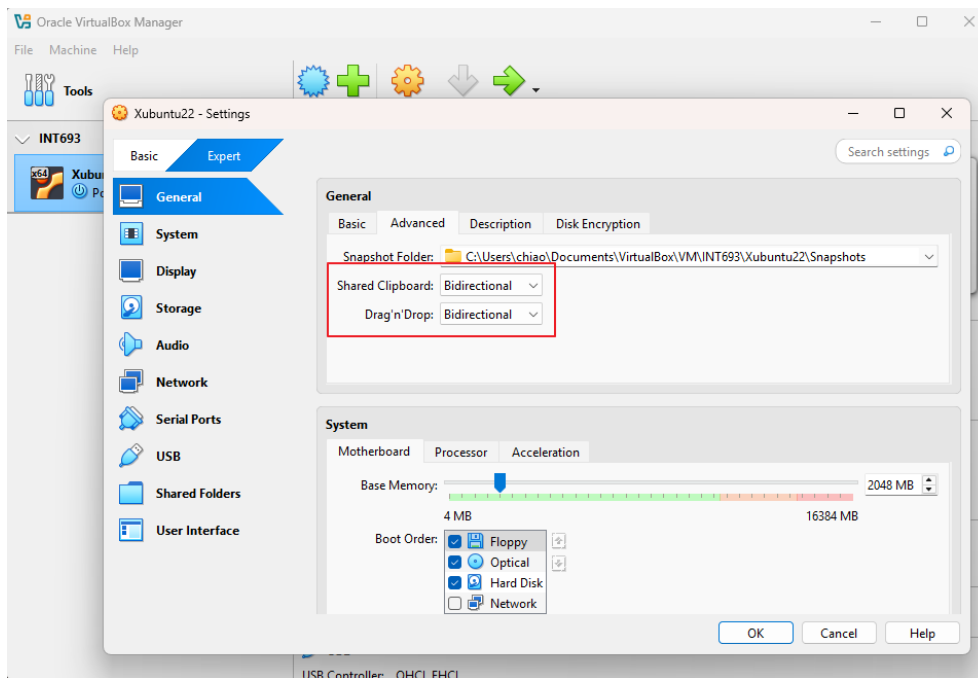
Assignment 2: Advanced VM Configuration and Guest Integration

Part 1: VM Configuration

ตั้งค่า Video Memory เป็น 128MB และเปิดโหมด 3D Acceleration

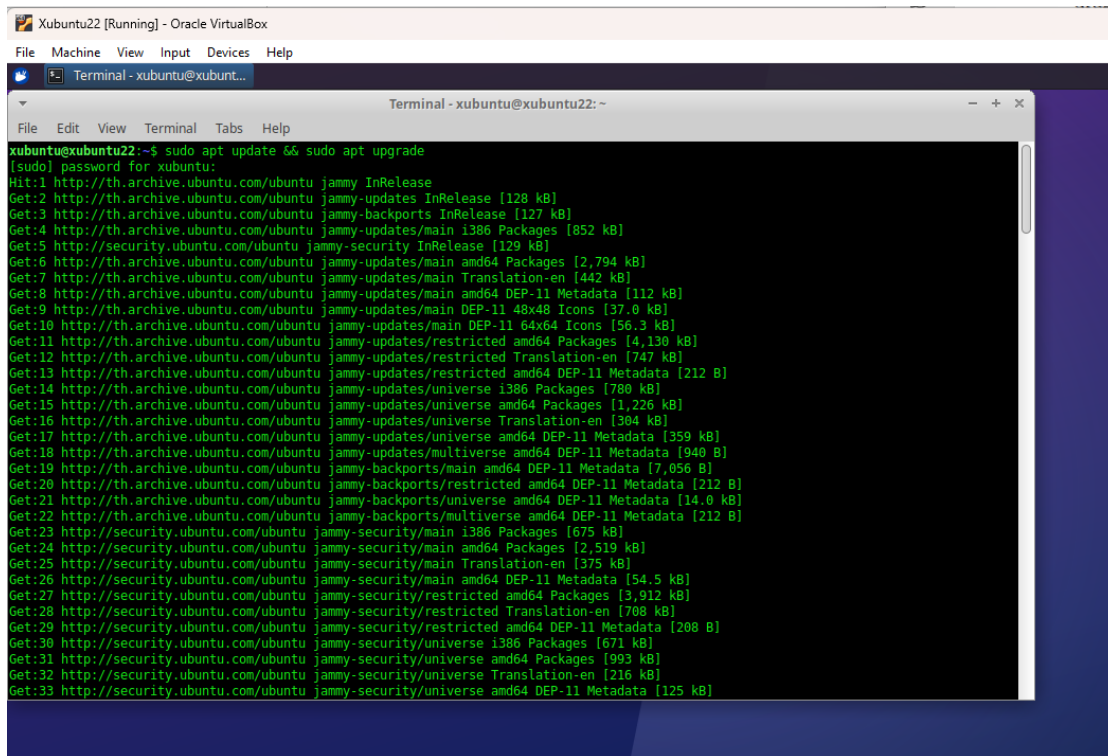


ตั้งค่า Shared Clipboard และ Drag and Drop เป็น Bidirectional



Part 2: Guest Additions Installation

ทำการอัปเดต apt

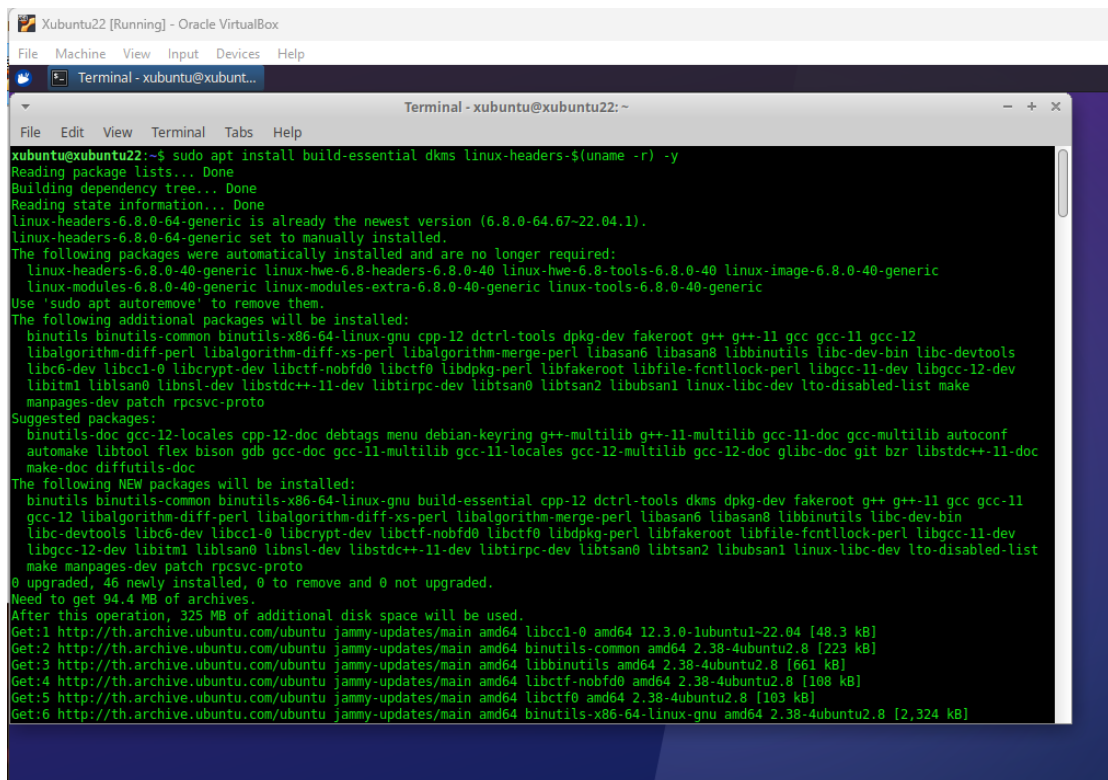


```
xubuntu22 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

Terminal - xubuntu@xubunt...

Terminal - xubuntu@xubuntu22: ~
xubuntu@xubuntu22:~$ sudo apt update && sudo apt upgrade
(sudo) password for xubuntu:
Hit:1 http://th.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://th.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:3 http://th.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
Get:4 http://th.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [852 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:6 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [2,794 kB]
Get:7 http://th.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [442 kB]
Get:8 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metadata [112 kB]
Get:9 http://th.archive.ubuntu.com/ubuntu jammy-updates/main DEP-11 48x48 Icons [37.0 kB]
Get:10 http://th.archive.ubuntu.com/ubuntu jammy-updates/main DEP-11 64x64 Icons [56.3 kB]
Get:11 http://th.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [4,130 kB]
Get:12 http://th.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [747 kB]
Get:13 http://th.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 DEP-11 Metadata [212 B]
Get:14 http://th.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [780 kB]
Get:15 http://th.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,226 kB]
Get:16 http://th.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [304 kB]
Get:17 http://th.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 Metadata [359 B]
Get:18 http://th.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11 Metadata [940 B]
Get:19 http://th.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Metadata [7,056 B]
Get:20 http://th.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 DEP-11 Metadata [212 B]
Get:21 http://th.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11 Metadata [14.0 kB]
Get:22 http://th.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 DEP-11 Metadata [212 B]
Get:23 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [675 kB]
Get:24 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [2,519 kB]
Get:25 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [375 kB]
Get:26 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadata [54.5 kB]
Get:27 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [3,912 kB]
Get:28 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [708 kB]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 DEP-11 Metadata [208 B]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/universe i386 Packages [671 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [993 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [216 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Metadata [125 kB]
```

ติดตั้ง build-essential

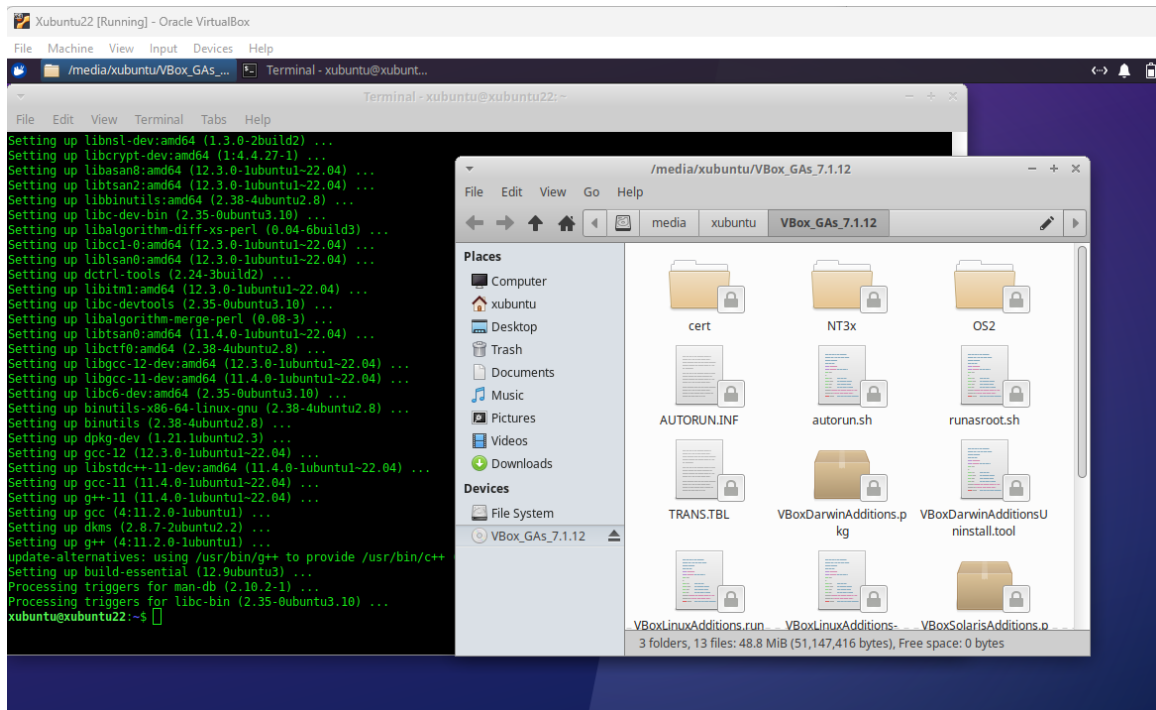


```
xubuntu22 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

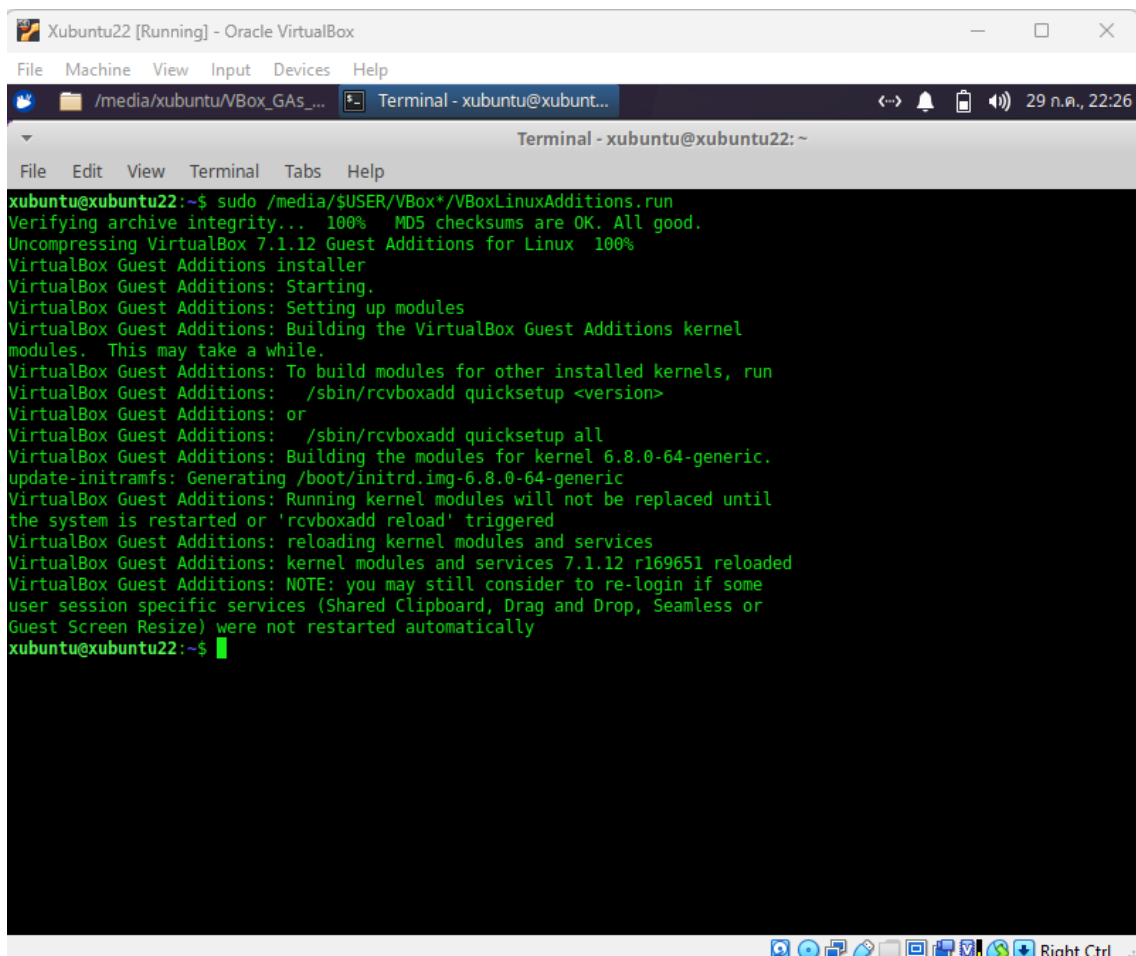
Terminal - xubuntu@xubunt...

Terminal - xubuntu@xubuntu22: ~
xubuntu@xubuntu22:~$ sudo apt install build-essential dkms linux-headers-$(uname -r) -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
linux-headers-6.8.0-64-generic is already the newest version (6.8.0-64.67-22.04.1).
linux-headers-6.8.0-64-generic set to manually installed.
The following packages were automatically installed and are no longer required:
  linux-headers-6.8.0-40-generic linux-hwe-6.8-headers-6.8.0-40 linux-hwe-6.8-tools-6.8.0-40 linux-image-6.8.0-40-generic
  linux-modules-6.8.0-40-generic linux-modules-extra-6.8.0-40-generic linux-tools-6.8.0-40-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu cpp-12 dctrl-tools dpkg-dev fakeroot g++ g++-11 gcc gcc-11 gcc-12
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libasan8 libbinutils libc-dev-bin libc-devtools
  libc6-dev libcbl-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-11-dev libgcc-12-dev
  libitm1 liblsan0 libnsl-dev libstdc++-11-dev libtirpc-dev libtsan0 libtsan2 libubsan1 linux-libc-dev lto-disabled-list make
  manpages-dev patch rpcsvc-proto
Suggested packages:
  binutils-doc gcc-12-locales cpp-12-doc debtags menu debian-keyring g++-multilib g++-11-multilib gcc-11-doc gcc-multilib autoconf
  automake libtool flex bison gdb gcc-doc gcc-11-multilib gcc-11-locales gcc-12-multilib gcc-12-doc glibc-doc git bzr libstdc++-11-doc
  make-doc diffutils-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential cpp-12 dctrl-tools dkms dpkg-dev fakeroot g++ g++-11 gcc gcc-11
  gcc-12 libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libasan8 libbinutils libc-dev-bin
  libc-devtools libc6-dev libcbl-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-11-dev
  libgcc-12-dev libitm1 liblsan0 libnsl-dev libstdc++-11-dev libtirpc-dev libtsan0 libtsan2 libubsan1 linux-libc-dev lto-disabled-list
  make manpages-dev patch rpcsvc-proto
0 upgraded, 46 newly installed, 0 to remove and 0 not upgraded.
Need to get 94.4 MB of archives.
After this operation, 325 MB of additional disk space will be used.
Get:1 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcbl-0 amd64 12.3.0-1ubuntu1-22.04 [48.3 kB]
Get:2 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 binutils-common amd64 2.38-4ubuntu2.8 [223 kB]
Get:3 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libbinutils amd64 2.38-4ubuntu2.8 [661 kB]
Get:4 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libctf-nobfd0 amd64 2.38-4ubuntu2.8 [108 kB]
Get:5 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libctf0 amd64 2.38-4ubuntu2.8 [103 kB]
Get:6 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 binutils-x86-64-linux-gnu amd64 2.38-4ubuntu2.8 [2,324 kB]
```

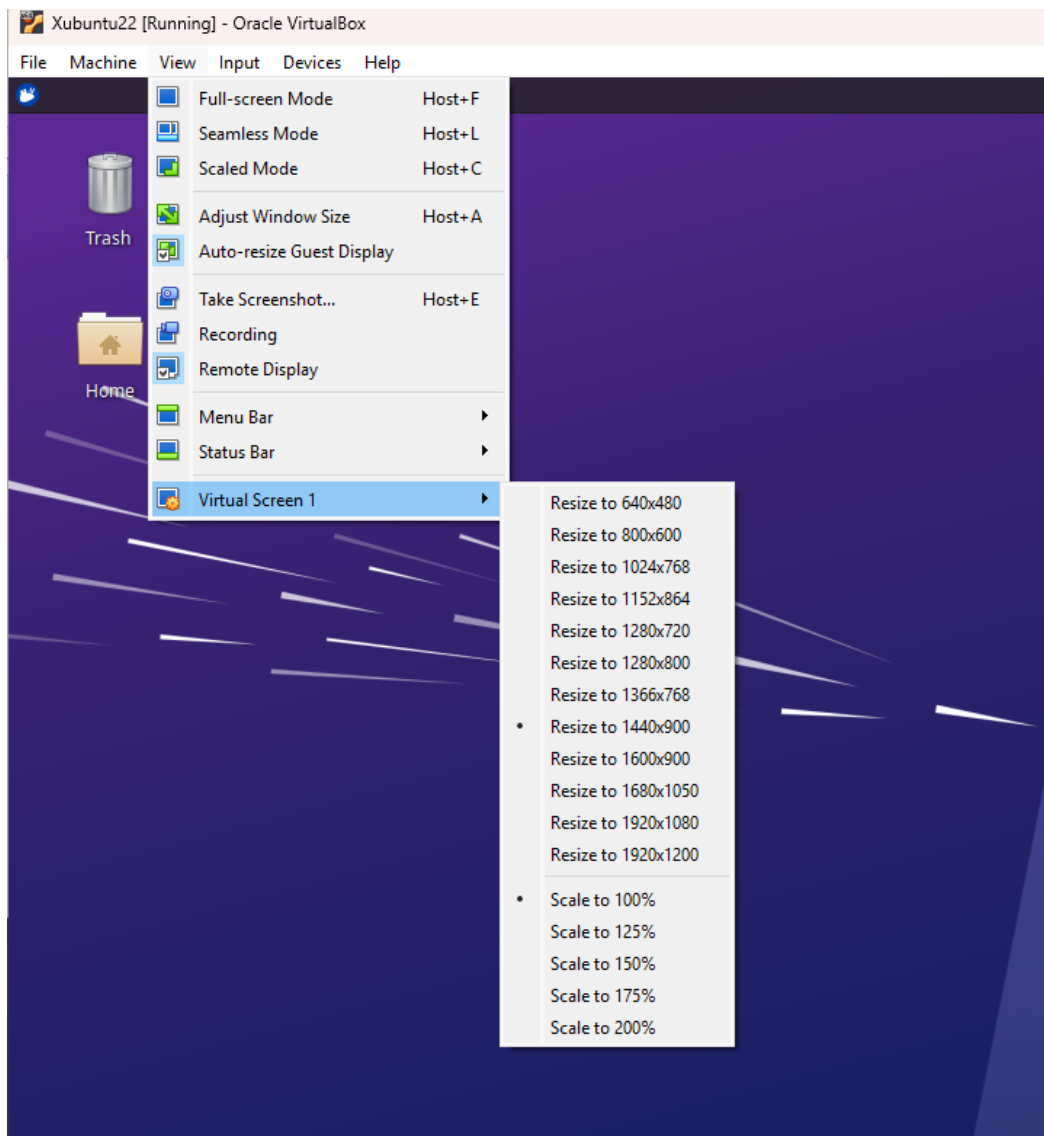
Install Guest Additions CD Image เข้าไปที่ระบบ



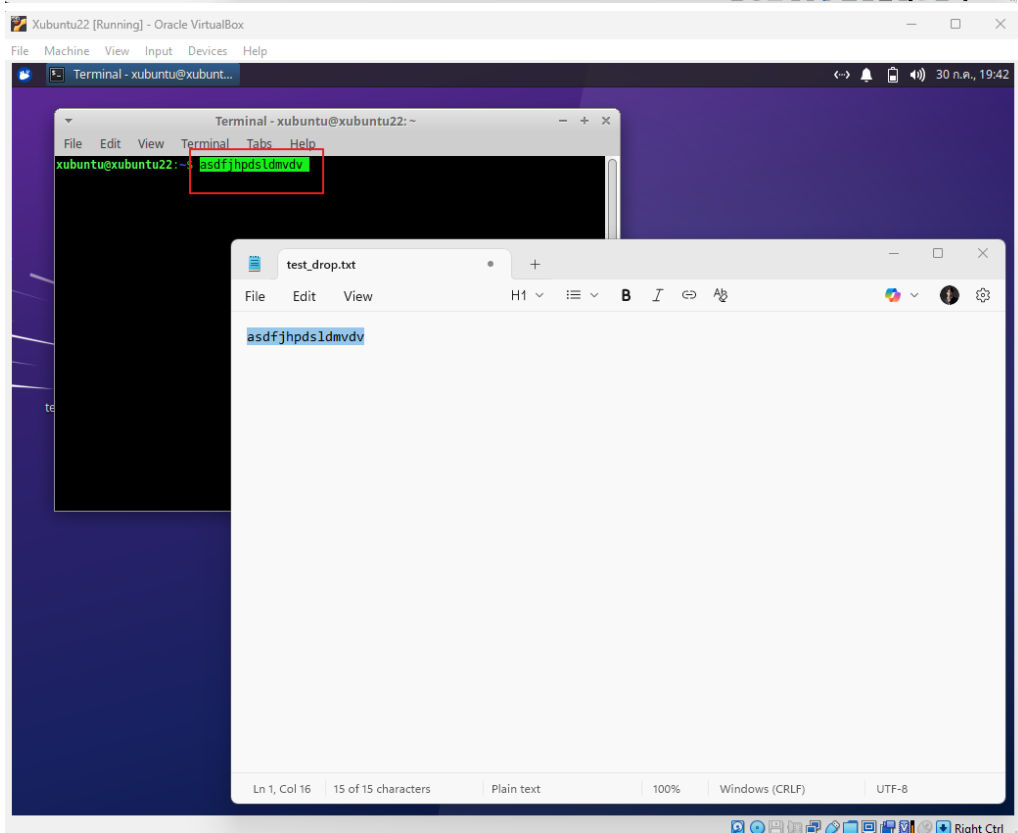
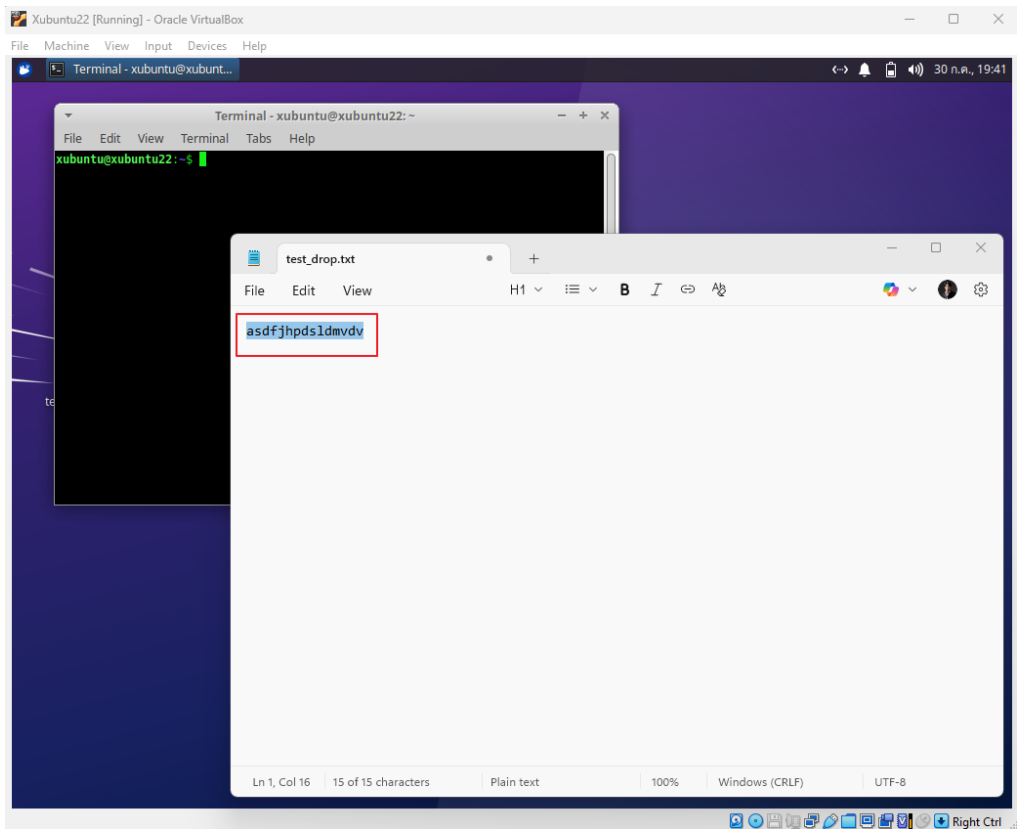
แล้วทำการติดตั้ง VBoxLinuxAdditions.run



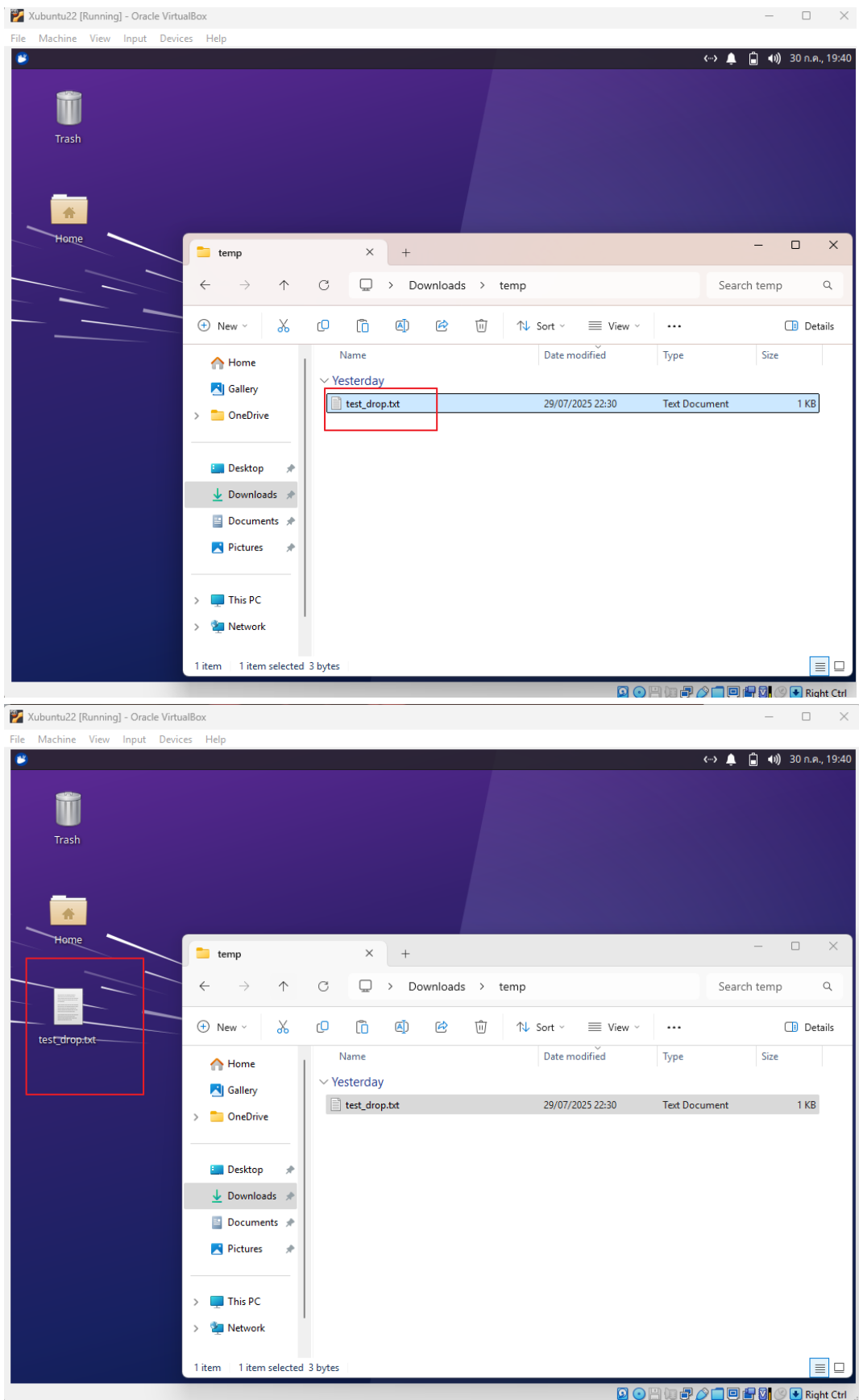
ตรวจสอบว่าสามารถปรับ Resolution หน้าจอได้



ตรวจสอบว่าสามารถ Shared Clipboard ได้

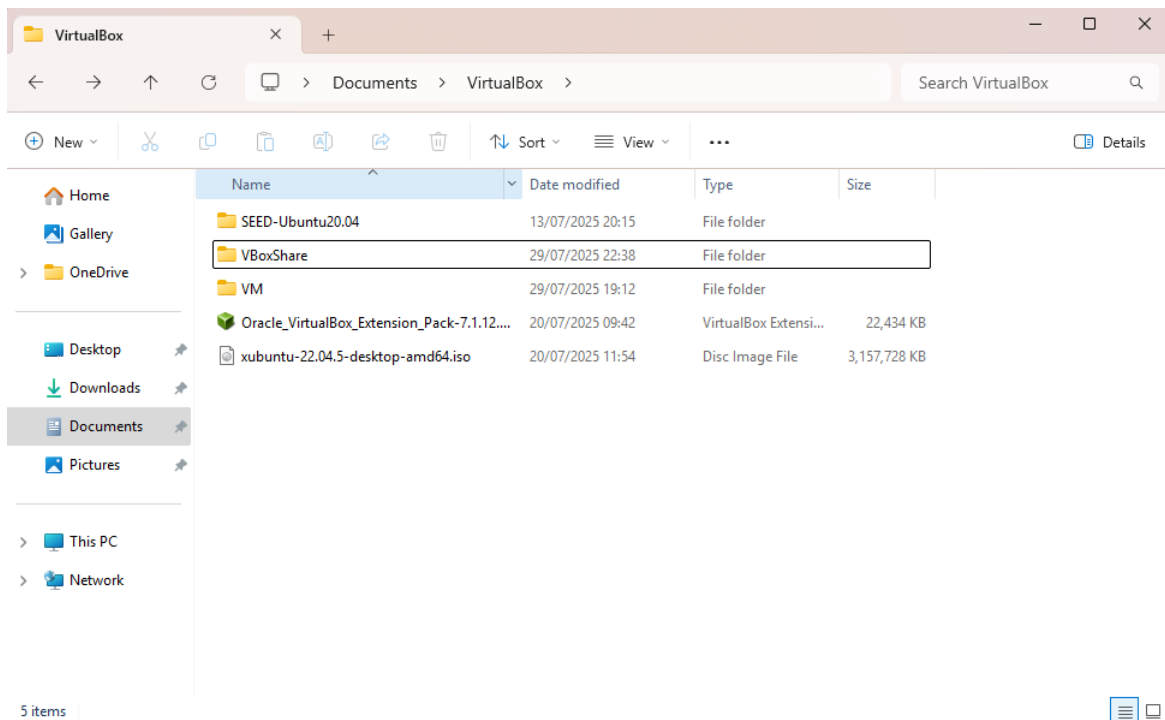


ตรวจสอบว่าสามารถ Drag and Drop ได้

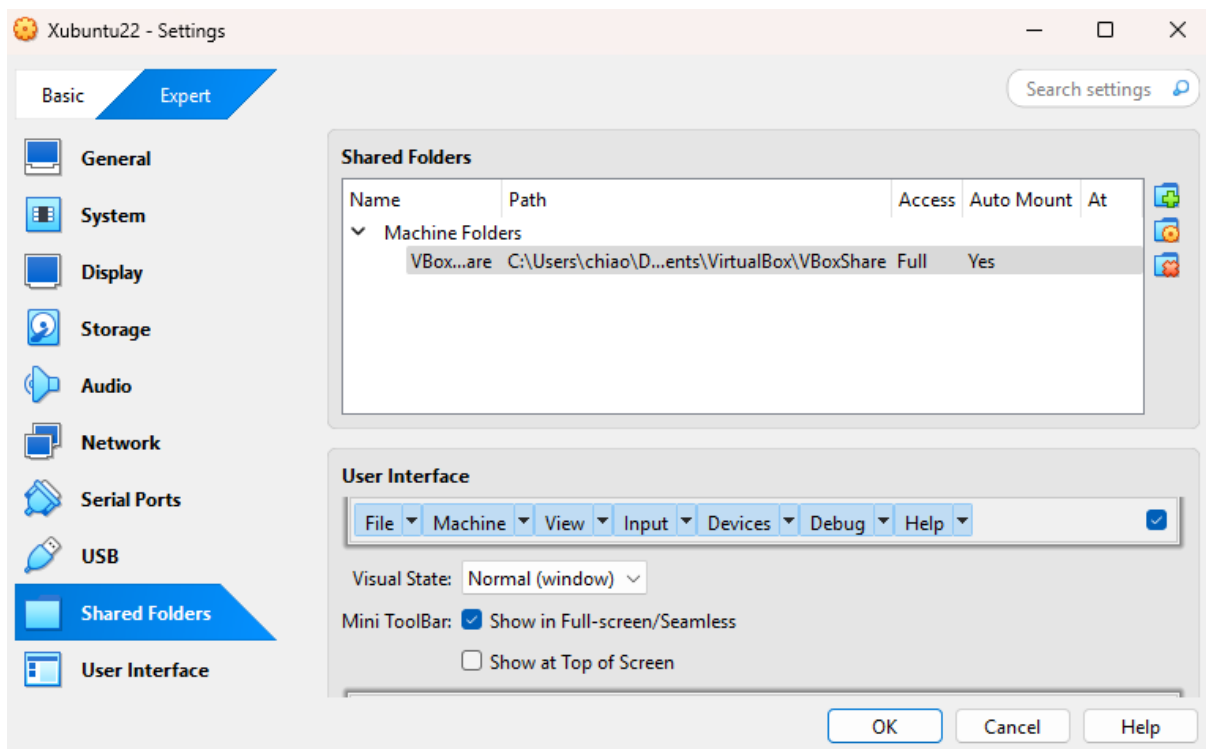


Part 3: Shared Folder Setup

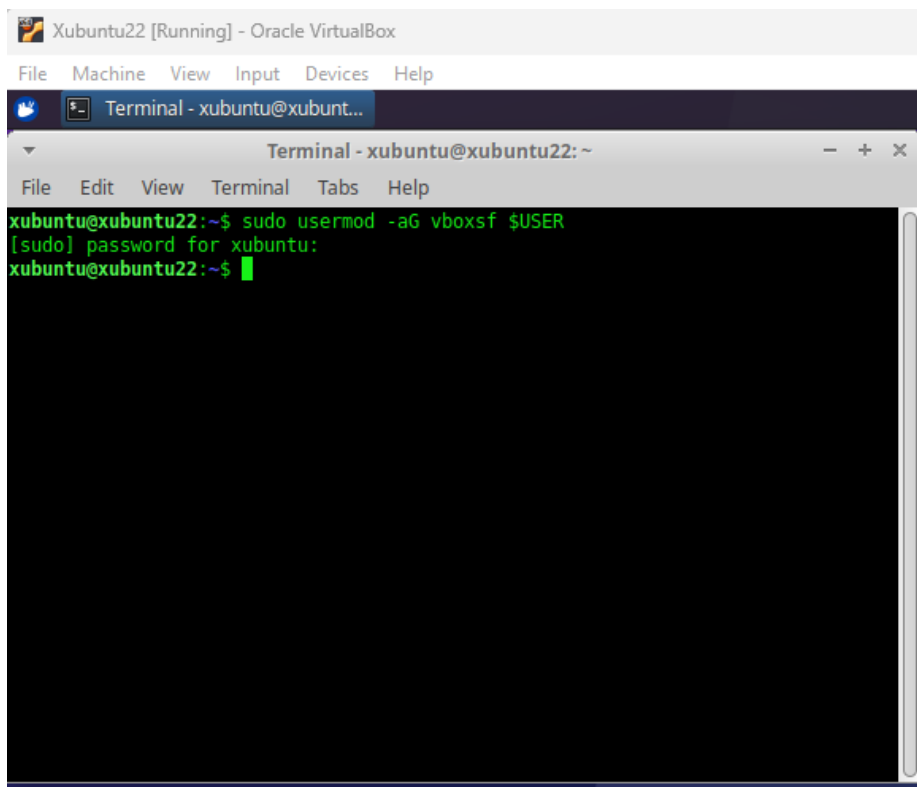
สร้าง Folder VBoxShare ที่เครื่อง Host



ตั้งค่า Shared Folder ที่ VM



เพิ่ม user ไปที่ vboxsf group



สร้างไฟล์เพื่อทดสอบว่า Shared Folder สามารถใช้งานได้

