

Dual Boot Linux on HP Laptops

Do friends let friends create dual boot machines?

Topic Outline

- Order of OS Installs
- Resizing Windows Partition
- Setting the Boot Order in BIOS
- Installing Linux
- Making Grub the OS Loader

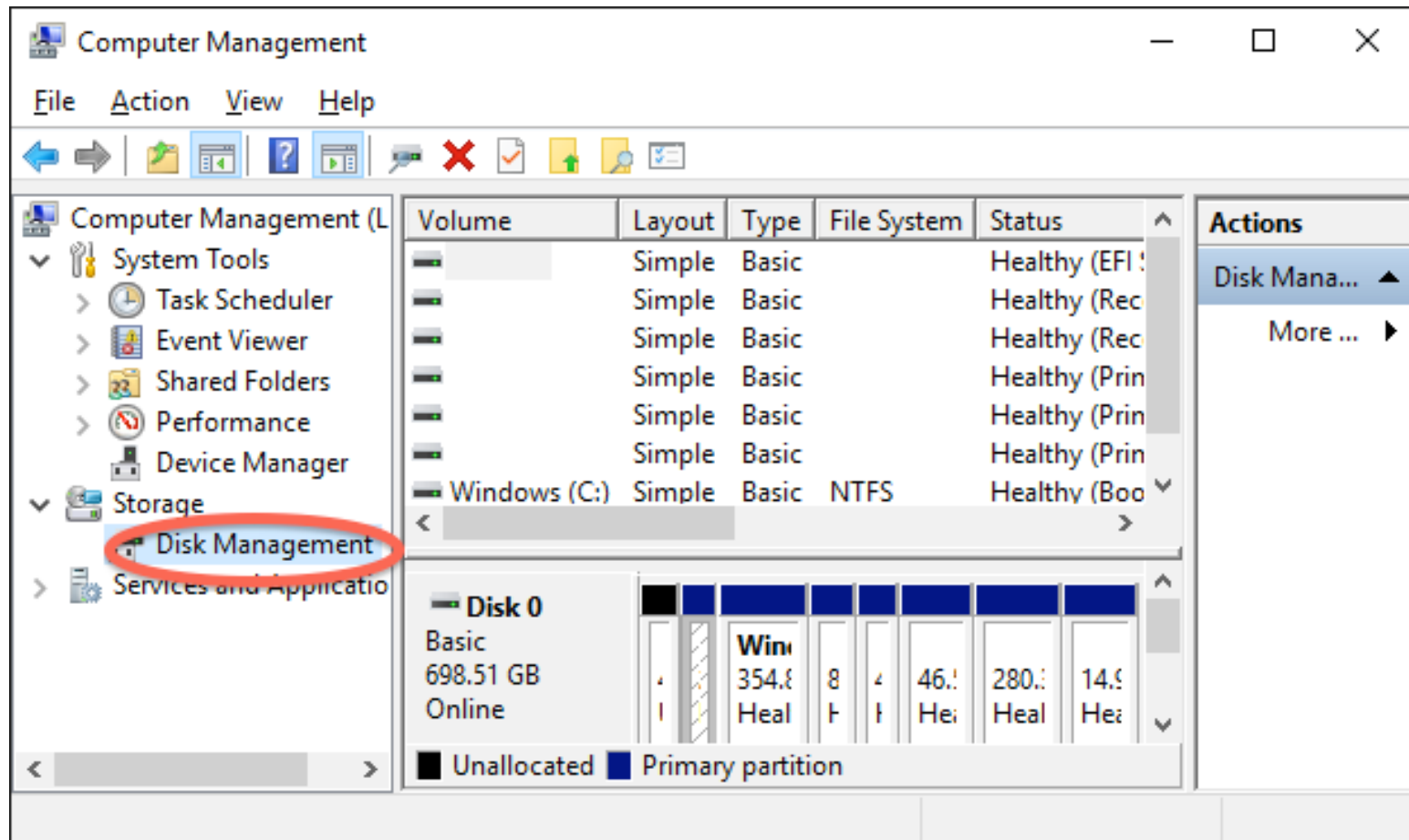
Order of OS Installs

- Microsoft Windows overwrites the OS loader when installed
- Always install Windows first when bringing up a clean (blank) harddrive
- Allow Windows to use the entire disk space
- Windows XP Pro and beyond allows subsequent volume shrinking

Resizing Windows Partition

- Use Administrative Tools to resize the Windows Partition
- Administrative Tools can be found in the Windows Control Panel
- Under Computer Management select Disk Management
- Resize the NTFS Windows Partition

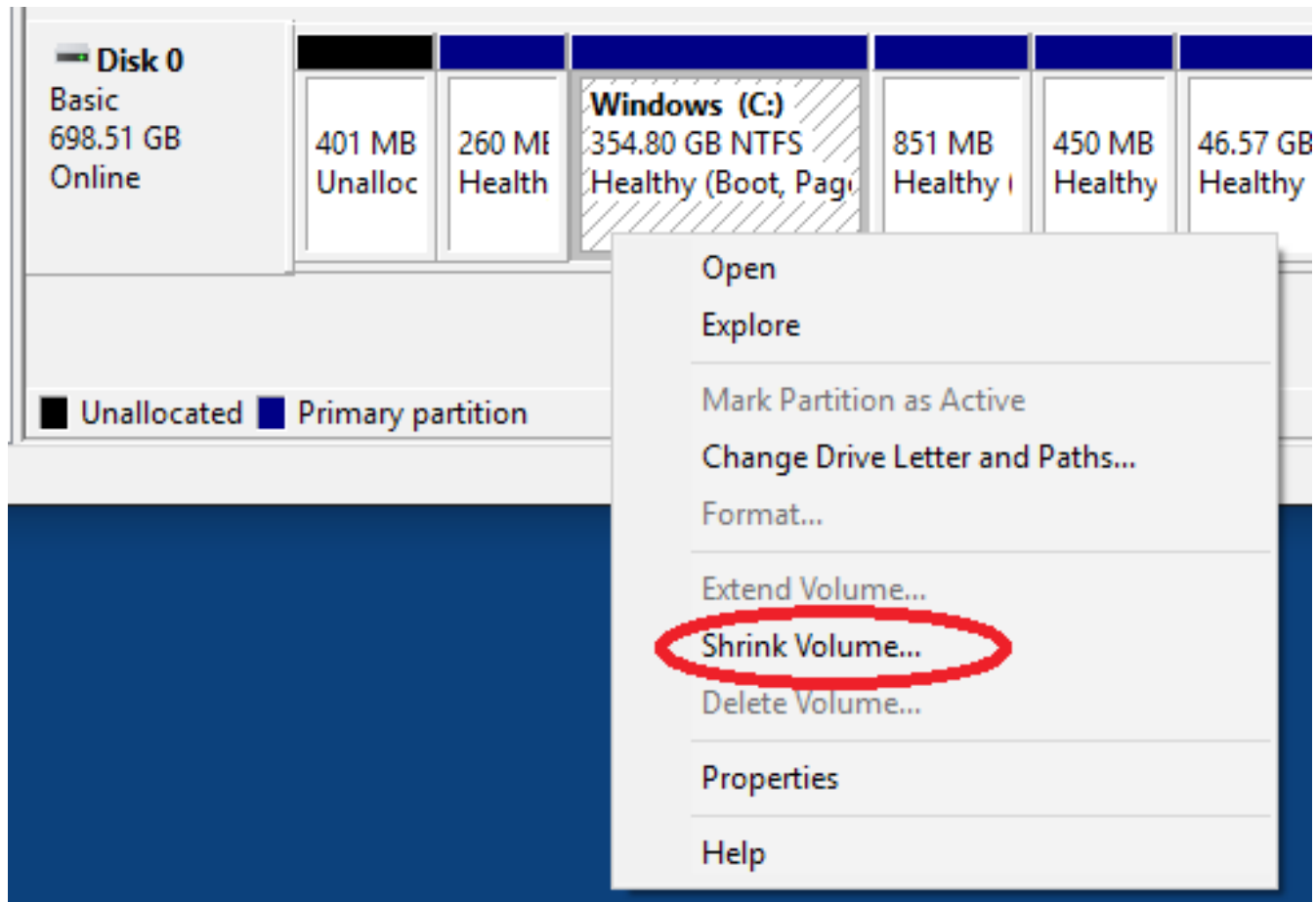
Select Disk Management



Select Windows Partion

- Right click the Windows partition
- Select “Shrink Volume...”
- Enter the amount (in MB) to shrink the Windows partition
- Most HP Notebooks have 600+ GB disk space
- Recommend at least 100+ GB for Linux

Shrink Windows Partition



Setting the Boot Order

- Reboot Laptop
- Press F10 to enter BIOS Setup
- Navigate to System Configuration
- Select “Boot Options”
- Under “UEFI Boot Order” move “USB Diskette on Key/USB Hard Disk” to the top
- May also need to disable “Secure Boot” (?)
- Exit saving changes

Create Linux USB Installer

- Download the appropriate Linux distribution
- Follow distributor instructions for creating install image on USB
- From another Linux machine this can be done using the “dd” (disk to disk copy) command
- `dd if={source} of={target}`
 - *target* of form “/dev/sdb1” (use `ls` and `grep`)
 - *source* is path to downloaded distro

Install Linux

- Insert USB drive and reboot
- Follow prompts
- Selecting custom install option
- Create following partitions
 - 50GB ext4 mount on /
 - 16GB swap
 - Remaining free space ext4 mount on /

The Big Trick – Making Grub the OS Loader On Older HPs

- Older HP BIOS does not allow prioritizing OS loaders
- HP defaults to using Windows OS loader
- Must “spoof” Windows OS loader with Grub
- Use a simple bash script

Spoofing Windows OS Loader

```
# copy grubx64 bootloader to default HP UEFI boot loader
```

```
# file
```

```
cd /boot/efi/EFI/Microsoft/Boot/
```

```
sudo mv bootmgfw.efi bootWin8.efi
```

```
sudo cp /boot/efi/EFI/ubuntu/grubx64.efi bootmgfw.efi
```

```
echo boot repair complete
```

```
echo
```

```
echo In the /boot/grub/grub.cfg file, be sure
```

```
echo to change 'bootmgfw.efi' to 'bootWin8.efi'
```

Resources

- Slide deck available on Github at

[github.com/fractalxaos/barcamp/
DualBootHpLaptop.pdf](https://github.com/fractalxaos/barcamp-DualBootHpLaptop.pdf)