

MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)
First Grading / Week 3 / Day 2

Name of Student: _____ Grade and Section: _____
Name of Teacher: _____

Objectives:

Prepare customized installers in accordance with software utilization guide and end user agreement

- Prepare and create a bootable operating system installer using Windows Command Prompt and RUFUS (third party software)
- Enumerate the step-by-step process in creating bootable devices aligned to the software manufacturer instructions.
- Evaluate the importance of portable bootable device as medium in installing software.



WHAT TO KNOW


Lesson: Installer Preparation and Creating Bootable Devices



Do you know how to create a bootable disk? Why do we need to create a bootable disk? What are the steps in making a bootable disk? What is the difference between the two ways in creating bootable disk? How important for us, that we know manually the steps in creating bootable disk?


Once your computer hardware is ready, the next process is to prepare and create the bootable installer device for the installation of the operating system in your computer.

- A bootable disk enables you to boot computer from CD or USB disk instead of system installed on local hard drive.
- Usually the bootable disk is removable device such as USB flash drive, CD-ROM, etc. and it is mainly used to fix issues when system is down.
- CDs and DVDs used to take part, but these days more users choose to use USB drive than CD/DVD. Optical device is large and brittle, and it may get damaged due to scratch or bend; thus, it may not be able to boot when you need it desperately. Bootable drive created on a USB flash drive is just the perfect device for emergency because it is very portable and robust.

Bootable Disk Creation: 

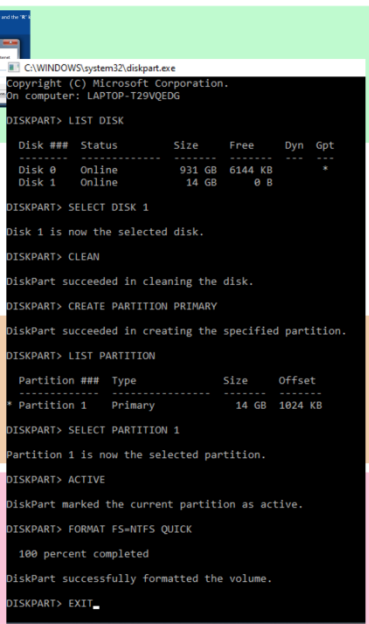
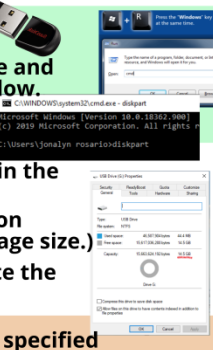
There are two (2) ways in creating a bootable disk.

1. Creating Bootable USB Windows Installer using Diskpart/CMD.
2. Creating Bootable USB Windows Installer using a third-party software, RUFUS



Steps in making Bootable USB Windows Installer Using Diskpart/CMD

1. Insert the flashdrive to the computer.
2. Press the Windows plus R keys at the same time and type "CMD" to open the command prompt window.
3. Type the "DISKPART" in the command prompt.
4. Enter "LIST DISK" to view all the disks installed in the computer system.
5. Type "SELECT DISK 1" (In this case, flashdrive is on Disk 1. Flashdrive is usually determined in storage size.)
6. Enter "CLEAN" in the command prompt to delete the data in the disk.
7. Type "CREATE PARTITION PRIMARY" to create a specified partition on the flashdrive.
8. To show partition, type "LIST PARTITION" and enter "SELECT PARTITION 1".
9. Type ACTIVE to marked the current partition as active.
10. Type "FORMAT FS=NTFS QUICK" and press enter to format the flashdrive.
11. Wait until 100 percent completed formatting and EXIT the cmd prompt window.
12. Save and copy the ISO IMAGE (.iso) or the extracted files of an installer to the flashdrive.



```
C:\WINDOWS\system32\cmd.exe - diskpart
Copyright (C) Microsoft Corporation.
On computer: LAPTOP-T29VQEDG

DISKPART> LIST DISK

Disk ### Status Size Free Dyn Gpt
-----
Disk 0 Online 931 GB 6144 KB *
Disk 1 Online 14 GB 0 B

DISKPART> SELECT DISK 1
Disk 1 is now the selected disk.

DISKPART> CLEAN
DiskPart succeeded in cleaning the disk.

DISKPART> CREATE PARTITION PRIMARY
DiskPart succeeded in creating the specified partition.

DISKPART> LIST PARTITION

Partition ### Type Size Offset
-----
* Partition 1 Primary 14 GB 1024 KB

DISKPART> SELECT PARTITION 1
Partition 1 is now the selected partition.

DISKPART> ACTIVE
DiskPart marked the current partition as active.

DISKPART> FORMAT FS=NTFS QUICK
100 percent completed
DiskPart successfully formatted the volume.

DISKPART> EXIT
```

REFERENCES FOR FURTHER ENHANCEMENT

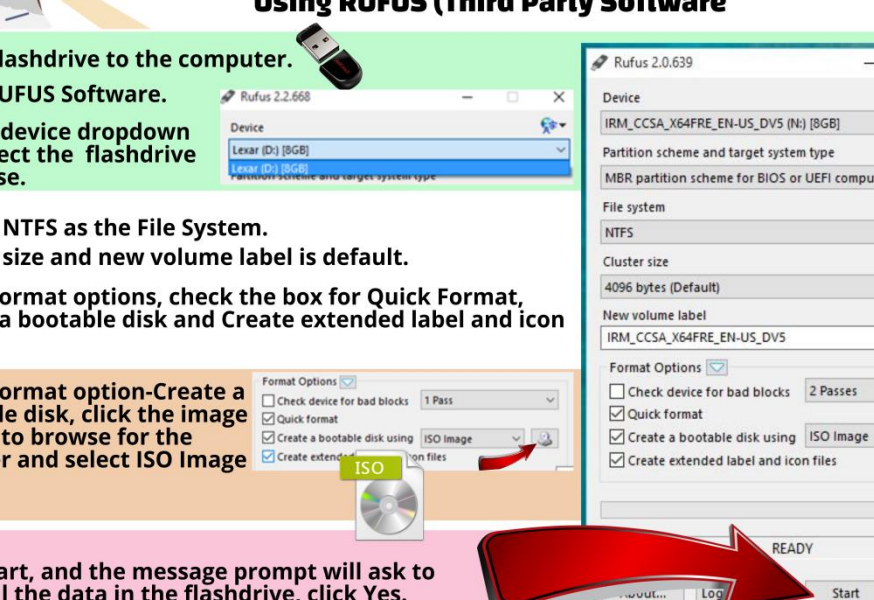
- Internet: <https://www.techfleece.com/2015/07/08/how-to-create-a-bootable-windows-usb-drive-using-rufus>
- YouTube: <https://www.youtube.com/watch?v=OJ5Teoiicy8>;

Name of Student: _____
Name of Teacher: _____

Grade and Section: _____

Steps in making Bootable USB Windows Installer Using RUFUS (Third Party Software)

1. Insert flashdrive to the computer.
2. Open RUFUS Software.
3. On the device dropdown list, select the flashdrive to be use.
4. Choose NTFS as the File System.
Cluster size and new volume label is default.
5. In the format options, check the box for Quick Format, Create a bootable disk and Create extended label and icon files.
6. In the format option-Create a bootable disk, click the image button to browse for the installer and select ISO Image file
7. Click Start, and the message prompt will ask to erase all the data in the flashdrive, click Yes.
8. Wait until the green one show READY, then click closed.



The image shows the Rufus 2.0.639 software interface. The 'Device' dropdown is set to 'Lexar (D:) [8GB]'. The 'Partition scheme and target system type' is 'MBR partition scheme for BIOS or UEFI computers'. The 'File system' is 'NTFS'. The 'Cluster size' is '4096 bytes (Default)'. The 'New volume label' is 'IRM_CC5A_X64FRE_EN-US_DV5'. Under 'Format Options', the following are checked: 'Check device for bad blocks' (2 Passes), 'Quick format', 'Create a bootable disk using ISO Image', and 'Create extended label and icon files'. A large red arrow points from the 'Start' button to the 'READY' status.

- **Installer** is a piece of software that installs an operating system, programs, applications, drivers and other software on a computer.
- **Installation** (or setup) of a computer program is the act of making the program ready for execution.
- **File extension** is the suffix at the end of a filename that indicates what type of a file it is.
Common Windows Installer File Extensions:
 - Executable - .exe
 - Compressed Zip File - .zip
 - Microsoft Windows Installation - .msi
 - ISO image - .iso
- **Bootable disk** is usually a startup disc or boot disc that contains bootable files required for the computer to run an operating system.

WHAT TO PROCESS



EXERCISE 1: SEQUENCING

Directions: Arrange the following steps in chronological order. Use numbers to indicate their order of precedence. The first number is done for you.

Creating Bootable Device using Diskpart or Command Prompt

- | | |
|--|--|
| <input type="checkbox"/> 1 Insert flash drive | <input type="checkbox"/> Select disk "x" |
| <input type="checkbox"/> Type diskpart | <input type="checkbox"/> List and select partition |
| <input type="checkbox"/> Type list disk | <input type="checkbox"/> Create partition primary |
| <input type="checkbox"/> Open a command prompt | <input type="checkbox"/> Format FS=NTFS quick |
| <input type="checkbox"/> Type clean | <input type="checkbox"/> Exit |
| <input type="checkbox"/> Active | <input type="checkbox"/> Save ISO image to your flash drive. |

Creating Bootable Device using RUFUS Software

- | | |
|---|--|
| _____ Open Rufus software | _____ Insert flash drive |
| _____ Choose NTFS as file system | _____ Select flash drive to use |
| _____ Wait until the green show READY and close | _____ Click Start |
| _____ Select ISO Image | _____ Check the boxes in the format option |

EXERCISE 2: FAMILIARIZATION

Directions: Spell out the following acronyms. Write your answers on the space provided below.

- | | |
|--------------|---------------|
| 1. OS _____ | 6. USB _____ |
| 2. CD _____ | 7. DVD _____ |
| 3. PC _____ | 8. FDD _____ |
| 4. HDD _____ | 9. RAM _____ |
| 5. ROM _____ | 10. ISO _____ |

Name of Student: _____

Grade and Section: _____

Name of Teacher: _____

EXERCISE 3: UTILIZE THE VIDEO

Directions: Watch the video tutorial about “creating a bootable flash drive using cmd prompt” and “Create Bootable USB drive for Windows 7/8/8.1/10 using Rufus”.

References: <https://www.youtube.com/watch?v=OJ5Teoiicy8>
<https://www.youtube.com/watch?v=8A1sUPqnurs>

After watching, write down a summary of your observation about the video.

ANALYSIS: Answer the following sentences.

1. What have you observed during the video presentation?
-
-
-
2. Which of the two methods of creating a bootable flash drive you think is easier to perform and why?
-
-
-

THINGS TO REMEMBER!

Installer Preparation and Creating Bootable Devices

1. Bootable disk is usually a startup disc or boot disc that contains bootable files required for the computer to run an operating system.
2. Examples of Bootable Disk: DVD, CD and USB (Universal Serial Bus) Flash Drive
3. It is important to make the disk bootable so that computer can be able to read the software inside the disk.
4. There are two ways in creating a bootable disk:
 - Creating Bootable USB Windows Installer using Diskpart/CMD.
 - Creating Bootable USB Windows Installer using a third-party software, RUFUS
5. ISO stands for International Organization for Standardization



EVALUATION: MATCHING TYPE

Directions: Match column A with column B. Write your answers on the space provided before the number

Column A	Column B
___1. A startup disc or boot disc that contains bootable files required for the computer to run an operating system	a. Format fs=ntfs Quick
___2. It is the suffix at the end of a filename that indicates what type of file it is.	b. Flash drive
___3. Microsoft Windows Installation File Extension	c. Installer
___4. It is a computer program that installs files, such as applications, drivers, or other software into a computer.	d. .zip
___5. Compressed Zip File extension	e. .iso
___6. Create a specified partition on a flash drive	f. Installation
___7. File Extension of ISO image	g. Bootable Disk
___8. Example of bootable disk	h. File Extension
___9. Format flash drive in diskpart.	i. .msi
___10. It is an act of making the program ready for execution.	j. Create Partition Primary

ESSAY

Directions: Answer the following questions in preparing and creating a bootable devices installer.

1. What are the requirements on creating a bootable flash drive installer?
-
-
-
2. What are the advantages of using a flash drive as an installer compared to a bootable CD/DVD?
-
-
-
3. What are the procedures on how to create a bootable flash drive using Windows using RUFUS?
-
-
-

Prepared by:

JONALYN O. ROSARIO
Pasay City North High School
Tramo Campus