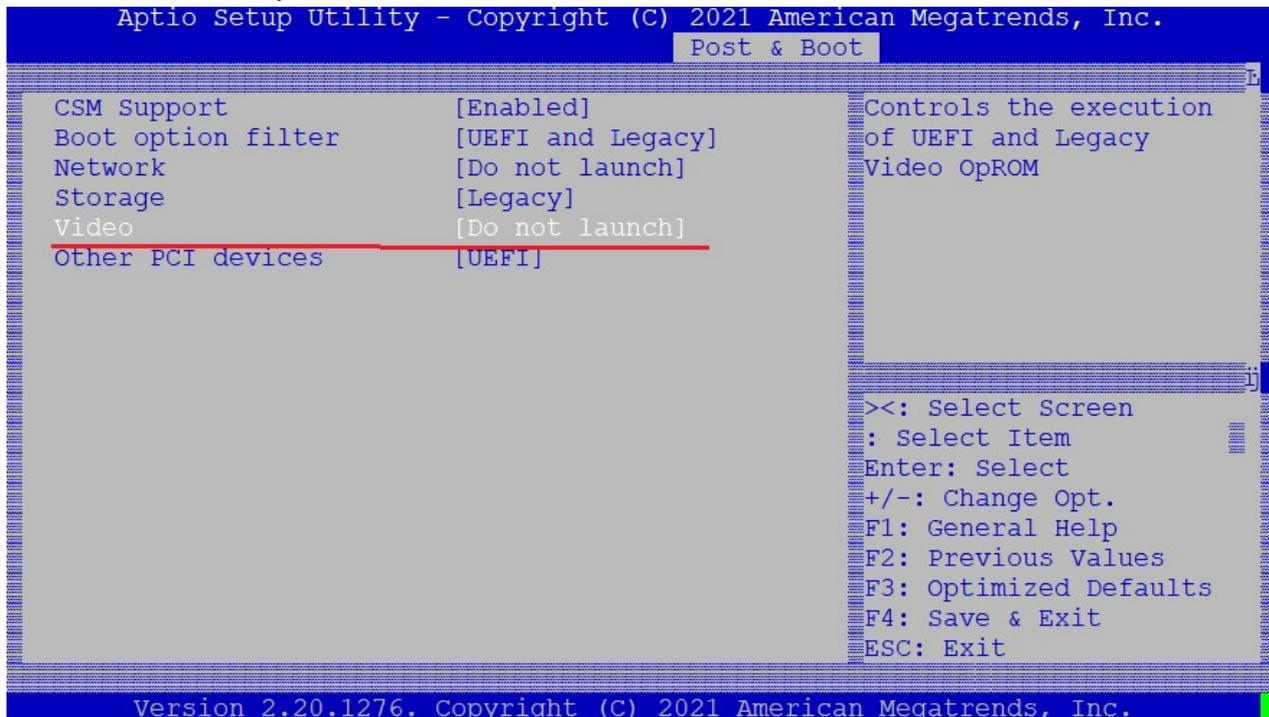
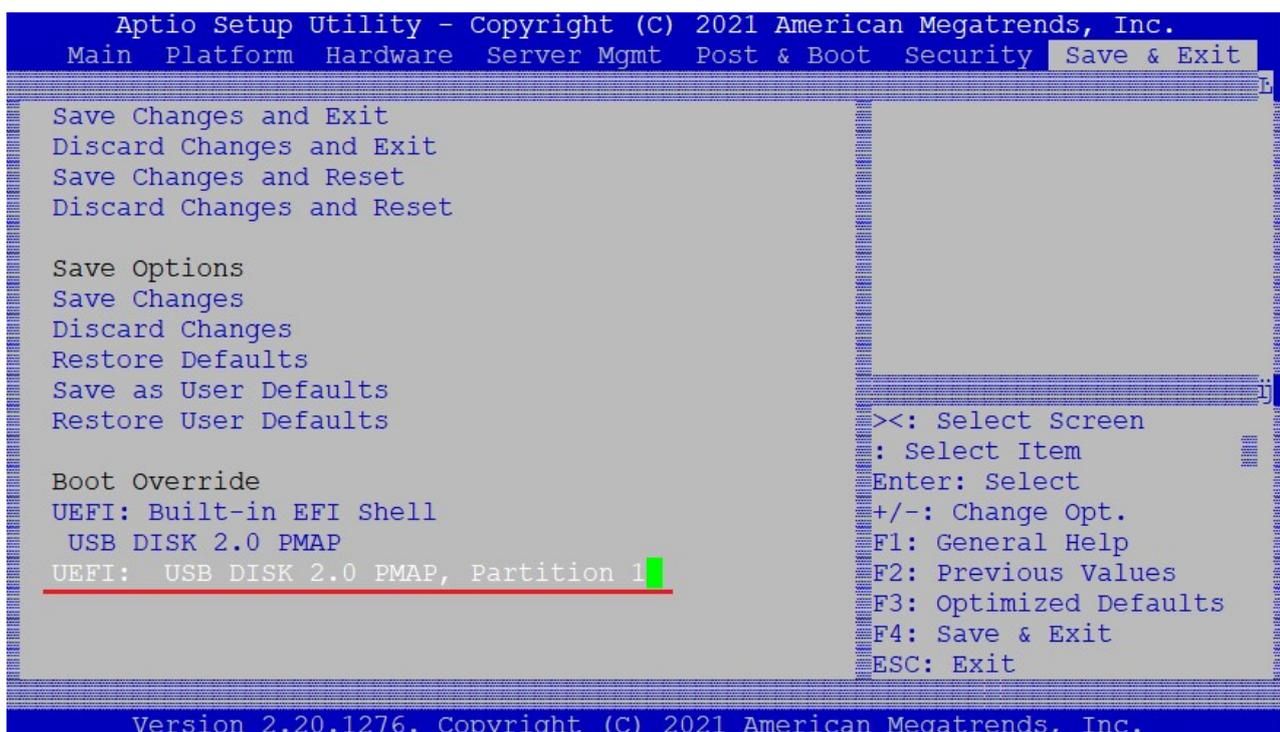


How to install Ubuntu 21.04 Live server by console redirection.

1. Suggesting user uses latest RUFUS (<https://rufus.ie/>, ex: 3.15) to make Ubuntu 21 server image (iso file) as bootable USB device
2. Kindly press del key into BIOS, and set "Post & Boot" -> CSM support -> Video as Do not launch. The step is disable VGA ROM.



3. For UEFI installation, Please choose "UEFI : USB XXXXX " to boot from Ubuntu 21 bootable USB device



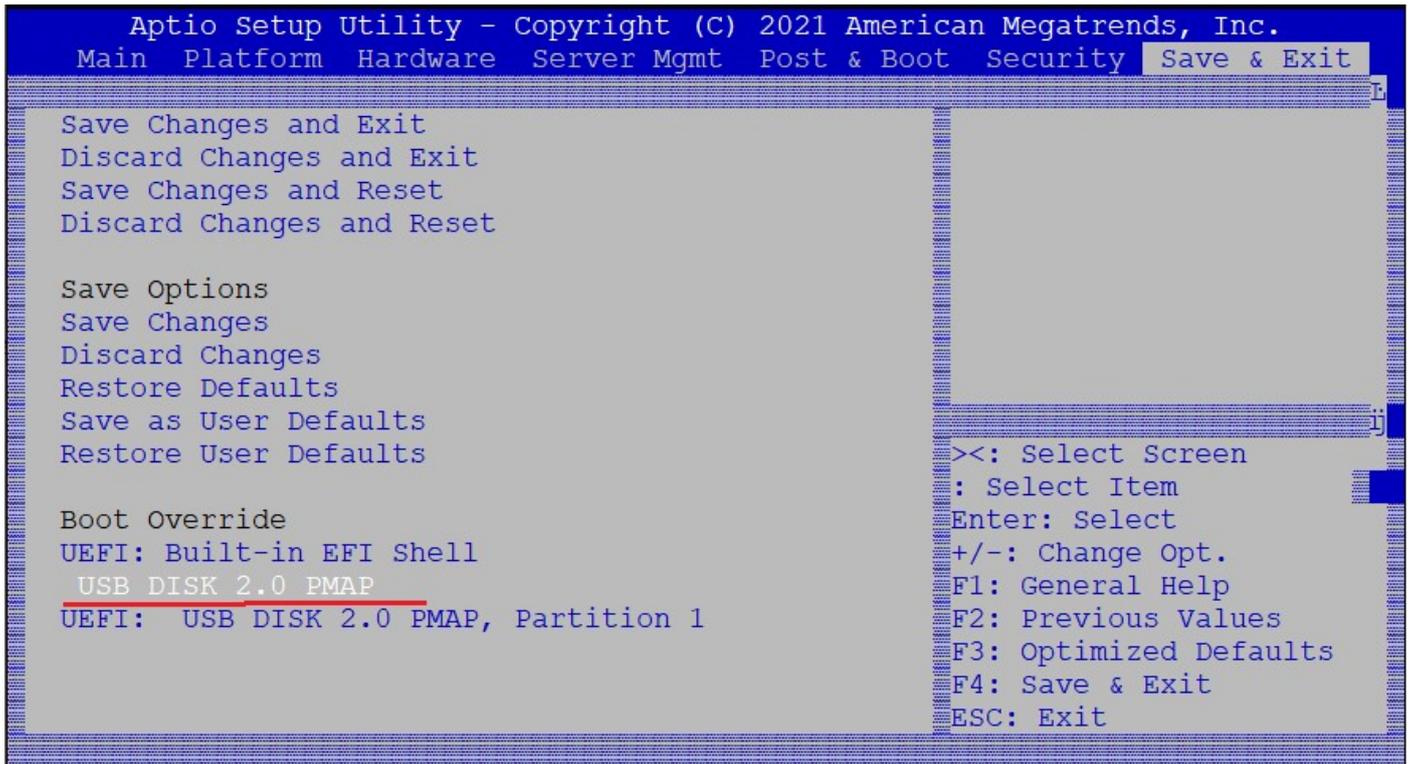
3.1 Please press “e” to modify Ubuntu 21 Grub



Add “console=ttyS0,115200” in grub setting, and Press Ctrl-x or F10 to boot in Ubuntu 21



4. For Legacy installation, Please choose “USB XXXXX “ to boot from Ubuntu 21 bootable USB device



- 4.1 Please press “e” to modify Ubuntu 21 Grub



Add "console=ttyS0,115200" in grub setting, and Press Ctrl-x or F10 to boot in Ubuntu 21

```
GNU GRUB version 2.04

*****
*setparams 'Ubuntu Server'
*
*      set gfxpayload=keep
*      linux      /casper/vmlinuz  --- console=ttyS0,115200
*      initrd     /casper/initrd
*
*
*
*
*
*
*
*
*
*
*
*****

Minimum Emacs-like screen editing is supported. TAB lists
completions. Press Ctrl-x or F10 to boot, Ctrl-c or F2 for
a command-line or ESC to discard edits and return to the GRUB menu.
```

When Grub setting is correct, console utility will show following boot message

```
[ 0.071016] IOAPIC[4]: apic_id 12, version 32, address 0xfec18000, GSI 48-55
[ 0.071022] IOAPIC[5]: apic_id 15, version 32, address 0xfec20000, GSI 72-79
[ 0.071028] IOAPIC[6]: apic_id 16, version 32, address 0xfec28000, GSI 80-87
[ 0.071033] IOAPIC[7]: apic_id 17, version 32, address 0xfec30000, GSI 88-95
[ 0.071038] IOAPIC[8]: apic_id 18, version 32, address 0xfec38000, GSI 96-103
[ 0.071046] ACPI: INT_SRC_OVR (bus 0 bus_irq 0 global_irq 2 dfl dfl)
[ 0.071049] ACPI: INT_SRC_OVR (bus 0 bus_irq 9 global_irq 9 high level)
[ 0.071063] Using ACPI (MADT) for SMP configuration information
[ 0.071065] ACPI: HPET id: 0x8086a701 base: 0xfed00000
[ 0.071069] TSC deadline timer available
[ 0.071071] smpboot: Allowing 96 CPUs, 0 hotplug CPUs
[ 0.071099] PM: hibernation: Registered nosave memory: [mem 0x00000000-0x0000
0fff]
[ 0.071102] PM: hibernation: Registered nosave memory: [mem 0x000a0000-0x000f
ffff]
[ 0.071106] PM: hibernation: Registered nosave memory: [mem 0x5d2a6000-0x5d2a
6fff]
[ 0.071109] PM: hibernation: Registered nosave memory: [mem 0x5d2ae000-0x5d2a
efff]
[ 0.071110] PM: hibernation: Registered nosave memory: [mem 0x5d2af000-0x5d2a
ffff]
[ 0.071113] PM: hibernation: Registered nosave memory: [mem 0x5d2c0000-0x5d2c
0fff]
[ 0.071115] PM: hibernation: Registered nosa
```

5. Following picture is Ubuntu 21 welcome message, suggesting user chooses "Continue in basic mode" to install Ubuntu 21.

```
=====
Welcome!                                     [ Help ]
=====

As the installer is running on a serial console, it has started in basic
mode, using only the ASCII character set and black and white colours.

If you are connecting from a terminal emulator such as gnome-terminal that
supports unicode and rich colours you can switch to "rich mode" which uses
unicode, colours and supports many languages.

      [ Switch to rich mode ]
      [ Continue in basic mode > ]
```

6. Following setting is "Keyboard configuration", suggesting user chooses default setting (English (US))

```
=====
Keyboard configuration                       [ Help ]
=====

Please select the layout of the keyboard directly attached to the system, if
any.

      Layout: [ English (US)                v ]

      Variant: [ English (US)              v ]

      [ Done ]
      [ Back ]
```

7. Following setting is “Network connections”, suggesting user chooses “Continue without network” to cancel Network setting during OS installation

```
=====
Network connections [ Help ]
=====
Configure at least one interface this server can use to talk to other
machines, and which preferably provides sufficient access for updates.

NAME          TYPE  NOTES
[ eno1        eth   not connected > ]
  DHCPv4      -
  74:fe:48:4d:e9:a4 / Intel Corporation / I210 Gigabit Network Connection

[ eno2        eth   not connected > ]
  DHCPv4      -
  74:fe:48:4d:e9:a5 / Intel Corporation / I210 Gigabit Network Connection

[ eno3        eth   not connected > ]
  DHCPv4      -
  74:fe:48:4d:e9:a6 / Intel Corporation / Ethernet Connection X722 for
10GbE SFP+

[ Continue without network ]
[ Back ]
```

8. Following setting is “Guided storage configuration, please follows requirement to partition HDD.

```
=====
Guided storage configuration [ Help ]
=====
Configure a guided storage layout, or create a custom one:

(x) Use an entire disk
  [ SQF-S25M8-12 local disk 120.999G
  8G_86F807150
  60100000012
[X] Set up this disk as an LVM group
  [ ] Encrypt the LVM group with LUKS
      Passphrase:
      Confirm passphrase:

[ Done ]
[ Back ]
```


9. Following setting is “Profile setup” , please follows requirement to set user profile and password.

```
Profile setup [ Help ]
=====
Enter the username and password you will use to log in to the system. You
can configure SSH access on the next screen but a password is still needed
for sudo.

Your name: tse

Your server's name: tse
The name it uses when it talks to other computers.

Pick a username: tse

Choose a password: *****

Confirm your password: *****

[ Done ]
```

10. Following setting is “SSH Setup” , please follows requirement to install SSH server in OS

```
SSH Setup [ Help ]
=====
You can choose to install the OpenSSH server package to enable secure remote
access to your server.

[X] Install OpenSSH server

Import SSH identity: [ No v ]
You can import your SSH keys from Github or Launchpad.

Import Username:

[X] Allow password authentication over SSH

[ Done ]
[ Back ]
```


12. Reboot system, and it will login Ubuntu 21 from HDD at next boot up

```
tse login: tse
Password:
Welcome to Ubuntu 21.04 (GNU/Linux 5.11.0-16-generic x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

System information as of Wed Sep 15 07:37:58 UTC 2021

System load:  1.72                Swap usage:  0%                Users logged in:  0
Usage of /:   10.5% of 58.80GB    Temperature: 59.0 C
Memory usage: 12%                Processes:   947

0 updates can be installed immediately.
0 of these updates are security updates.

Failed to connect to https://changelogs.ubuntu.com/meta-release. Check your Internet connection or proxy settings

Last login: Wed Sep 15 07:30:32 UTC 2021 on ttyS0
tse@tse:~$ █
```

13. Trouble-shooting:

13.1 When user choose legacy boot and grub occur following message -- error: symbol 'grub_register_command_lockdown' not found when installing Ubuntu 21.04 in BIOS mode

```
error: symbol `grub_register_command_lockdown' not found.
error: symbol `grub_register_command_lockdown' not found.
Press any key to continue... █
```

Please check following link and download new RUFUS to make Ubuntu21 bootable USB
<https://askubuntu.com/questions/1333512/error-symbol-grub-register-command-lockdown-not-found-when-installing-ubuntu>

[Disclaimer: I am the main developer of Rufus]

Short answer:

- If using Rufus, you will need to download Rufus 3.14 or later to create your media, which you can download [here](#).
- If installing your own GRUB bootloader, you need to apply [this patch](#) on top of the GRUB 2.04 source, so that the missing symbol is defined.

