Virtual machine setup

Operating System based on PBL

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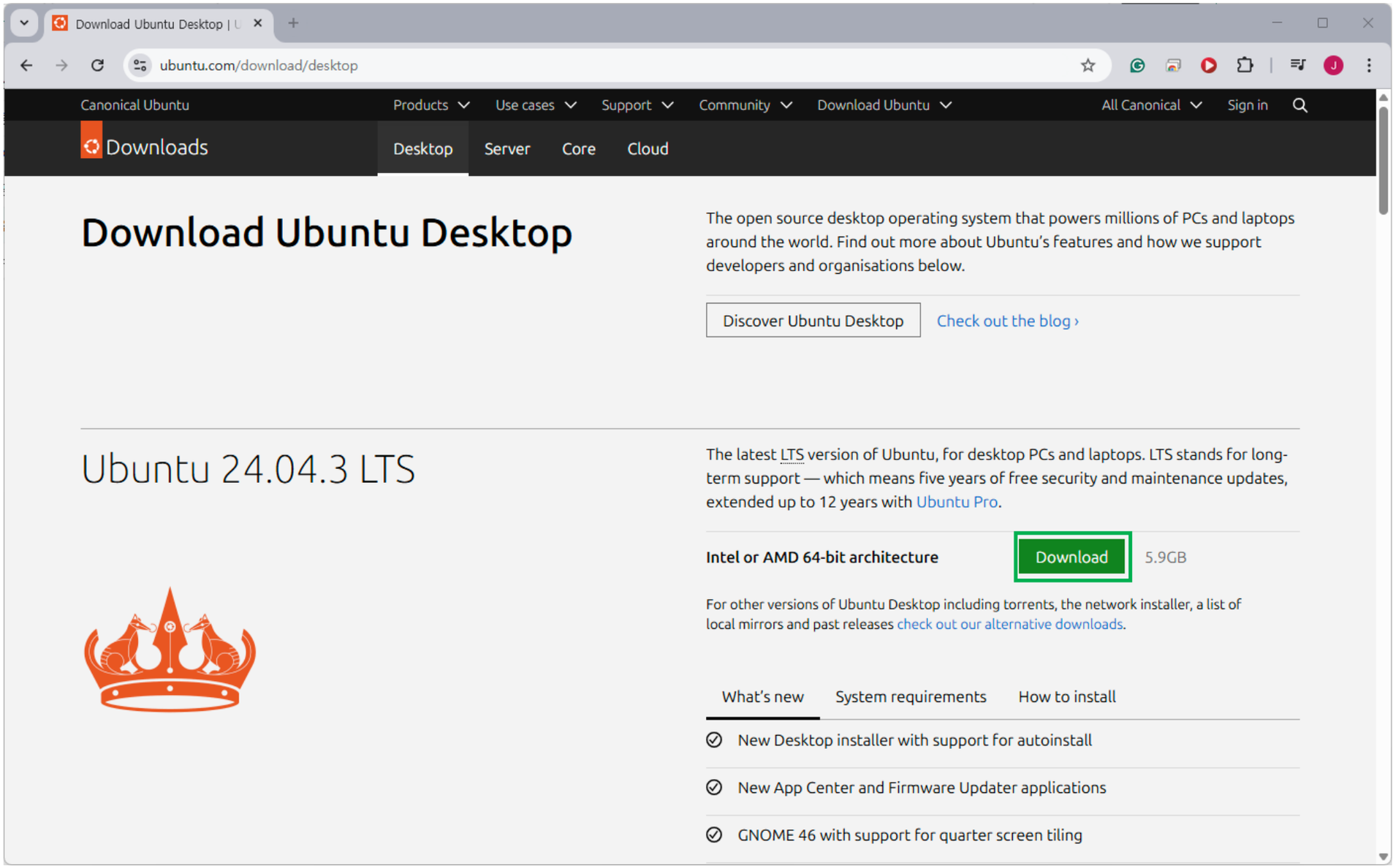
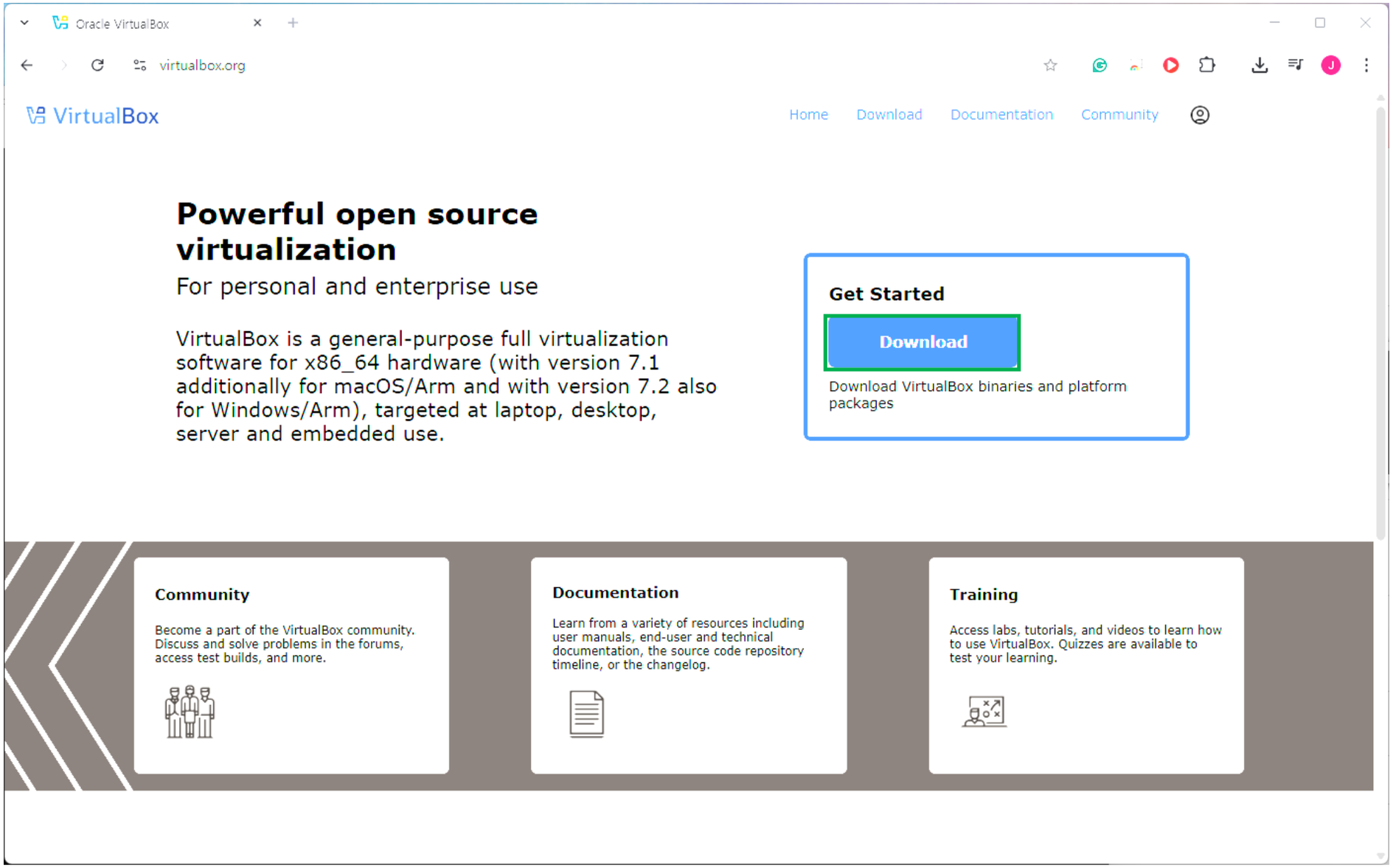
Download Linux Image

- Visit Ubuntu Desktop homepage
  - https://ubuntu.com/download/desktop
- Press Download 24.04.3



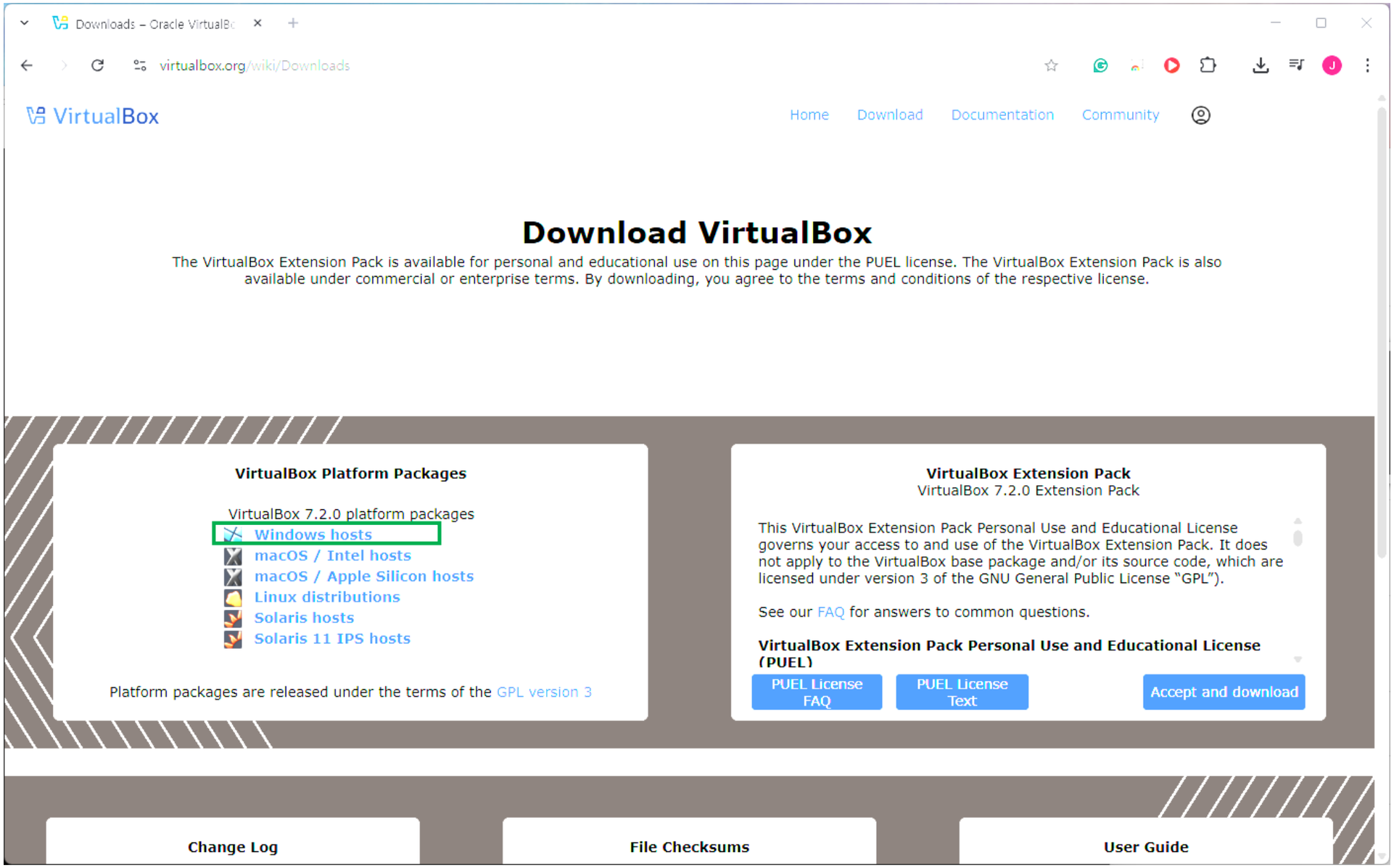
Install VirtualBox

- Visit VirtualBox homepage
  - https://www.virtualbox.org/
  - Click Download



Install VirtualBox

- Download a VirtualBox Platform Packages
  - Windows hosts



Install VirtualBox

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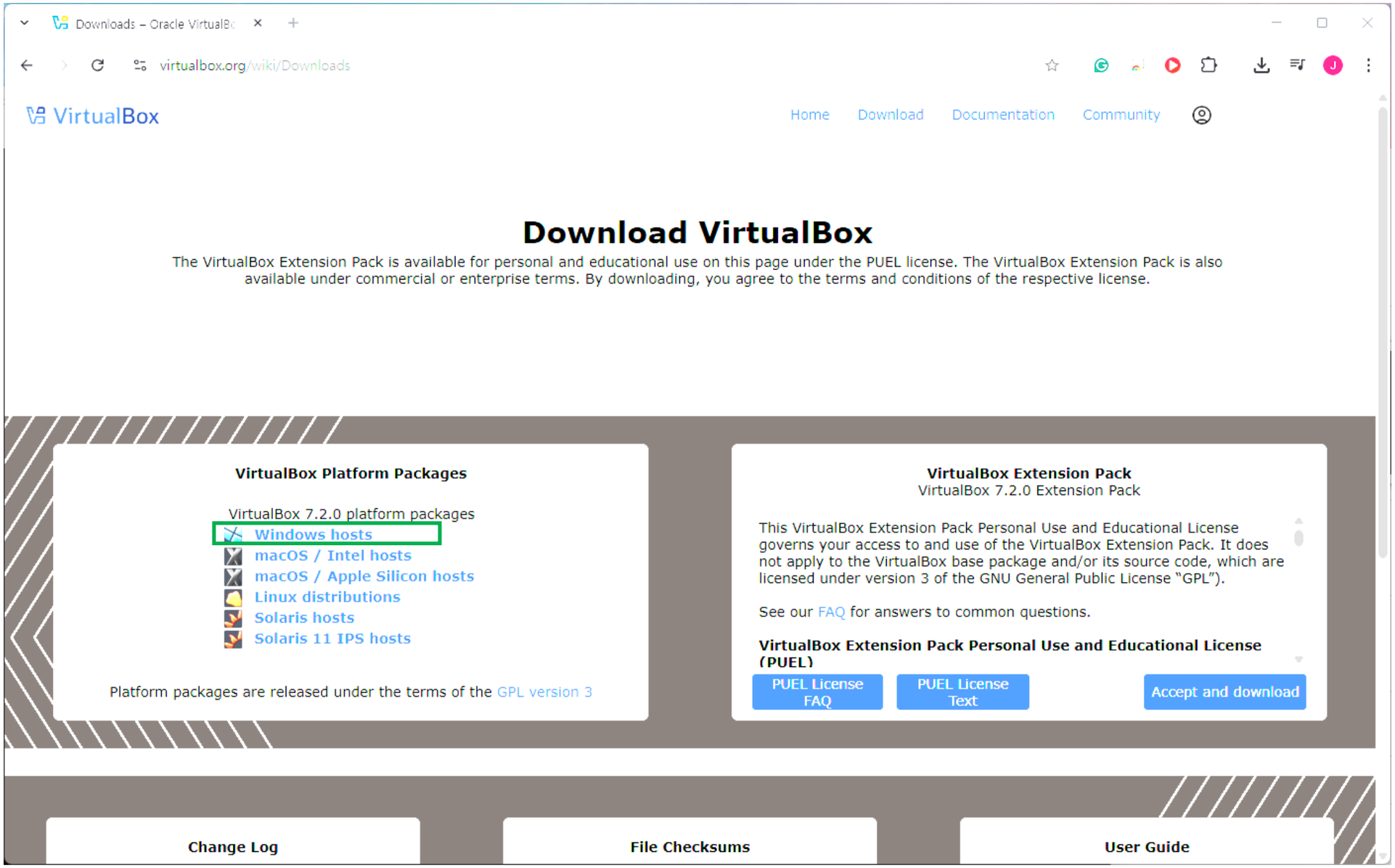
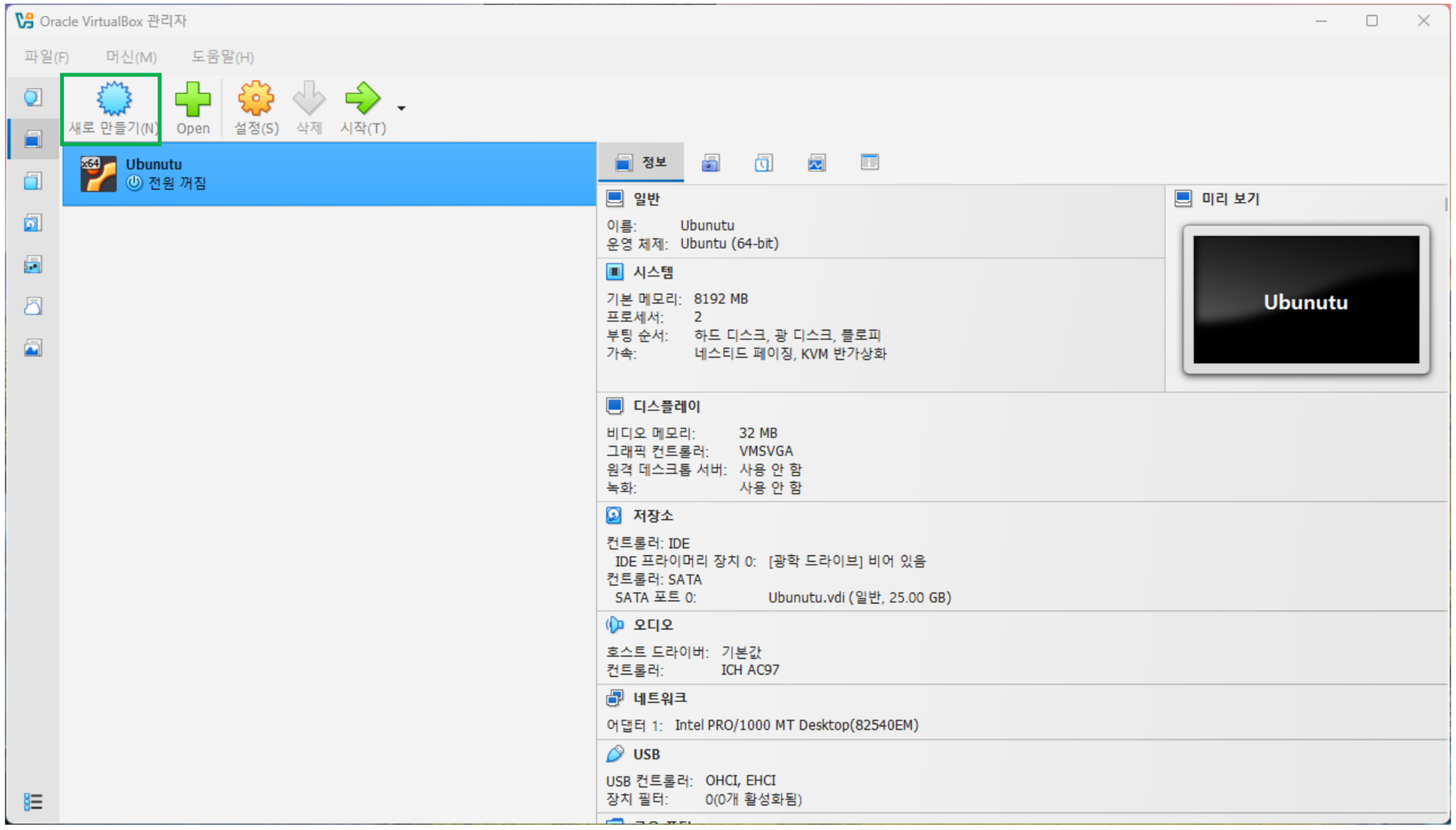


- Run 'VirtualBox-7.2.0-170228-Win.exe'

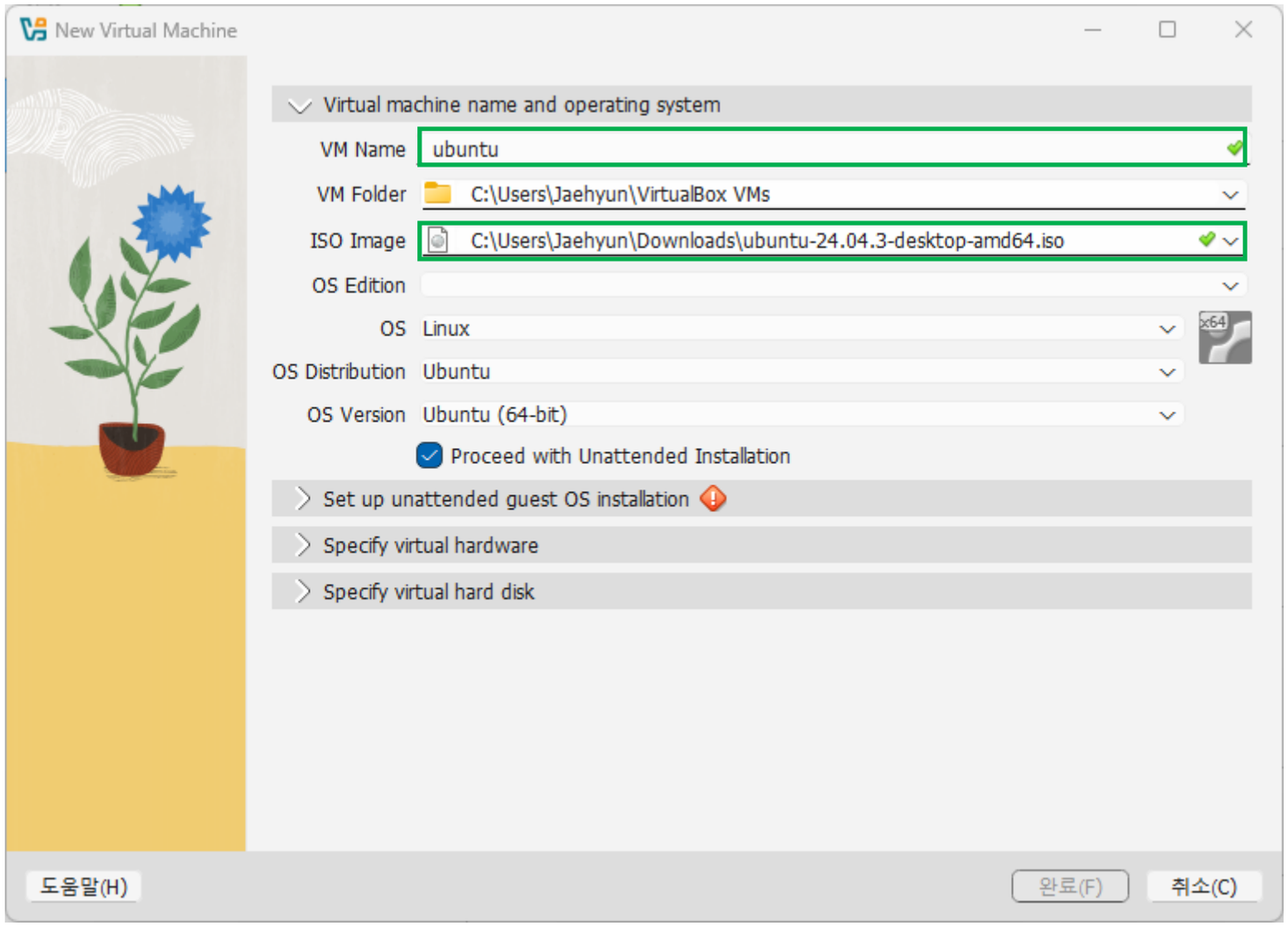
Create Virtual Machine

- Run VirtualBox
  - Create a virtual machine



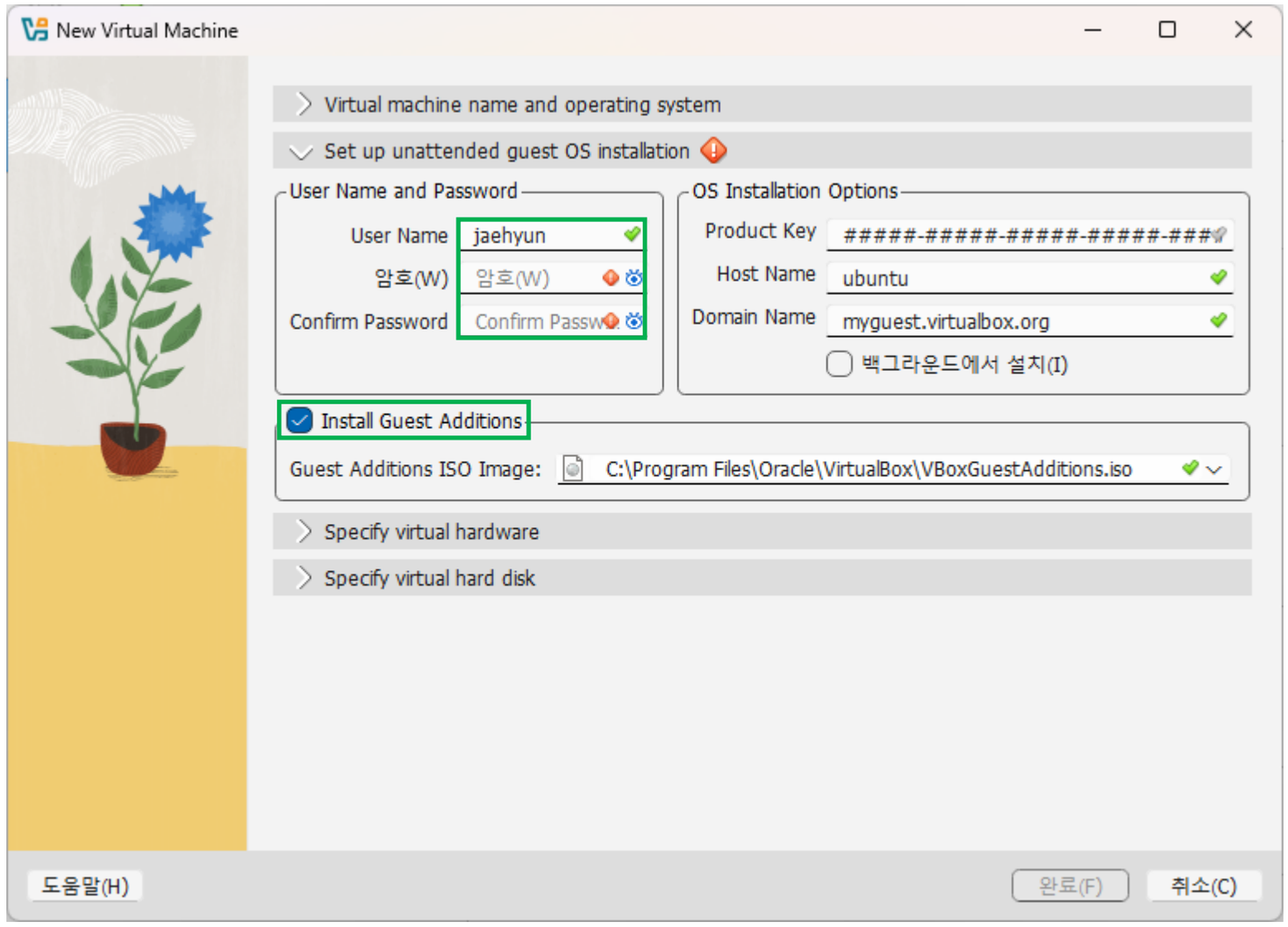
Create Virtual Machine

- Open Virtual machine name and operating system
  - Enter VM Name and search iso file of ubuntu 24.04.3



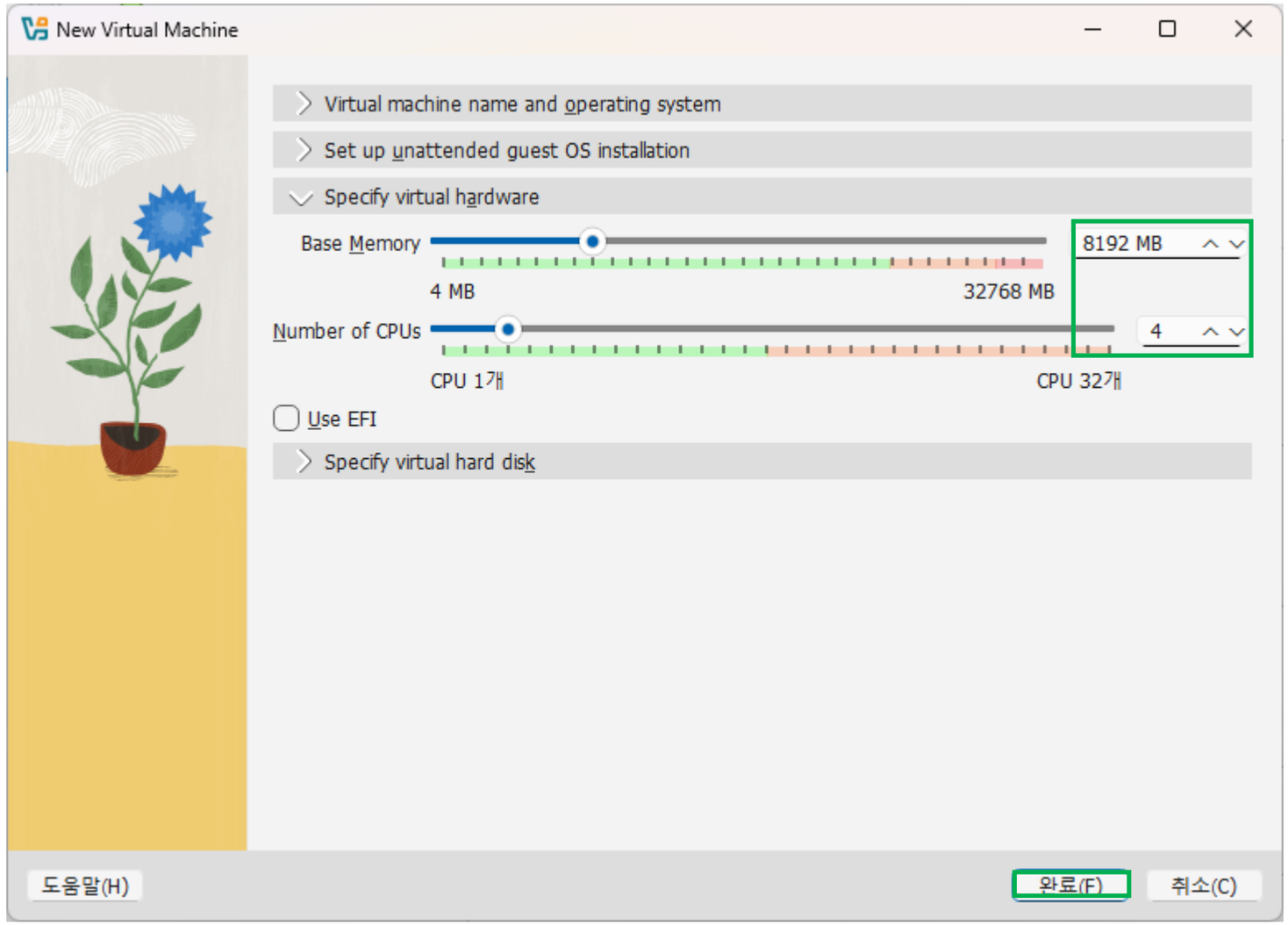
Create Virtual Machine

- Open Set up unattended guest OS installation
  - Set User Name as your first name and set password
  - Check Install Guest Additions



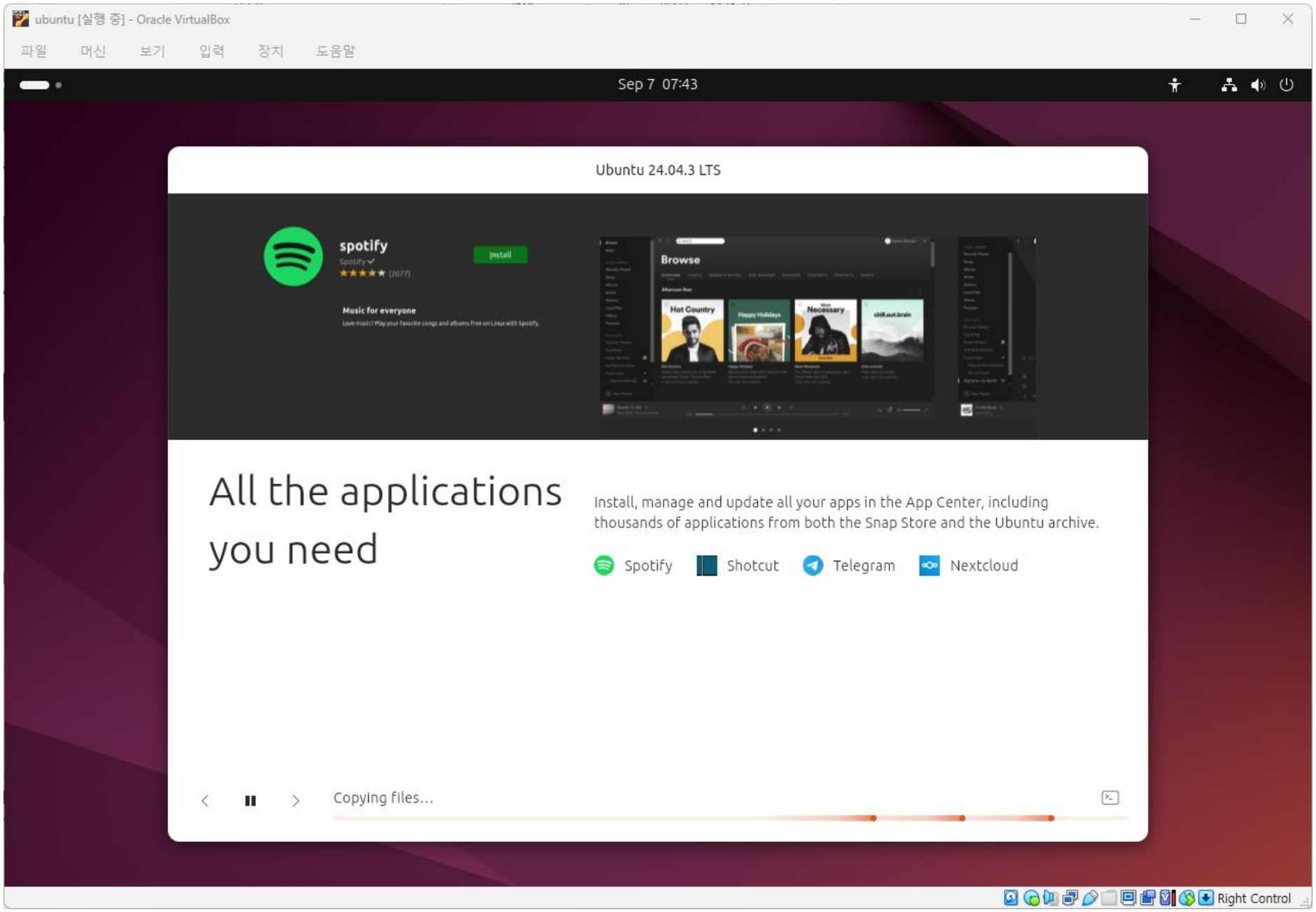
Create Virtual Machine

- Open Specify virtual hardware
  - Set Base Memory more than 8192 MB
  - Set Number of CPUs more than 2
- Click Finish button



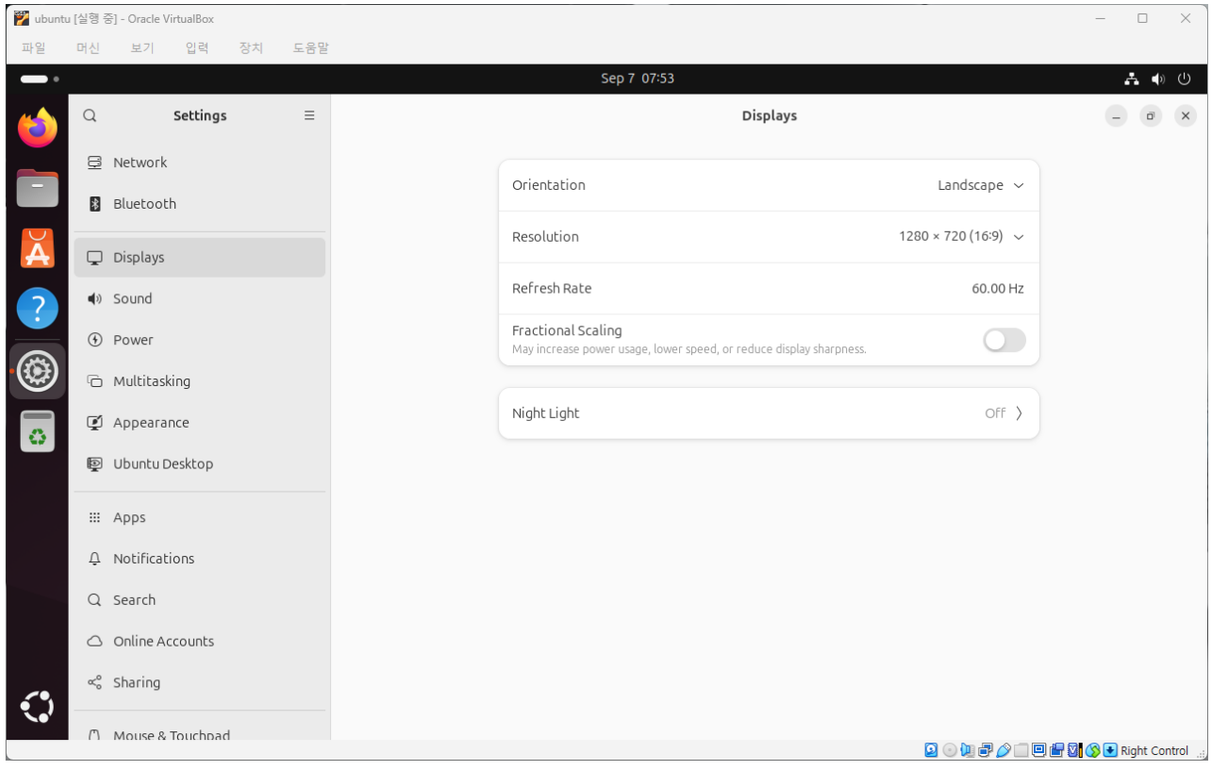
Create Virtual Machine

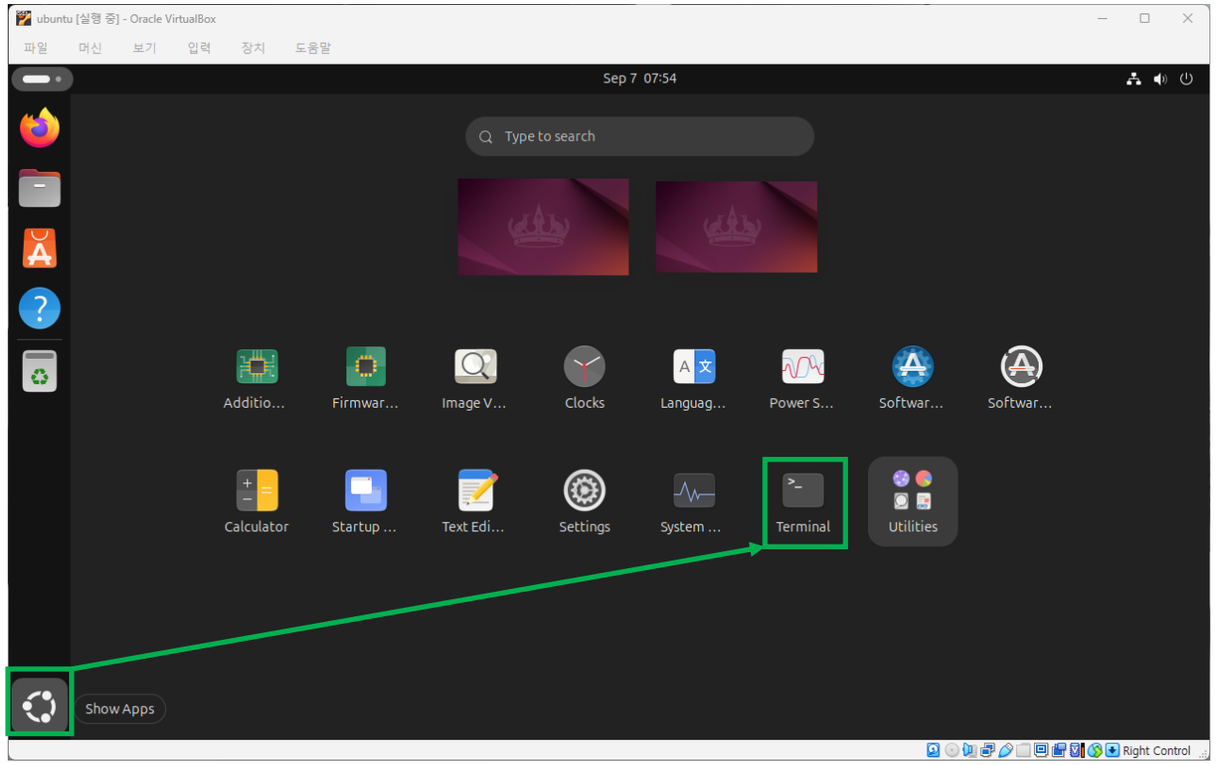
- Install Ubuntu
  - Reboot after install Ubuntu



Setup Ubuntu

- After installation, it will show Ubuntu Desktop virtual machine
  - Don’t need Ubuntu Pro
- Open Settings and set Displays Resolution
- Open Terminal

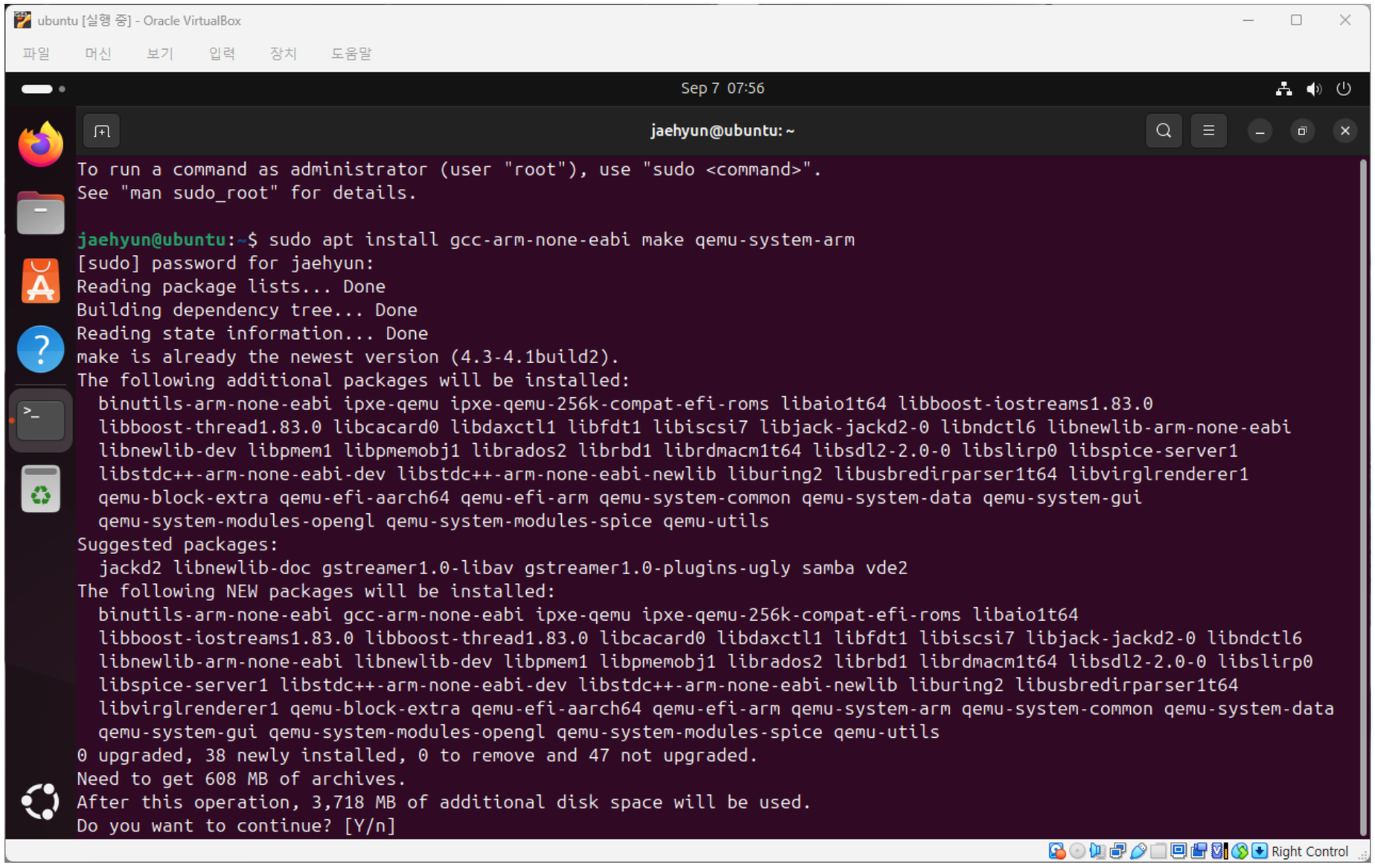




Setup Ubuntu

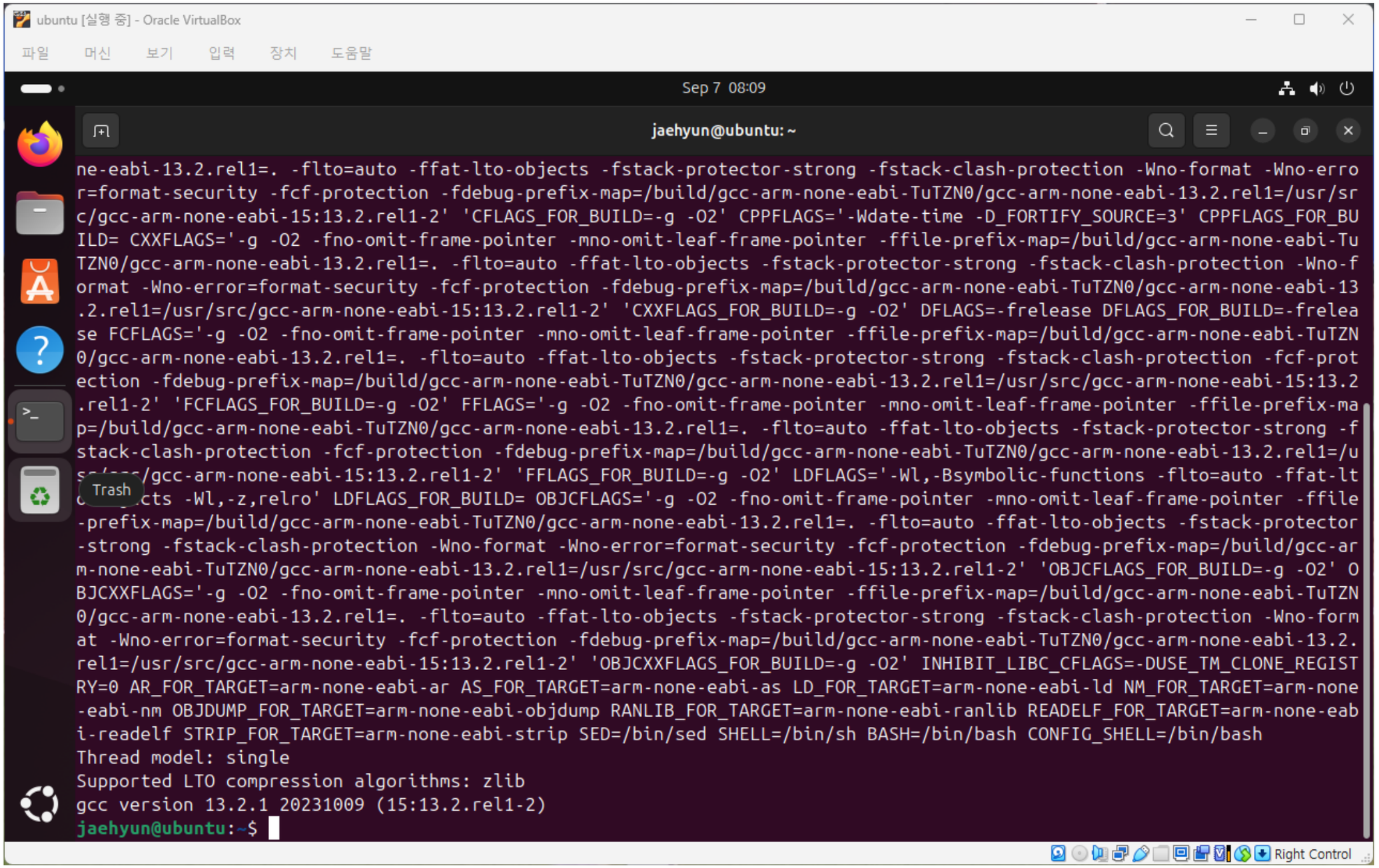
- Install ARM cross compiler, Make tool, and QEMU
  - $ sudo apt install gcc-arm-none-eabi make qemu-system-arm

Targeting ARM No operating system Embedded ABI



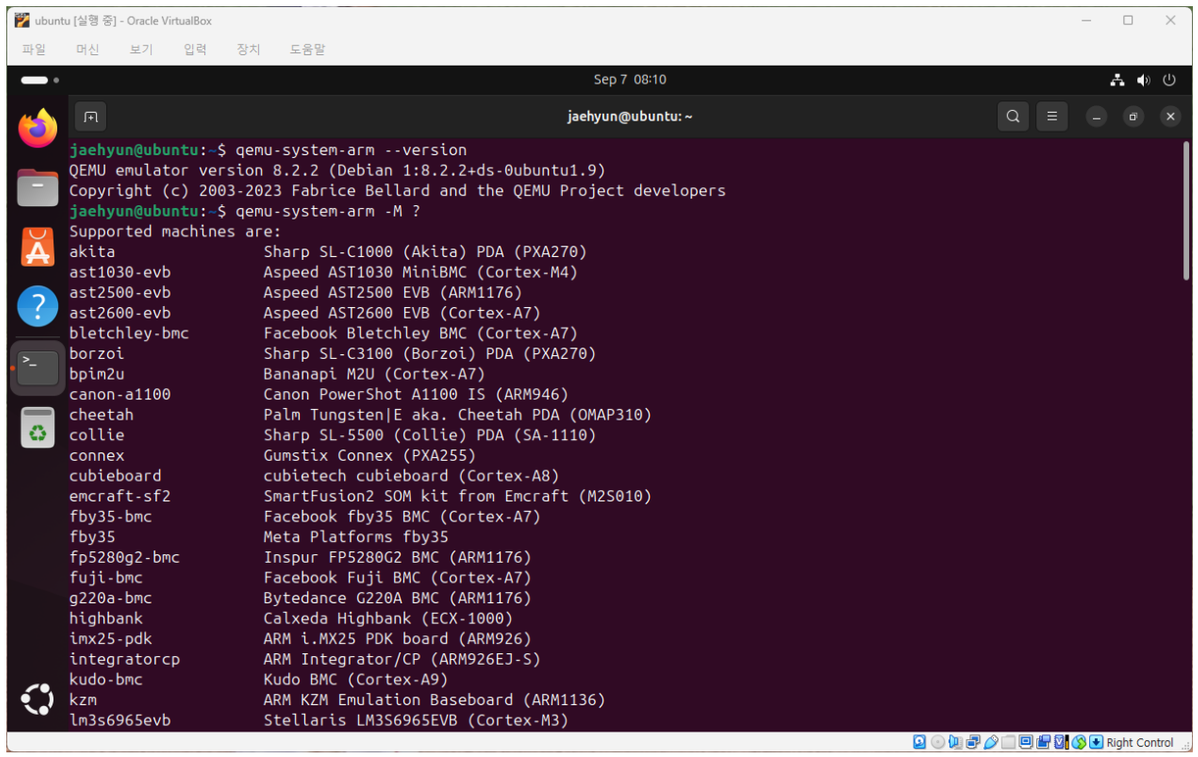
Setup Ubuntu

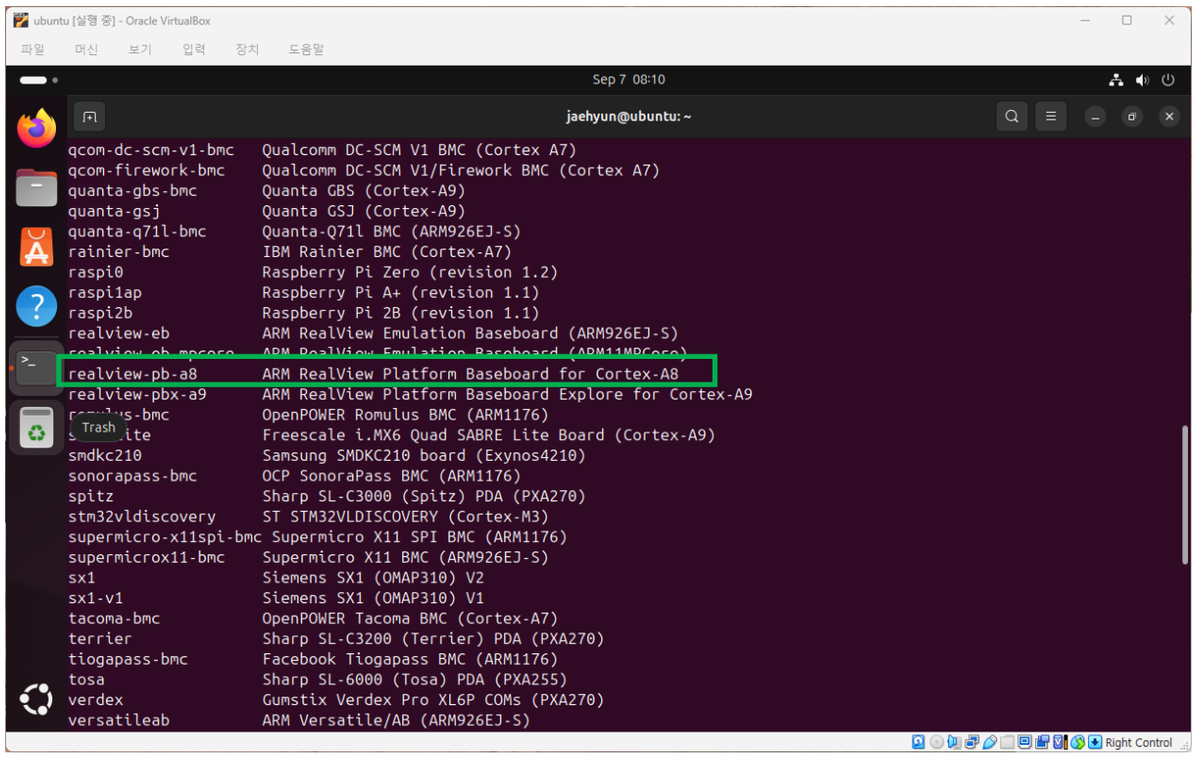
- Check ARM cross compiler
  - $ arm-none-eabi-gcc -v



Setup Ubuntu

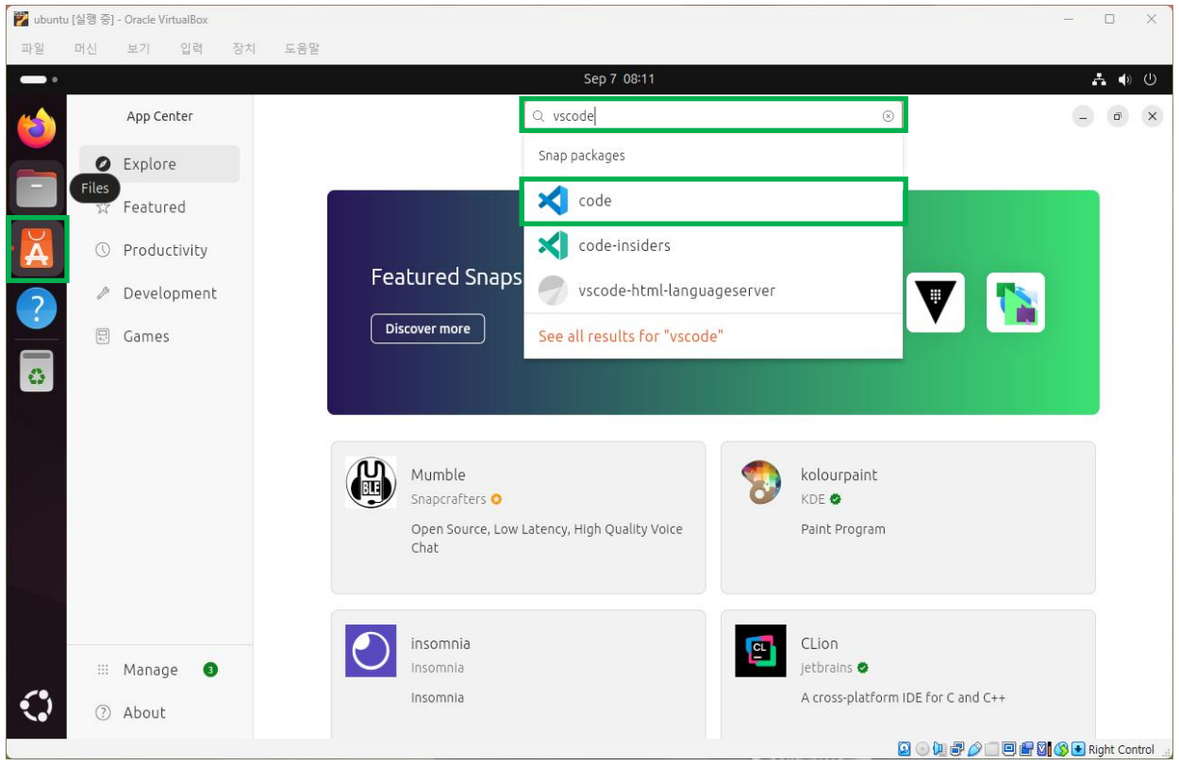
- Check QEMU installation and supported machine list
  - $ qemu-system-arm --version
  - $ qemu-system-arm -M ?
    - We will use realview-pb-a8 processor

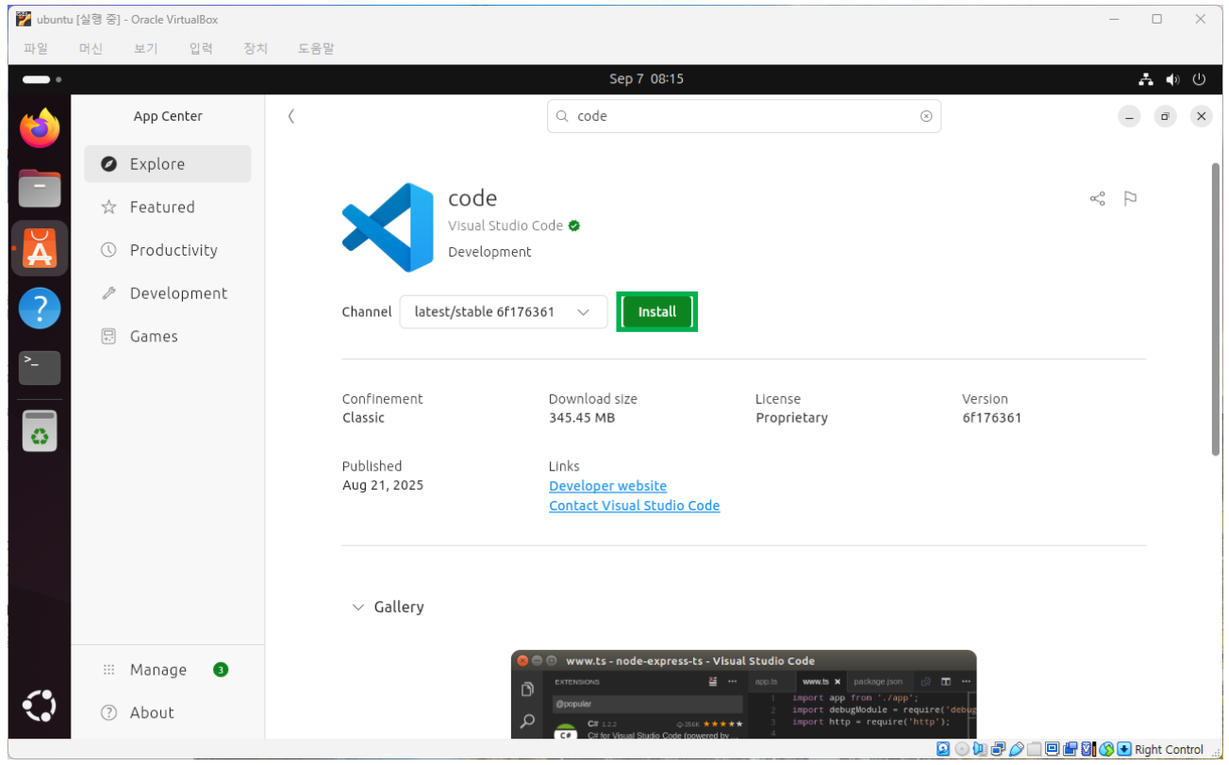




Setup Ubuntu

- Open App Center
  - Search vscode
  - Click Install





Setup Ubuntu

- Create a project directory and move to the project directory
  - ~$ mkdir RTOS
  - ~$ cd RTOS
- Run Visual Studio Code
  - ~/RTOS$ code .
    - Trust the authors of the files in the folder