

Assignment 4: Automating VM Creation and Configuration with VBoxManage

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Semester 1/2025

Objective

This assignment introduces you to the use of the `VBoxManage` command-line tool to create, configure, and control a virtual machine. By the end of this assignment, you will understand how to manage VirtualBox without using the GUI, which is useful for automation and scripting tasks.

Instructions

Create and configure a new VirtualBox VM using only the command line. Do not use the VirtualBox GUI for any step except for launching the VM and manually installing the OS.

Tasks

1. Create a new VM named `CLI-Xubuntu` with the following specifications:
 - OS Type: Ubuntu (64-bit)
 - Memory: 2048 MB
 - CPUs: 2
 - Video Memory: 128 MB
 - Network Adapter: NAT
 - Disk: VDI format, 20 GB
2. Attach a SATA controller and connect:
 - The virtual hard disk you created
 - The Xubuntu 22.04 ISO image
3. Start the VM using the GUI mode:
 - Use GUI only for installing the OS manually.
4. After OS installation is complete, shut down the VM.

5. Use VBoxManage to perform the following:

- Show VM information
- Take a snapshot of the VM
- Export the VM to an .ova file (optional)
- Clone the VM (optional / bonus)

Sample Commands

```
vboxmanage createvm --name "CLI-Xubuntu" --ostype Ubuntu_64 --register
vboxmanage modifyvm "CLI-Xubuntu" --memory 2048 --cpus 2 --vram 64 --nic1 nat
vboxmanage createhd --filename ~/VirtualBox\ VMs/CLI-Xubuntu/CLI-Xubuntu.vdi --size
vboxmanage storagectl "CLI-Xubuntu" --name "SATA Controller" --add sata --controller
vboxmanage storageattach "CLI-Xubuntu" --storagectl "SATA Controller" --port 0 --dev
vboxmanage storageattach "CLI-Xubuntu" --storagectl "SATA Controller" --port 1 --dev
vboxmanage startvm "CLI-Xubuntu" --type gui
vboxmanage snapshot "CLI-Xubuntu" take "Clean Install"
vboxmanage showvminfo "CLI-Xubuntu"
vboxmanage export "CLI-Xubuntu" --output ~/CLI-Xubuntu.ova
vboxmanage clonevm "CLI-Xubuntu" --name "CLI-Xubuntu-Clone" --register
```

Deliverables

- Submit a **PDF report** that includes:
 - Screenshots of the terminal showing each command you executed
 - Screenshots from VirtualBox GUI showing the VM running
 - Explanations of each command and step
 - A summary of what you learned or found interesting about CLI control
- File name: INT693_A4_YourStudentID.pdf
- **Submit via MS Teams Assignment of this subject.**

Note

Make sure your Xubuntu ISO is accessible, and your terminal commands are reproducible.