

# **CMPSCI 230 – Discussion 1**

## Introduction

# Contact Info

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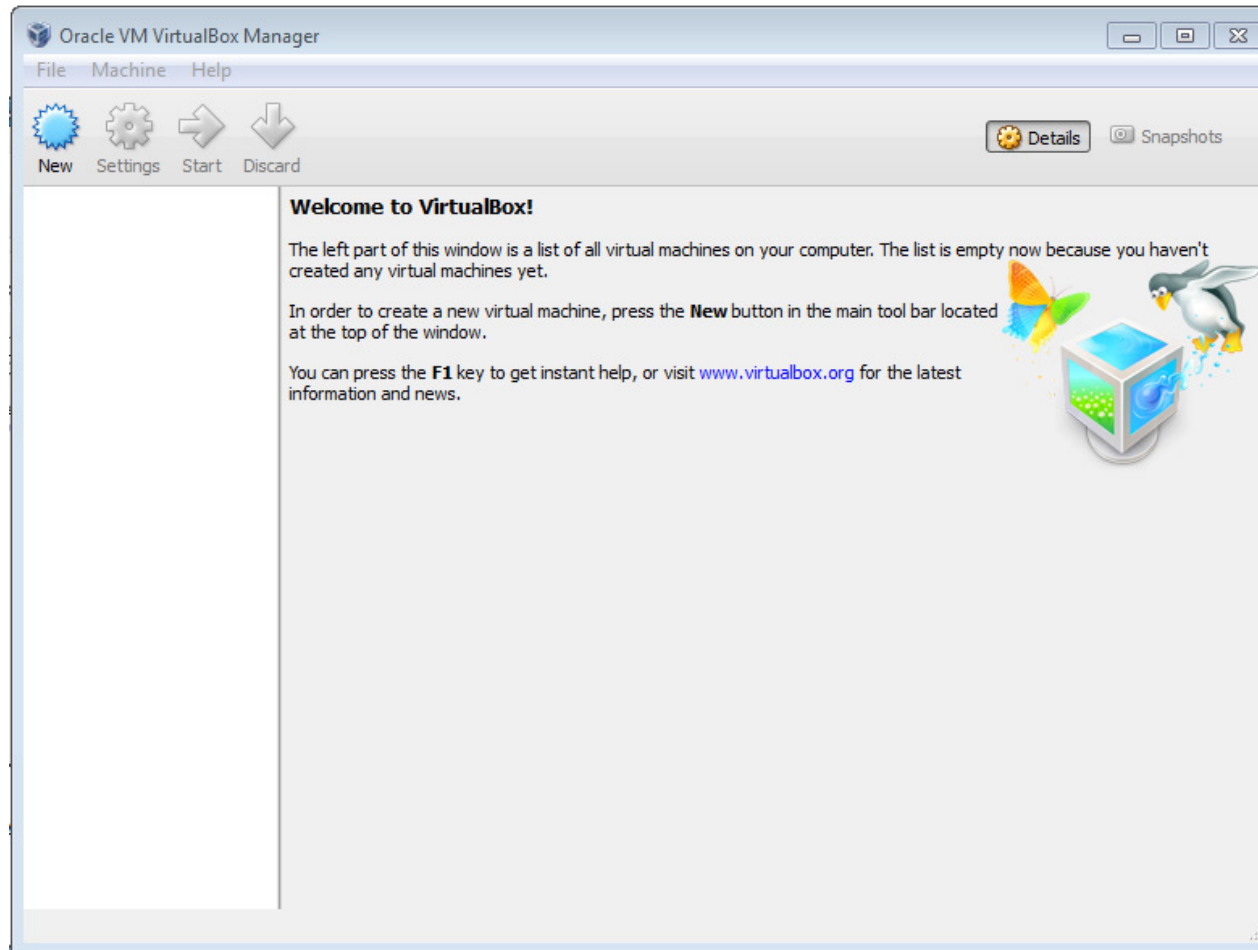
**Communicate through Piazza** – questions/posts to entire class or private messages to instructors

Under extreme circumstances contact via email

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**Office hours:** Tuesday 5:15 - 6:45 PM, LGRT T223

# Install VirtualBox

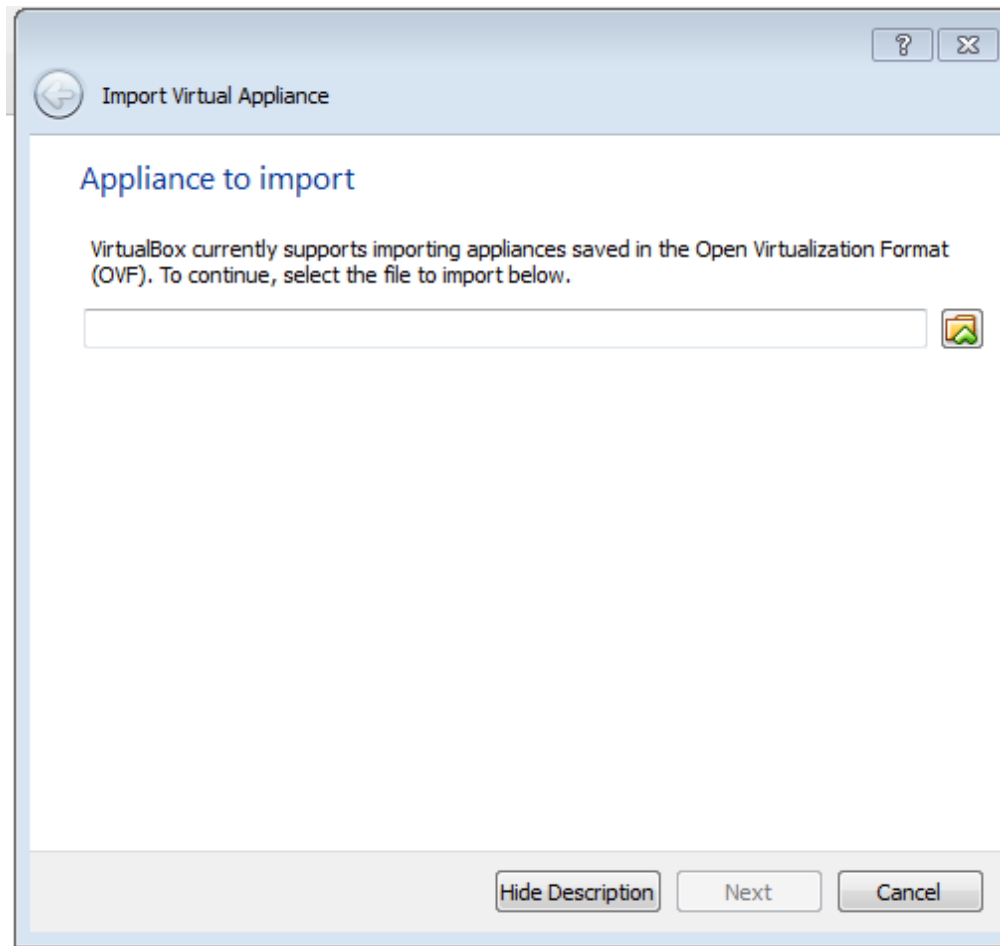


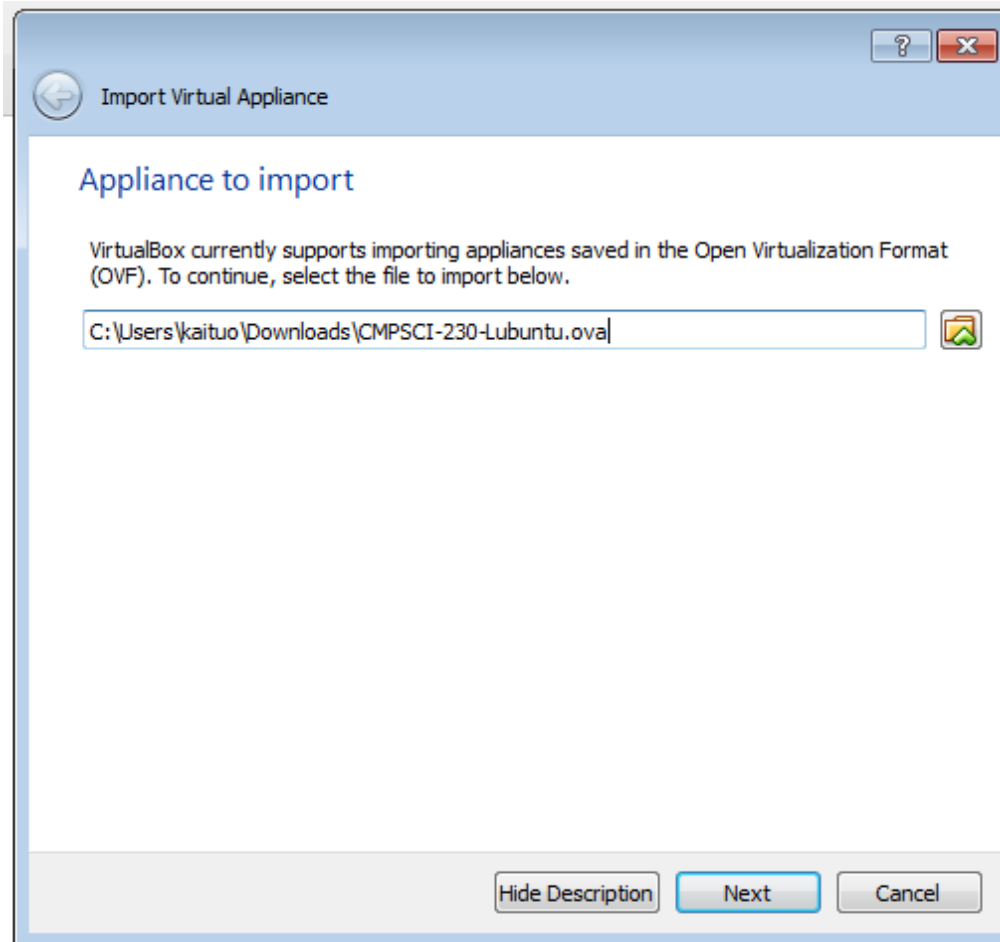
# VirtualBox setup

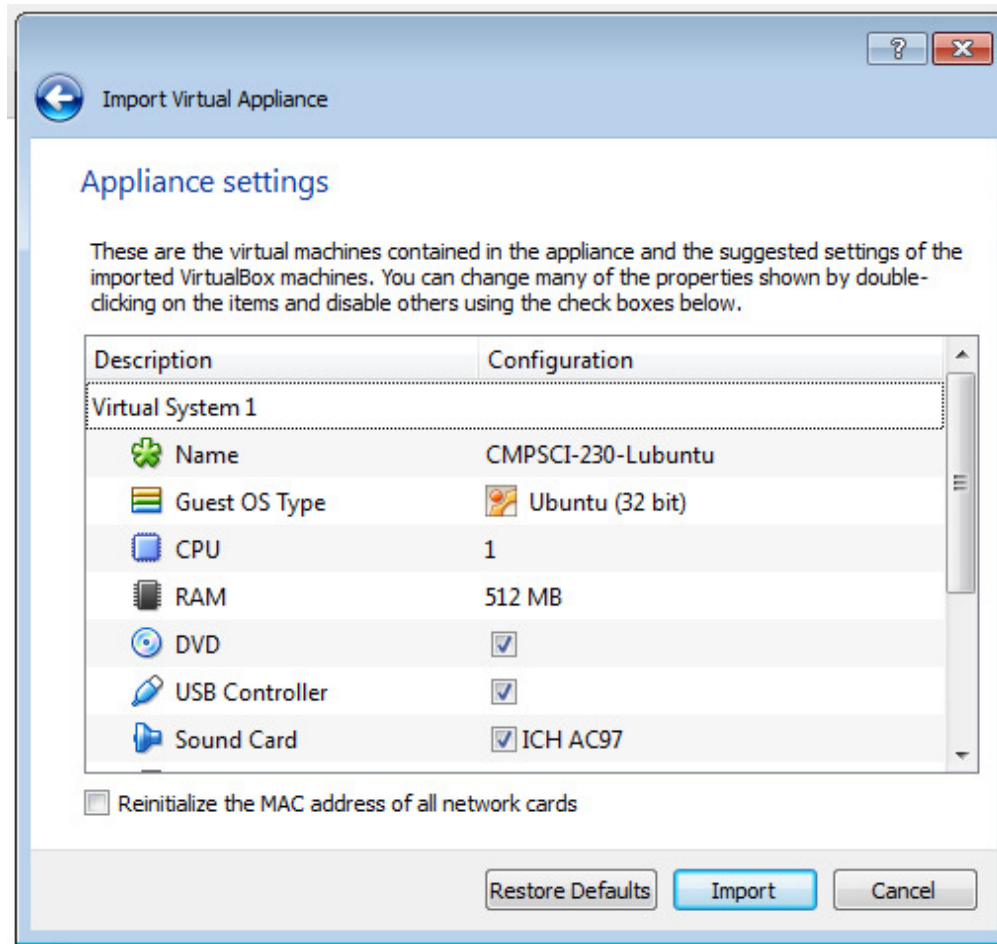
Download the ova file from course webpage and

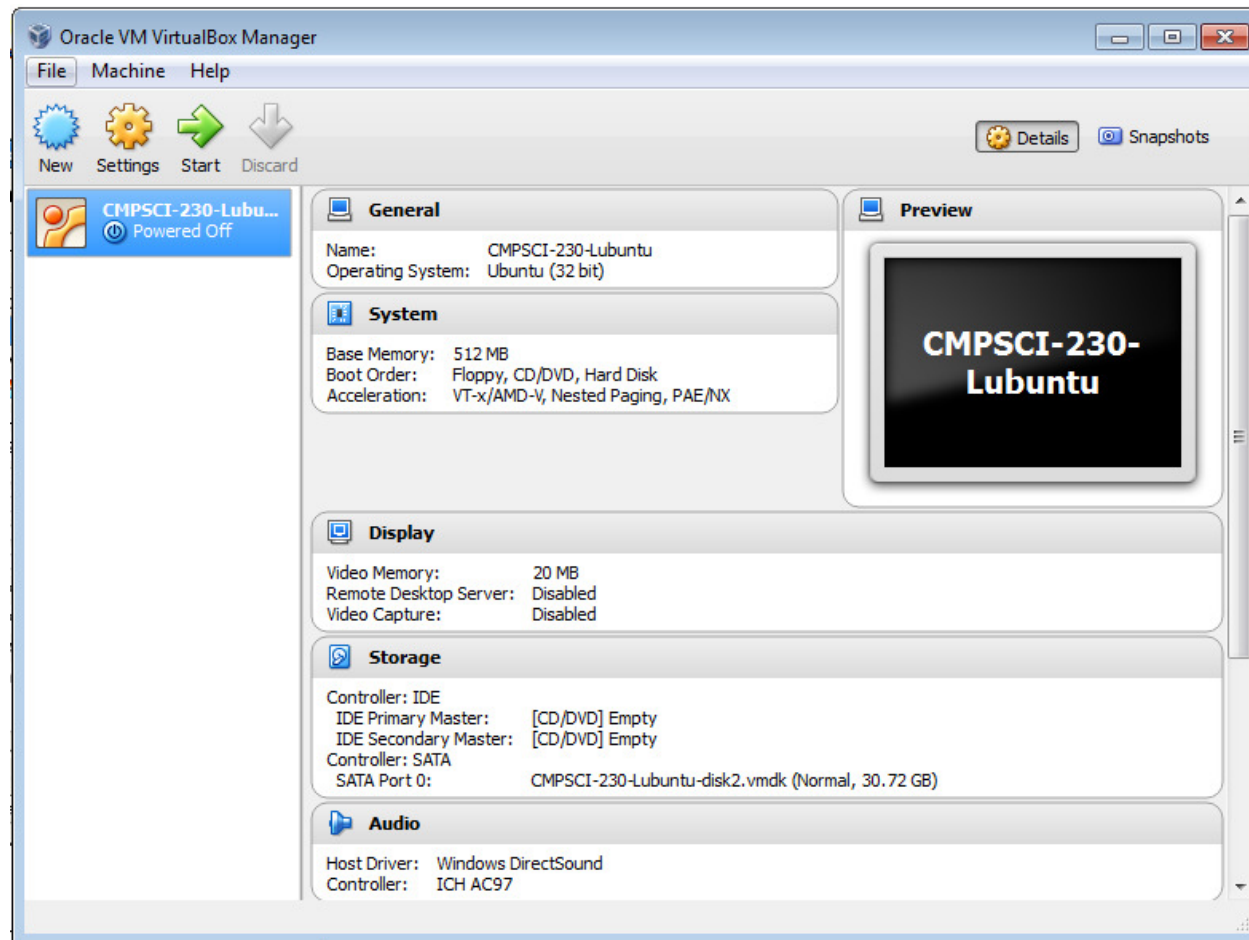
1) Double click the ova file

2) Or alternatively select "File" -> "Import appliance" from the Manager window.











# Possible reasons for VirtualBox errors and workarounds

- Cannot launch VM
  - Corrupt ova
    - Redownload
  - Antivirus package, esp. on Windows hosts
    - Use the newest version
- Cannot connect to the Internet
  - Adjust network setting (e.g. networking modes)
- Cannot download with browser in VirtualBox
  - Try another browser (Chromium vs. Firefox)

# Backup data when using VirtualBox

- Not as stable as non-virtualization product
- Example backup technologies
  - Dropbox
  - Google drive
  - github
  - USB flash drive
- Must be private, not public

# Must I use the Lubuntu image you provided?

- Yes
- Different Linux version could give different errors and different output
  - Different JDKs produce slightly different bytecode

# Useful UNIX commands

pwd  
ls <directory>  
cd <new path>  
cp <src> <dest>  
mv <src> <dest>  
mkdir <directory>  
rm <file>  
man <command>  
cat <file(s)>  
wc <file>  
grep <text> <file(s)>  
sort <file(s)>  
touch <file(s)>  
source <file>

# Useful UNIX commands

pwd                      – print working directory  
ls   <directory>         – list directory contents  
cd   <new path>          – change directory  
cp   <src> <dest> – copy files  
mv   <src> <dest> – move files  
mkdir <directory>       – create new directory  
rm   <file>              – remove file  
man <command>– linux manual  
cat   <file(s)>          – concatenate files  
wc    <file>             - reads input files and generate statistics  
grep <text> <file(s)>    - search text in the given file(s)  
sort <file(s)>            -print the lines of its input(s) in sorted order  
touch <file(s)>           - update the timestamp of a file or create a file  
source <file>            - executes the content of the file passed as argument

# also remember

- Each command has a lot of options to control behaviors
  - `wc (-l, -c, -w)`, `sort (-g, -n)`, `rm (-r)`, `grep (-r)`
- At any point
  - . – current working directory
  - .. – parent directory (in the directory hierarchy)
  - ~ – home directory
- Append and overwrite
  - `command > /path/to/file` (overwrites)
  - `command >> /path/to/file` (appends)
- Get out of a line of code that doesn't return
  - `Ctrl+c`
- Auto-complete

# i-clicker question

- What does source command do?
  - A. Create a file
  - B. Executes the content of a file
  - C. Display help message
  - D. Search text

# i-clicker question

- Which option of the `wc` command prints the word count?
  - A. `-l`
  - B. `-w`
  - C. `-m`
  - D. `-c`



# i-clicker question

- What does “command > /path/to/file” do if /path/to/file already exists
  - A. Overwrite
  - B. Append

# Editors to use

**subl** – sublime text

<https://www.sublimetext.com/docs/2/>

**vim**

vimtutor (terminal),

<http://yannesposito.com/Scratch/en/blog/Learn-Vim-Progressively/>

**emacs**

<http://www.jesshamrick.com/2012/09/10/absolute-beginners-guide-to-emacs/>, <http://www.emacswiki.org/emacs/>

# Vim editor

**Open document** `vim example.c`

**Insert (text mode)** `i`

**Command mode** `<esc>` key

**Save** `:w`

**Quit** `:q`

**Save and quit** `:wq`

# Group Activity

Create dir1, dir2 and dir3

Create file file1 in dir1

Copy file file1 from dir1 to dir2

Rename dir2/file1 to file2

Append the contents of dir1/file1 and dir2/file2 to dir3/file3 in two different ways

Search all files under dir3 for a string “root”

# Group Activity

Create dir1, dir2 and dir3

```
mkdir dir1 dir2 dir3
```

Create file file1 in dir1

```
vim dir1/file1 or touch dir1/file1
```

Copy file file1 from dir1 to dir2

```
cp dir1/file1 dir2/
```

Rename dir2/file1 to file2

```
cd dir2; mv file1 file2; cd ..
```

Append the contents of dir1/file1 and dir2/file2 to dir3/file3 in two different ways

```
1) cat dir1/file1 dir2/file2 > dir3/file3
```

```
2) cat dir1/file1 >> dir3/file3
```

```
cat dir2/file2 >> dir3/file3
```

Search all files under dir3 for a string "root"

```
grep -r "root" dir3
```