

Secure Coding

VirtualBox & SamuraiWTF VM Tutorial

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1. Installation of Oracle VirtualBox & SamuraiWTF

System Requirements & Download

Minimum system requirements for the virtualization of SamuraiWTF:

- CPU \geq 2 Cores
- RAM \geq 2 GB
- HDD \geq 24 GB (2 installations + SamuraiWTF.ova)

Download & install the newest version of VirtualBox according to your OS:

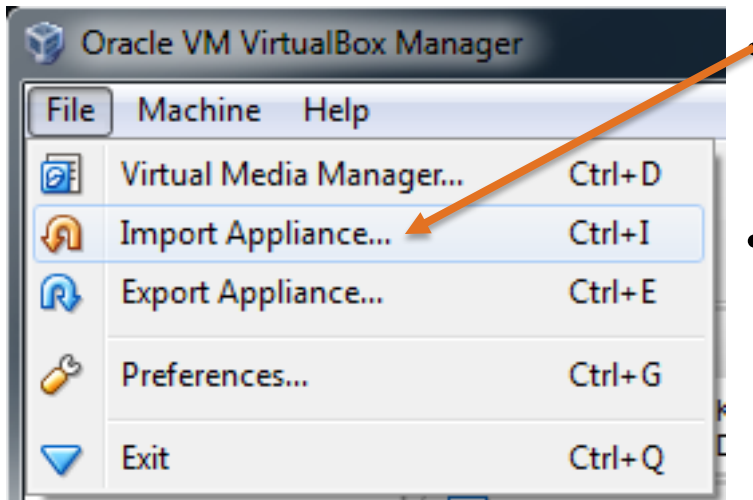
- <https://www.virtualbox.org/wiki/Downloads>

Download the preconfigured SamuraiWTF.ova:

- https://drive.google.com/file/d/0B_mxtTZhDRPCVINQLXJwUTRGZVE/

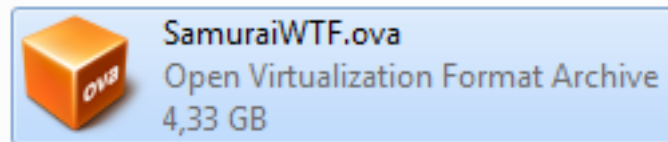
1. Installation of Oracle VirtualBox & SamuraiWTF

Installing SamuraiWTF



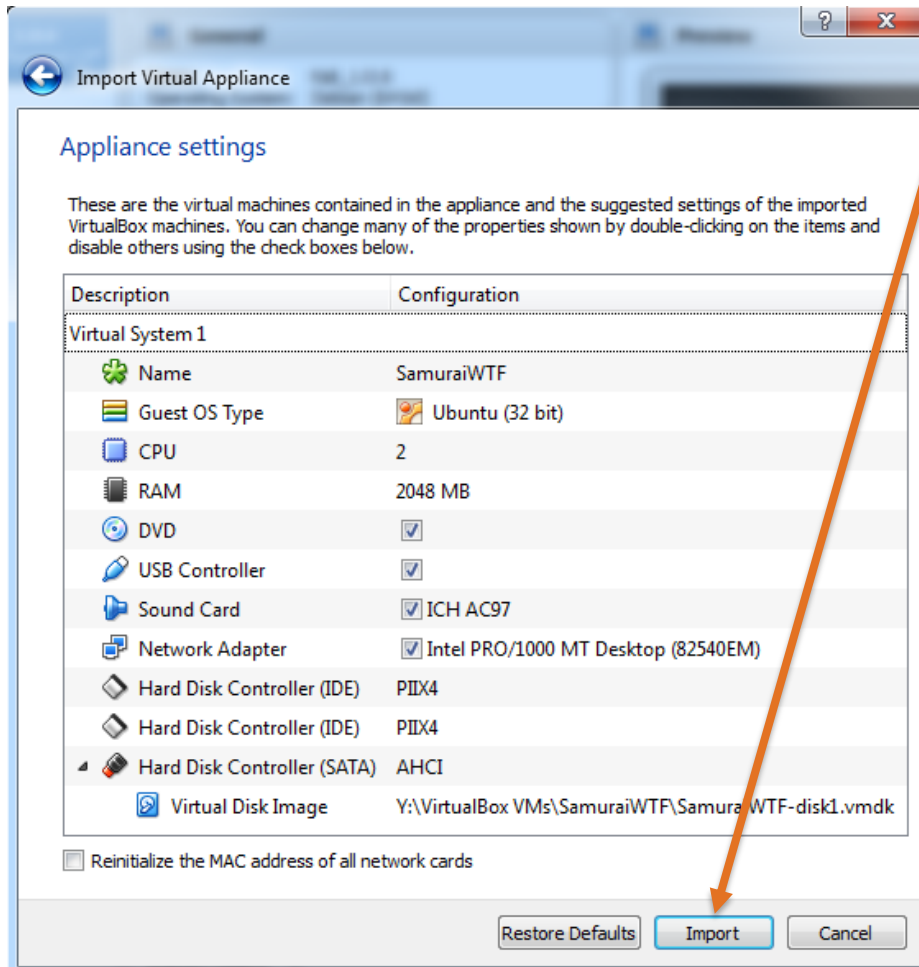
In the VirtualBox Manager: File > Import Appliance...

- Select the previously downloaded SamuraiWTF.ova as file to import



1. Installation of Oracle VirtualBox & SamuraiWTF

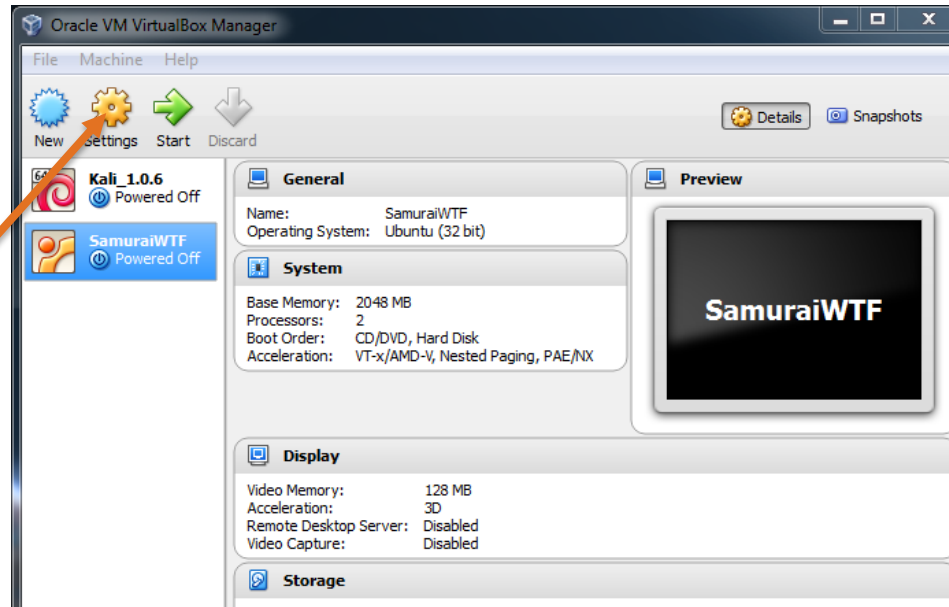
Installing SamuraiWTF



Leave the appliance settings as they are (you can change them later according to your system specs) and click import

- The import may take several minutes!
- After the import was successful you can see the SamuraiWTF VM inside your VirtualBox Manager
- **Do not start the VM yet!**

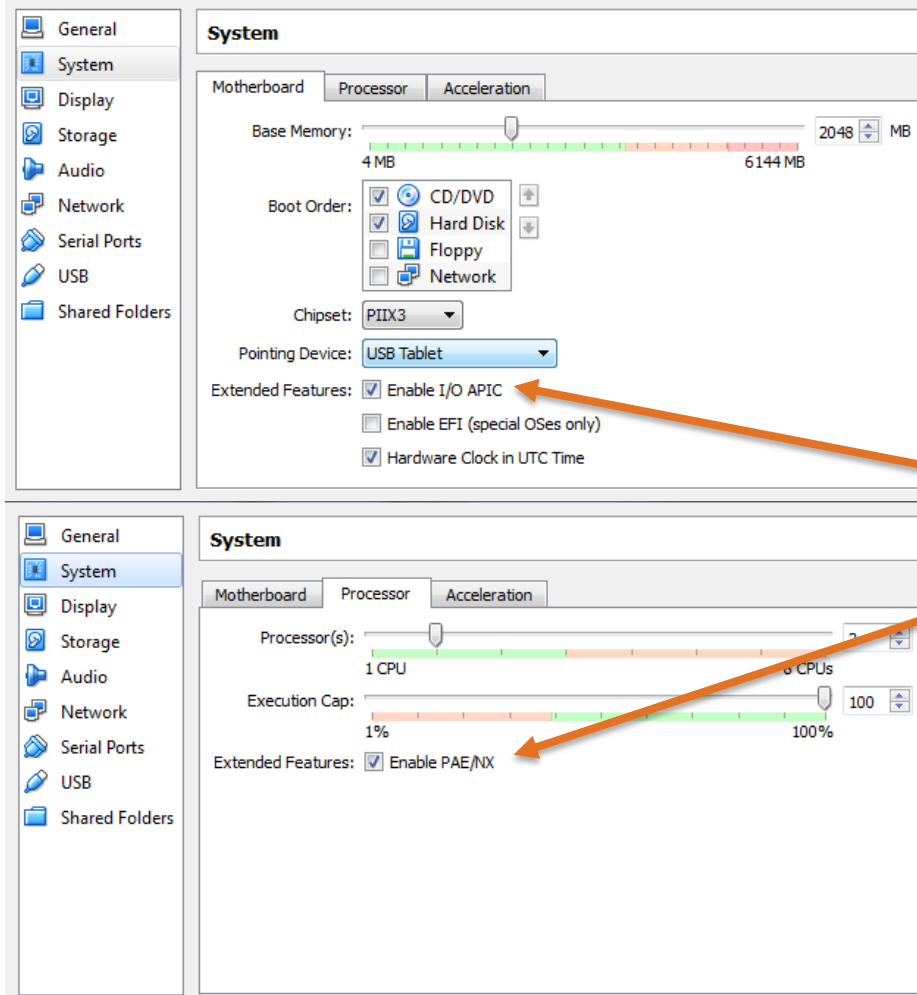
2. Configuration of the SamuraiWTF VM Settings



- Select the SamuraiWTF VM and click on “Settings”
- Set the required settings as shown in the tables on the next slides
- Optionally, you can add **more** RAM, Cores, Shared Folders,... to improve the VM’s usability and performance but **don’t lower any performance settings**

2. Configuration of the SamuraiWTF VM

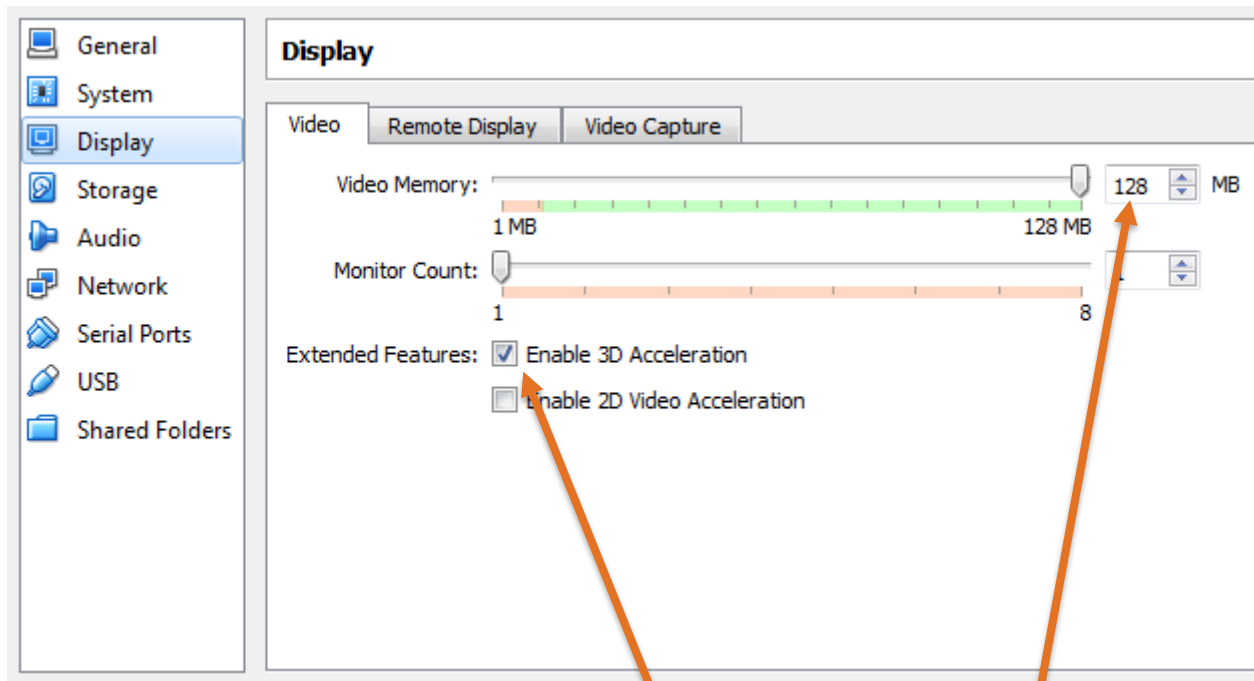
System Settings



Settings	Tab	Attribute	Comment
System	Motherboard	Enable I/O APIC	enabled
	Processor	Enable PAE/NX	enabled

2. Configuration of the SamuraiWTF VM

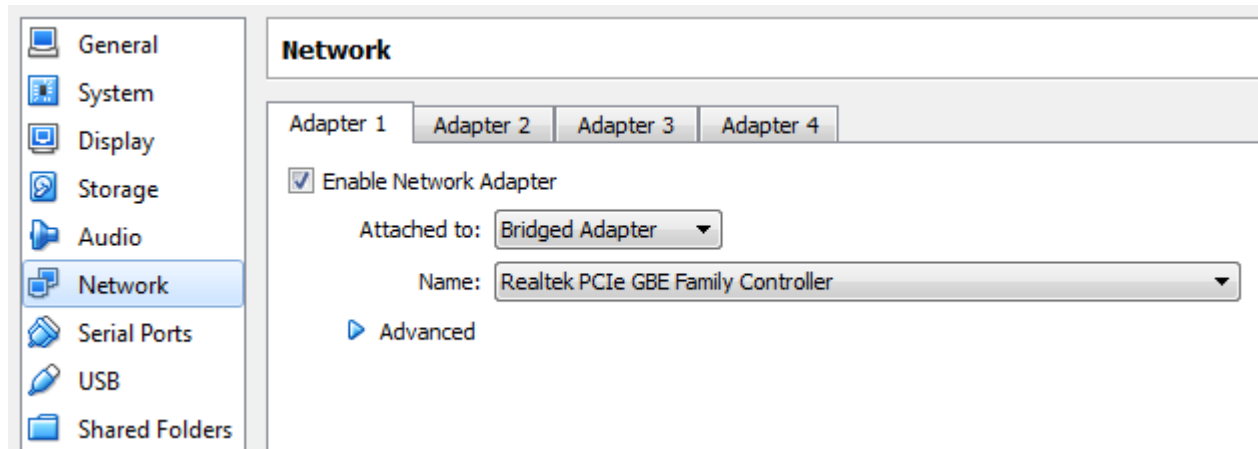
Display Settings



Settings	Tab	Attribute	Comment
Display	Video	Enable 3D Acceleration	enabled
	Video	Video Memory	128 MB

2. Configuration of the SamuraiWTF VM

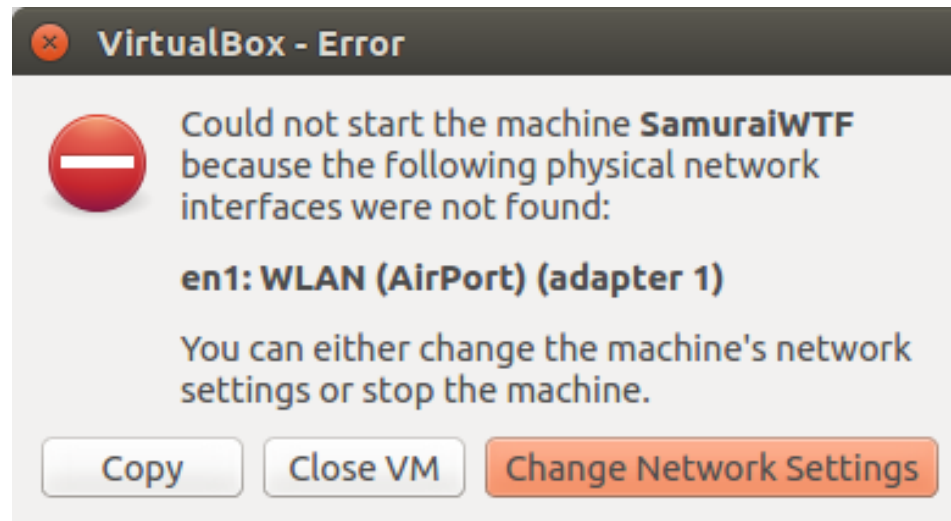
Network Settings



Settings	Tab	Attribute	Comment
Network	Adapter 1	Enable Network Adapter	enabled
	Adapter 1	Attached to	Has to be set to "Bridged Adapter" to access the Internet. However, since your SamuraiWTF VM may host vulnerable code, this option is used at your own risk. For a completely safe use set this to "Host-only Adapter". Then VM's on your host system can see each other but are not exposed to the Internet.
	Adapter 1	Name	Set this according to your network device

2. Configuration of the SamuraiWTF VM

Network Settings



- If you get this error you forgot to change your network settings properly (previous slide) - click on "Change Network Settings" and in the next window on "OK" to get your network interface working

3. Using SamuraiWTF

Booting Up the VM

- Select SamuraiWTF VM in the VirtualBox Manager and click on “Start” to boot the VM
- Login with the user: **samurai** and the initial password: **samurai**

Things to do after the first start:

- Open a Terminal Console Window



- Change the initial password of user samurai

```
samurai@samurai-wtf:~$ passwd
Changing password for samurai.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
samurai@samurai-wtf:~$ █
```

- Change the MySQL password (user: **root** initial password: **samurai**)

```
samurai@samurai-wtf:~$ mysqladmin -u root -p'samurai' password 'yournewpassword'
samurai@samurai-wtf:~$ █
```

3. Using SamuraiWTF

Overview of Tools

In order to explore the preinstalled web application testing tools, their usage and common testing methodologies, it is highly recommended, that you read the **SamuraiWTFCourseSlidesv15.pdf** located at the SamuraiWTF VM desktop.

Additionally, our preconfigured VM features several tools for the development and deployment of the course projects:

- Eclipse with CDT, JDT, PDT
- gcc, gdb, Java
- LAMP stack: (/var/www/<your web application>/ as deployment path)
- Adminer MySQL Interface: <http://localhost/adminer>
- Tigris 1.3: /opt/tigris-1.3
- IDA Pro Free

4. Exporting the VM for Exchange Purposes

Exchange

During this course you have to exchange the projects you deployed in your VM with other teams. This is done by simply exporting your whole SamuraiWTF VM appliance.

- The other team then imports and boots your appliance, which will be tested by them using their own SamuraiWTF VM
- The other team does not know your password but the required services to run your web app are already running during the login screen from which they can't go further
- To test a given VM from your own host or your own SamuraiWTF VM make sure the network settings (for both VM) are set to "Host only" or "Bridged" (testing between two VM's also allows for "Internal networking" as network interfaces)

4. Exporting the VM for Exchange Purposes

Export

To export your appliance do the following:

- In the VirtualBox Manager click on “File” > “Export Appliance...”
- Select your SamuraiWTF VM and click “Next”
- Specify the path for your .ova export file (Format: OVF 1.0) and click “Next”
- Naming convention of export: **SamuraiWTF-TeamX-PhaseY.ova**
where X is your team number and Y is the project phase number.
NOTE: Your team number will be communicated to you via e-mail
- Click on “Export”
- Send it to other team via USB-Stick