



Resilient Networks

VM Setup Instructions

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Goals and Objectives Prepare a Linux system that you can use throughout the Resilient Networks exercises. If you are already experienced with Linux, you might just use your existing installation or create a Linux VM on your own. For everyone else, we equip you with a basic Ubuntu VM that you can make use of for the consecutive exercises in this course.

1 Prepare your Linux VM

We provide you with two variants to get your personal Ubuntu 20.04 VM running.

1.1 Virtualization Tool

Install a virtualization tool of your choice to run the VM. We recommend VirtualBox¹. Another popular choice is VMWare Workstation Player². Both are free for you to use.

1.2 Create a VM

The first and easy variant imports a fully installed Ubuntu VM. With the second variant, you get a bit more hands-on experience while creating the VM yourself.

Variant 1: Import The easiest way for you to get started with a working Ubuntu VM is to download and import a VM that we already prepared for you. To get this VM running on your machine, follow these instructions:

1. Download the fully installed VM (2.5GB file size) from our servers:
`https://svs.informatik.uni-hamburg.de/teaching/rn/exercise/iss-rn.ova`

¹<https://www.virtualbox.org/wiki/Downloads>

²<https://www.vmware.com/de/products/workstation-player/workstation-player-evaluation.html>

2. Assuming you use VirtualBox, select File -> Import Appliance and follow the import guide. This might take several minutes.

Variant 2: Autoinstall If you do not want to use the fully installed VM provided by us, you can follow the same installation procedure we used. In this case, please refer to the brief instructions on our website at <https://svs.informatik.uni-hamburg.de/teaching/rn/exercise/iss-rn-vm/>. In summary, this requires you to:

1. Download the official live server installation image of Ubuntu 20.04 (914MB file size) from the ubuntu.com website: <https://releases.ubuntu.com/20.04/>
2. Download the given seed.iso from <https://svs.informatik.uni-hamburg.de/teaching/rn/exercise/iss-rn-vm/seed.iso>.
3. Download and import the empty VM iss-rn-empty.ova downloaded from <https://svs.informatik.uni-hamburg.de/teaching/rn/exercise/iss-rn-vm/iss-rn-empty.ova>. Go to the VM settings and choose the two Virtual Optical Disk Files according to Figure 1.
4. Start the VM with both the Ubuntu installation image and the seed.iso loaded. If done correctly, the interactive Ubuntu installer is skipped and the predefined options in seed.iso are used instead. Once these options have been loaded, confirm to start the installation.

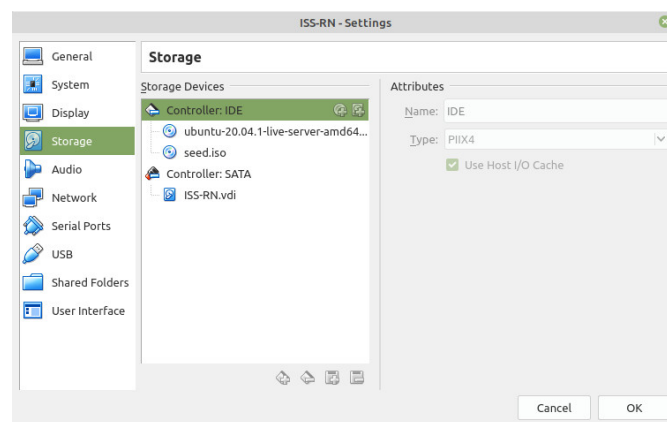


Figure 1: Order of loaded images in VirtualBox to run the automated installer.

1.3 Run the VM

Afterwards, you find **ISS-RN** in the list of your VMs. Select and start this VM. The login credentials are:

Username: stud

Password: stud

Get yourself comfortable with Ubuntu. Make sure that Internet is working inside the VM, e.g., by using firefox to visit a website. There are most likely updates available for your Ubuntu installation. Proceed with updating when possible.

For better VM experiences, optionally install the integration tools of your virtualization tool. In case of VirtualBox, first make sure to install the following packages using the package manager APT. Open a terminal and type:

```
sudo apt-get update && sudo apt-get install gcc make perl
```

Follow the instructions on the screen. Afterwards, focus the window of the running VM and select Devices -> Insert Guest Additions CD image. Again, follow the instruction on the screen.

1.4 How this continues...

Some of the next task sheets require Linux to install and run some specific tools. For these tasks, you now have a VM ready. With every new task sheet, we provide you with commands that you should run in your VM to prepare for solving these tasks.

There are also other tasks, where you are not restricted to specific Linux tools. Feel free to solve them on any other Operating System.