

## Week 4 lab and tute (SNA, UG/PG, S2, 2021)

### The key points

- hosted virtualisation vs native virtualisation
- VirtualBox: how to share resources, CPU, RAM, and I/O
- Where the virtual disk file is? Where the virtual machine configuration file is?
- Virtual network modes

Mode	VM→Host	VM←Host	VM1↔VM2	VM→Net/LAN	VM←Net/LAN
Host-only	+	+	+	–	–
Internal	–	–	+	–	–
Bridged	+	+	+	+	+
NAT	+	Port forward	–	+	Port forward
NATservice	+	Port forward	+	+	Port forward

Whenever in need, read the manual: [Oracle VM VirtualBox User Manual](#) – only the needed pages and sections

### Activities

*Volunteers needed to bring in questions, issues, possible difficulties encountered, and experiences and lessons learned.*

#### [discussion tasks]

**W04A1:** discussion on host RAM impact when multiple virtual machines running at the same time

**W04A2:** discussion on the differences of virtual network modes: host-only, internal, bridged, and NAT

- How to manually allocation an IP address, the network mask, and the default gateway to a virtual machine if it is on 192.168.3.0/24 subnet?

**By now, we have completed the design phase. In next 3 weeks, you will be on hands-on tasks. These tasks contribute directly to your Assignment 2.**

#### [hands-on tasks, homework]

**W04A3:** (purpose: practise for Assignment 2) set up 2 virtual machines and installing Windows and Linux operating systems.

**W04A4:** (purpose: learn how to port virtual to a different computer) copy the virtual hard disk file of a virtual machine to a portable storage device, give it to your group mate, ask him/her to re-create the virtual machine by connecting to the backed up virtual machine file.

**Preferably, you can have a go before next week's lab session. You will then bring your questions and queries to your lab session, and your tutor will help you out.**

### Lab Sessions in Week 5-7

- Labs in Week 5-7
  - hands-on task to build servers (nodes or hosts)
  - **directly for Assignment 2:** more lab hours before assignment due
- Tute/lab hours **are not evenly distributed** across teaching weeks.
  - tutes: design discussion
  - labs: hands-on tasks
- **Week 5: 2 hours/lab, online**
  - **Wed, 01/09:** 1:30-3:30pm, 3:30-5:30pm, 5:30-7:30pm
  - **Fri, 03/09:** 1:30-3:30pm
- **Week 6 & 7: 3 hrs/lab, TBC**
  - **Wed, 08&15/09:** 1:30-4:30pm, 5:30-8:30pm
  - **Thu, 09&16/09:** 5:30-8:30pm
  - **Fri, 10&17/09:** 2:00-5:00pm

	lecture (on campus)	tute (online)	lab (on campus)	assignment due	Cal Week
WK1	1	0	0		32
WK2	1	1	0		33
WK3	1	1	0	A1	34
WK4	1	1	0		35
WK5	1	0	2		36
WK6	1	0	3		37
WK7	1	0	3	A2	38
WK8	0	0	0		39
WK9	1	0	4		40
WK10	1	0	3		41
WK11	1	0	3		42
WK12	1	0	3	A3	43
WK13	1	0	0	A4	44
sum	12	5	17		
WK14				A5	45