

#01 practical class

VMware virtualization

COMPUTING SYSTEMS AND INFRASTRUCTURES

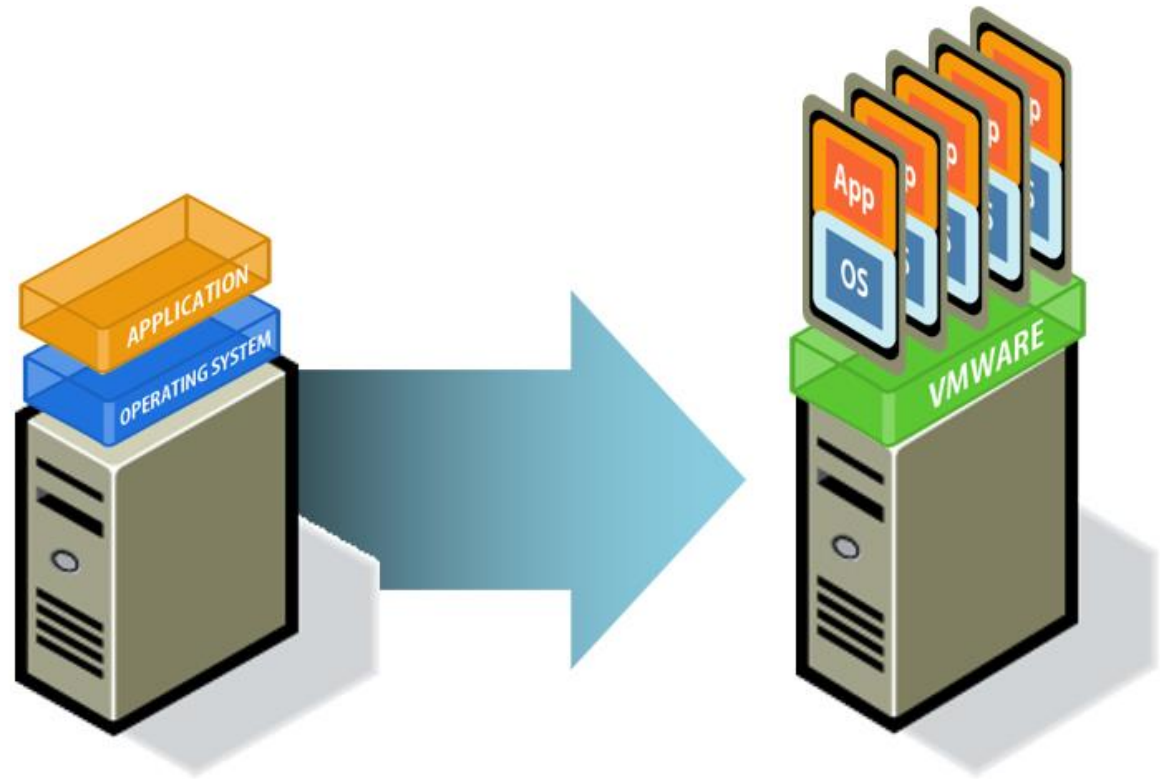
(SISTEMAS E INFRAESTRUTURAS DE COMPUTAÇÃO)

Overview

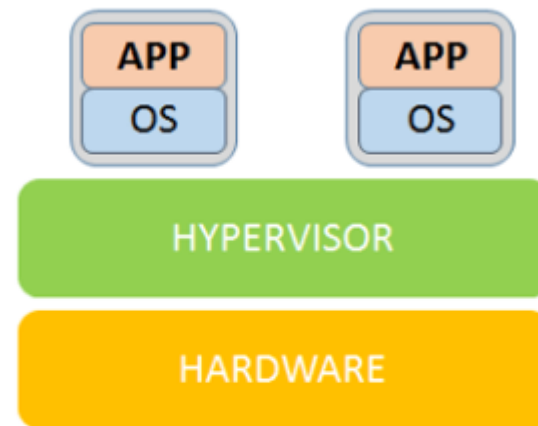
- Virtualization
- VMware
- VMware Workstation
- Getting VMware Workstation
- Alternatives
- VMware Linux Debian 12 OVA

Virtualization (1/3)

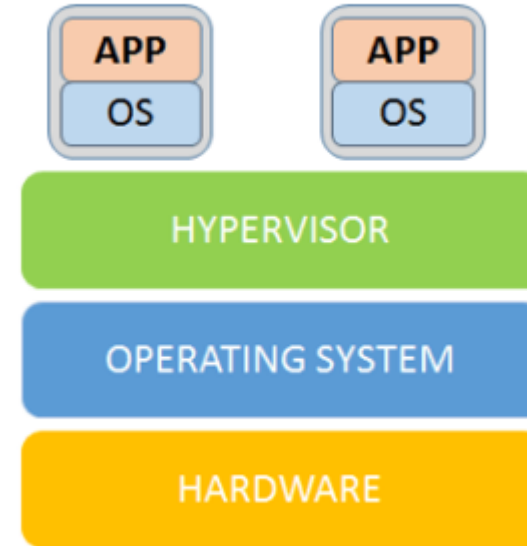
- Decouples software from underlying hardware
- Encapsulates Operating Systems and applications into “Virtual Machines”



Virtualization (2/3)

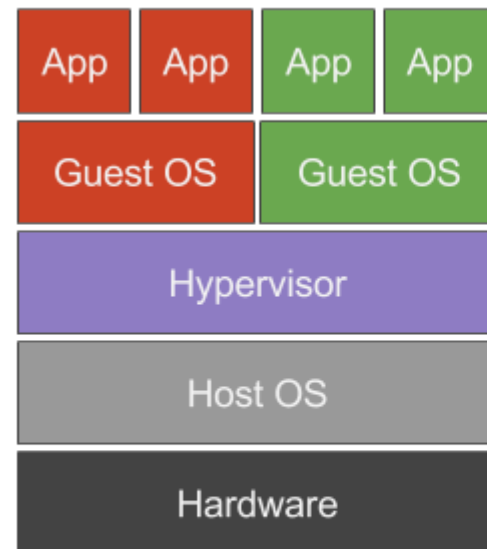


Type 1 Hypervisor

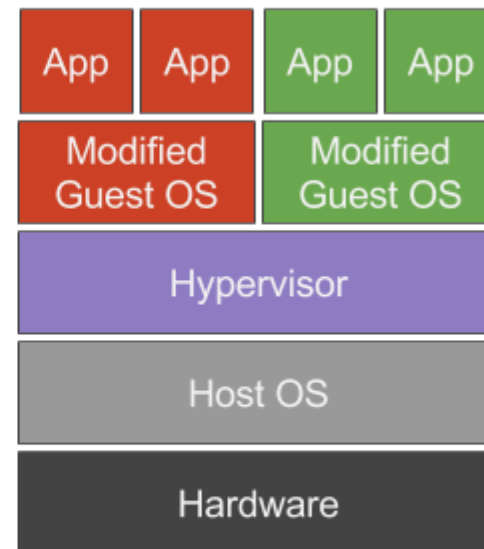


Type 2 Hypervisor

Virtualization (3/3)



Full Virtualization



Paravirtualization

VMware



- Multi-Cloud solutions
- App platform
- Cloud infrastructure
- Anywhere workspace
- Security & Networking

DEI - VMWare IT Academic Program (1/3)

- Access the department helpdesk portal
 - <https://helpdesk.dei.uc.pt>
- Login with your department account
- Access the VMware IT Academic Program page

The screenshot shows the DEI Helpdesk portal. The header includes the University of Coimbra logo and name. The sidebar on the left lists various helpdesk categories, with 'Download Software' and 'VMware IT Academy' highlighted with red boxes. The main content area features the VMware logo and the text 'D2L BRIGHTSP:CE'. It includes a section titled 'What is VMware IT Academy?' which explains the program's purpose and provides a list of products included. Below this, there is a section titled 'How do I get access?' with instructions on how to request access and login.

Path » Home

Welcome dabreu | logout

DEI Helpdesk

Home

About SIC

General Information

Download Software

CPAN

JESS

Linux Documentation Project

Linux Software Archives

Matlab and Simulink

Microsoft Azure Dev Tools for Teaching

Oracle Academic Initiative

SPSS

Autodesk

Microsoft Office 365 for education

VMware IT Academy

My Helpdesk

Configuration Instructions

Videoconference

Downl

- CPAN
- JESS
- Linux Doc
- Linux Soft
- Matlab an
- Microsoft /
- Oracle Ac
- SPSS
- Autodesk
- Microsoft (
- VMware IT

My Helpdesk

Configuration Instructions

Videoconference

vmware D2L BRIGHTSP:CE

What is VMware IT Academy?

VMware IT Academy enables instructors at academic institutions to deliver authorized VMware courses in a variety of settings.

An annual subscription fee at an approved institution enables qualifying faculty and students worldwide to gain easy access to cutting-edge virtualization technology, courses and resources.

The program provides software for personal use, whether as part of STEAM classes, in research projects, or for gaining hands-on experience with VMware products. Participating departments are responsible for covering the program's operational cost through an annual subscription fee to their students.

Products Included

Participating departments gain access to a comprehensive suite of VMware products and a host of technical resources. The free products provided are ideal for instructional and research use within academic institutions, and for gaining hands-on experience with core infrastructure products. Included products are:

- VMware Workstation 15 Pro, 16 Pro and 17 Pro.
- VMware Fusion 11 Pro, 12 Pro and 13 Pro.
- VMware vSphere 6.x, 7.x and 8.x Enterprise Plus Edition.
- VMware vCenter 6.x, 7.x and 8.x Server Standard Edition.
- VMware vSphere Tanzu Basics.
- VMware vRealize 2019 and 7.0 Versions.
- VMware NSX-T 3.x
- VMware vSAN 6.x, 7.x and 8.x Enterprise Edition

Free licenses to available VMware products are regularly updated and posted to the self-service web portal. VMware Academic Software Licensing Program aims to provide the latest release of the core products, and one or two prior releases to provide compatibility with older hardware.

How do I get access?

1. Send an email to helpdesk@dei.uc.pt indicating the reason you need a license and wait for an invite to the platform.

If this is your first access to this platform, you must define a password.

2. Access **accounts are local to this application**. This way, you must use your **DEI email address** and the password you defined for this account after receiving the invite. If you do not remember the password, you must reset it, always using the **DEI email address as a login**.

3. After the login you can start your purchases where the installation files and the respective keys will be made available.

Any problem should be reported by email to helpdesk@dei.uc.pt

DEI - VMWare IT Academic Program (2/3)

- After receiving the subscription email, follow the instructions

info@itacademy.brightspace.com
to dabreu ▼

A VMware Subscription Has Been Allocated to You

[Click here to login or register an account to proceed.](#)

Upon Redeeming this Subscription, you will have access to the following:

Academic Software Licensing Program

Need Help?

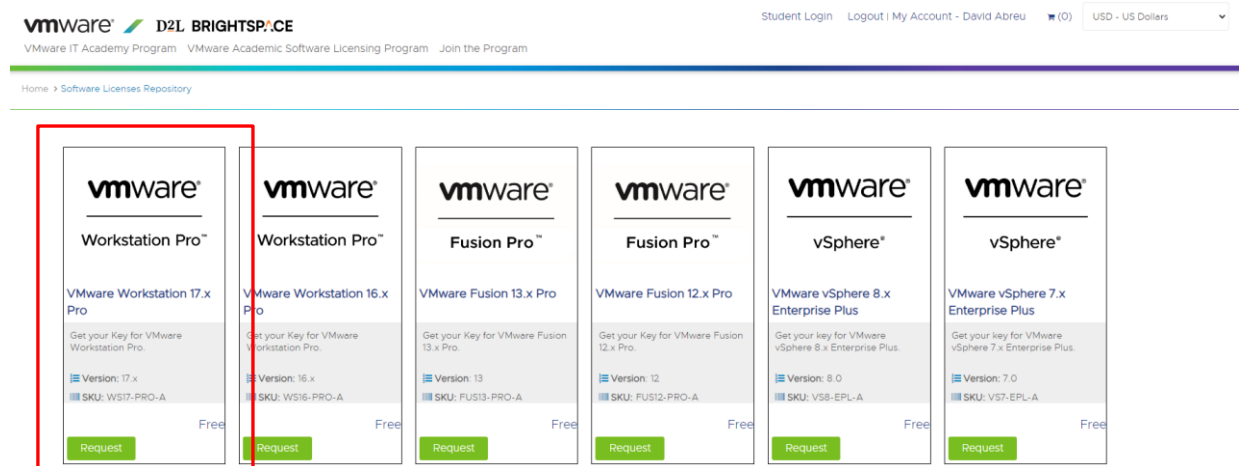
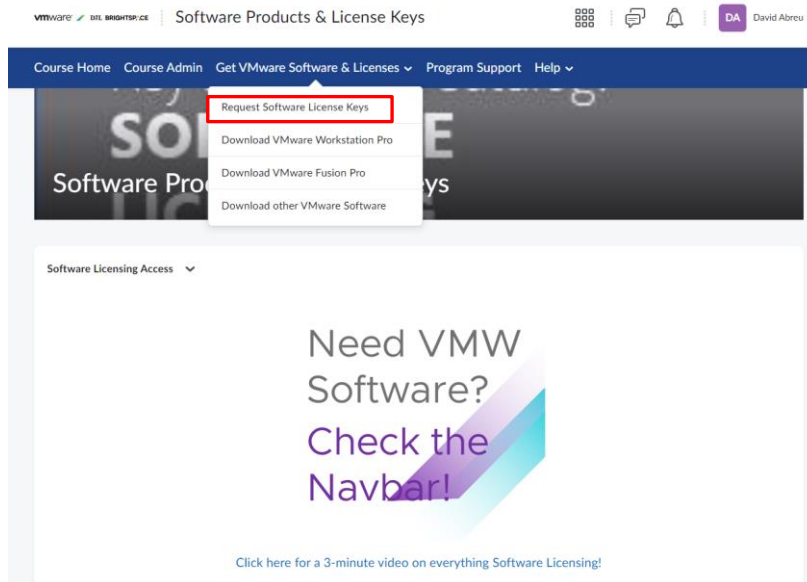
Contact your administrator or refer to our [Support Center](#).

Sincerely,

The VMware IT Academy / Software Licensing Program Team

DEI - VMWare IT Academic Program (3/3)

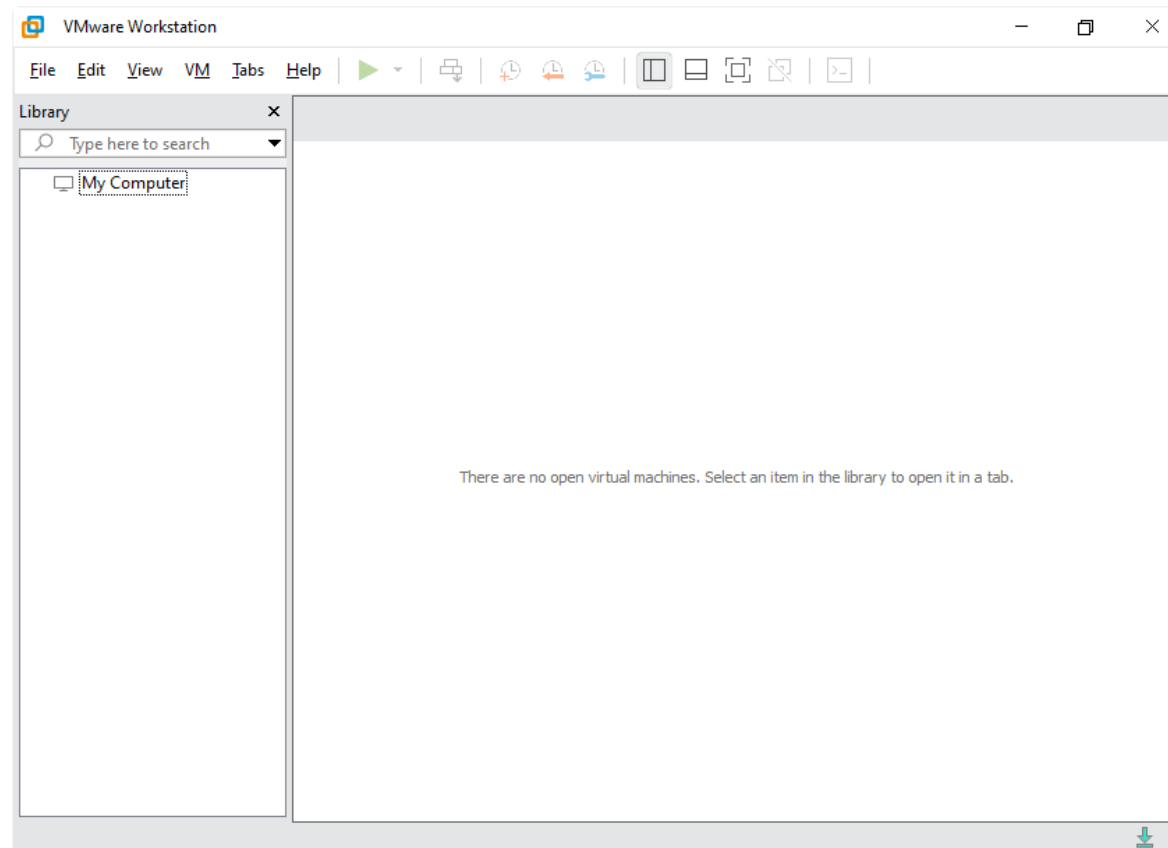
- Login in <https://itacademy.brightspace.com> using your DEI's credentials (email + password)
- Request de SW license key for VMware Workstation Pro
 - You are going to receive an email with all the required information
- Download and install VMware Workstation Pro and register it using your key



VMWare alternatives

- VMware Workstation player
 - <https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html>
- Virtual Box
 - <https://www.virtualbox.org>

VMware Workstation

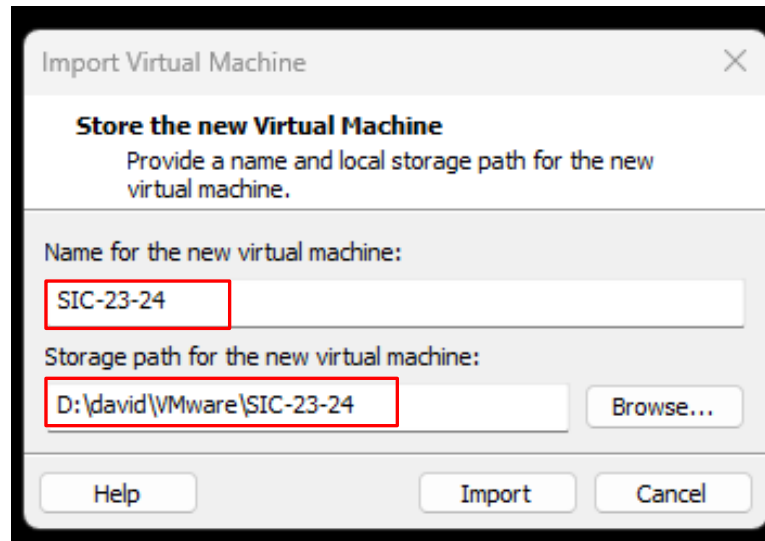


Deploy SIC Debian VM (1/2)

- URL
 - https://drive.google.com/file/d/1rjQOfXjOfHzi8hJ3_kKH7OzZethkiQMr/view?usp=sharing
- Characteristics
 - Size: +/- 2GB
 - OS: Linux Debian 12
 - CPU: min 2 vCPU
 - Memory: min 4GB
 - Disk: ~32GB (LVM)
- Login:
 - User: **root**
 - Pass: **password**

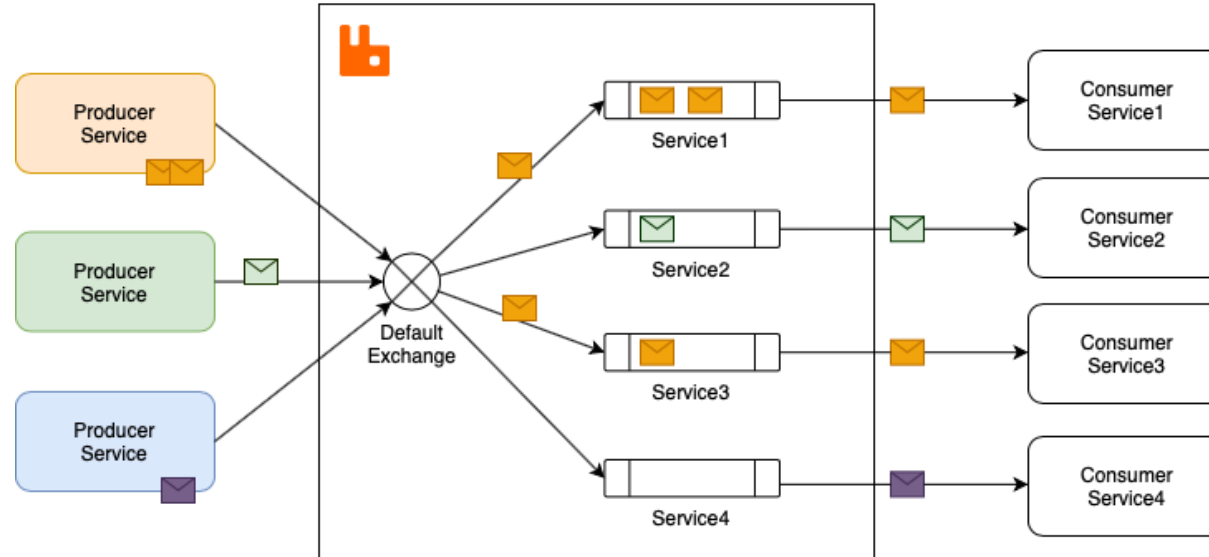
Deploy SIC Debian VM (2/2)

- Double-click the .ova file and follow the instructions
- Put a name to the VM (e.g., SIC-23-24)
- Choose a system path for the VM's files



RabbitMQ

- Open source message broker
- Advanced Message Queuing Protocol (AMQP)
- Message Queue Telemetry Transport (MQTT)



Exercise

- Install RabbitMQ in the Linux Debian VM
- How-to: <https://www.rabbitmq.com/install-debian.html>
- Hello world!: <https://www.rabbitmq.com/tutorials/tutorial-one-python.html>
 - Via localhost
 - End points outside the VM
- Access to the RabbitMQ manager website