Huawei ICT Competition Computing Track Exam Environment Test Guide

Content

1 Computer and Environment Requirements

1. Computer specifications:

(1) Computer running VirtualBox:

- OS: Windows 7 or later
- CPU: quad-core 2.0 GHz or above
- Memory: 16 GB or above
- Resolution: 1920 x 1080 or above

Category	No.	Description
Environment Requirements	1	Closed, independent, clean, and quiet environment.
	2	Adequate lighting and good ventilation.
	3	Comfortable seats and tables (about 1–1.2 m long, 0.6 m wide).
	4	Network requirements: Computing Track: stable access to the Internet with a bandwidth of more than 1 Mbit/s.
Computer	5	Candidates need to prepare their own computers with keyboards and mice. The requirements are as follows: **(1) Computer configuration requirements:** Computing Track: It is recommended that the operating system be Windows 7 or later, the CPU be quad-core 2.0 GHz or higher, the memory be 16 GB or higher, and the display resolution be 1920 x 1080 or higher. (2) Google Chrome 58.0 or later is installed. Other browsers, such as Microsoft Edge and Firefox, may be incompatible with the system. (3) Hardware requirements: The camera and microphone of the computer work properly. (4) It is advised to use the external network instead of the corporate network (including the

	VPN).
	(5) You are not advised to use your working computer in case that the computer cannot identify related software.
	(6) Before the exam, please close applications that are prone to pop-up messages, such as chat software, email, translation software, alarm software, and forcible screen saver software. Otherwise, pop-ups may be treated as screen cuts.
	(7) Before the exam, prepare a backup power supply for the computer to prevent the power failure.

2. Software requirements: The VirtualBox software, screenshot tool, screen recording software, compression software, SSH tool, and FTP tool are required. All these are provided in the toolkit. Before the exam, you need to install and get familiar with the tools.

Tool	Example
Tool used for the exam	VirtualBox VirtualBox-6.1.26-145957-Win.exe
Browser	Google Chrome 58.0 or later ChromeCore_1307_5.1.6.6.exe
Screenshot tool	Snipaste Snipaste-2.7.3-x64-Portable.zip
Screen recording software	oCam oCam.zip
Compression software	WinRAR winrar-x64-571.exe
Free SSH and Telnet client	PuTTY putty.exe
Free SFTP and FTP client	WinSCP WinSCP-5.19.5-Setup.exe

3. Before the exam, disable applications that may generate pop-up messages, such as messaging software, email, translation software, and forced screen saver.

4. Exam environment requirements: Find a private and quiet room with comfortable seats and workbenches.

For further information, see "**Chapter 3 Test Procedure**" If there is a long delay in accessing the exam environment during the formal competition, report the delay to the examiner.

2 Software Installation Guide

You need to install all the software in the table above, Next, we will introduce some key software installation.

2.1 Installing VirtualBox

📖 NOTE

For the system requirements of the computers used for the exam, see "**Chapter 1 Computer and Environment Requirements**" provides only the minimum computer specifications required. Using computers with higher specifications will provide a better exam experience.
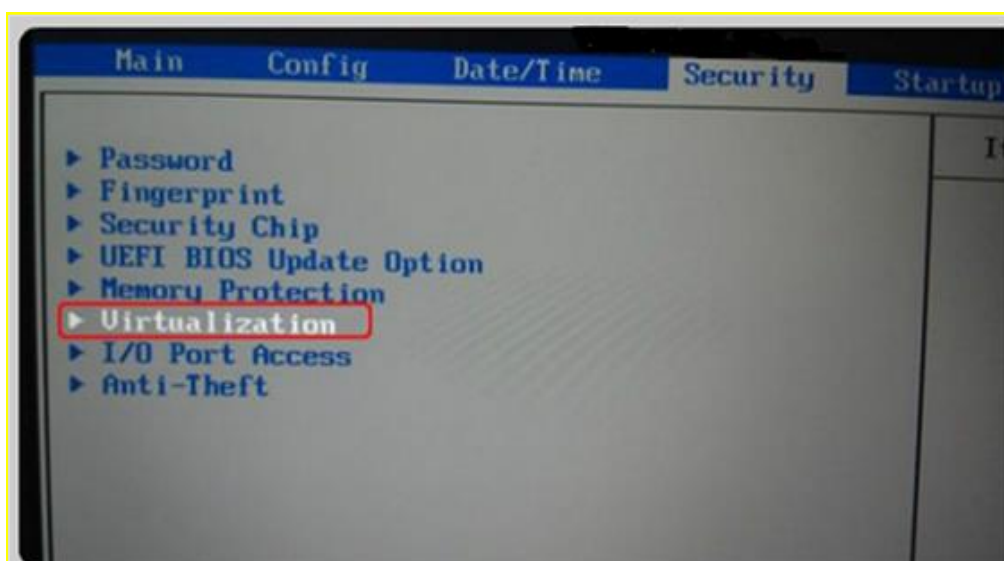
2.1.1 Configuring the BIOS (Enabling Virtualization)

Firstly, enable virtualization in the BIOS of the computer where VirtualBox Software will be installed. (You can search for the method of accessing BIOS in Google Search.)
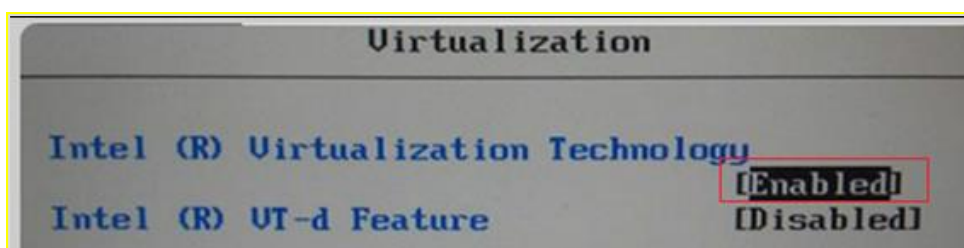
Use the arrow keys to highlight **Virtualization** and press **Enter**.

📖 NOTE

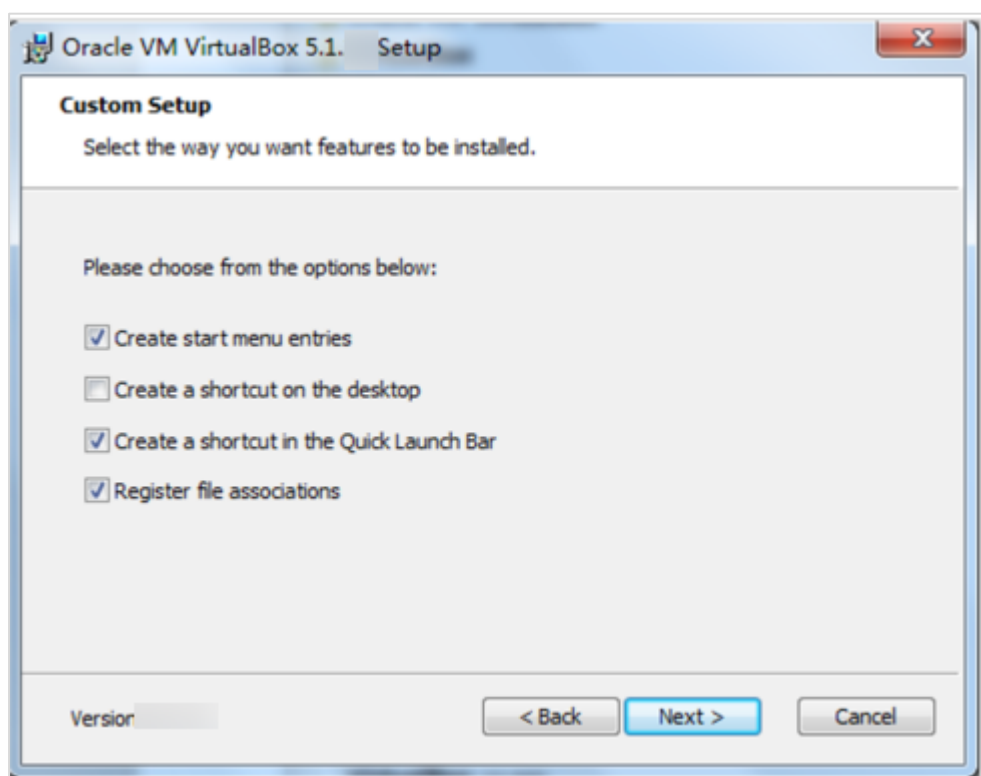The BIOS screen may vary between different computers. The following figure is for reference only.

On the **Virtualization** screen, set **Intel(R) Virtualization Technology** to **Enabled**.

Save the settings and exit the BIOS.

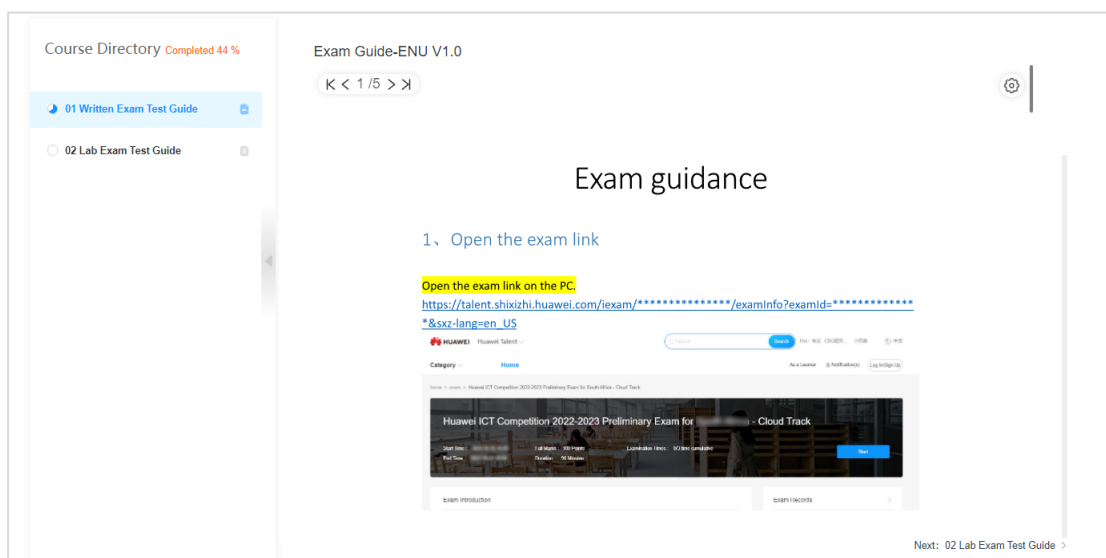## 2.1.2 Installing VirtualBox

Install VirtualBox of 5.2.28.

📖 **NOTE**

You do not need to change the default settings during the installation.

3 Test Procedure

- During the competition, the exam paper will be displayed on Huawei Talent platform (not downloadable). You should do the experiments on the VirtualBox and PUTTY on the Computing Track.

- The Regional Stage is 4-hour experiment examination. Discussions within the same group are allowed during the competition. Three students in the group work with each other to complete the competition and submit a complete answer sheet at the end. During the competition, you are only allowed to view links and documents provided in the exam paper. Do not view links, books, and websites other than those specified, otherwise it will be treated as cheating.

3.1 How to View Exam Paper

During the exam, you need to access the Huawei Talent platform to view the exam papers. Before the exam, check whether you have the permission to view the exam papers.

Network Track Test Link: Links provided by supervisor before testing.

Step 1   Log in to Huawei Talent.
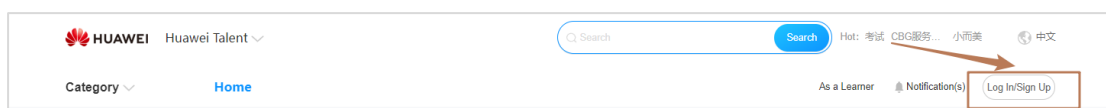
Step 2   Click **Log in / Register** in the upper right corner to check whether you have the permission.

Note: If you do not have the course permission after login, check whether the login account is the same as the account information provided. If you do not have the course permission, contact the supervisor to add the course permission.

Before the exam, you can check only the exam page shown in the following figure. The exam papers are not available until you take the exam.
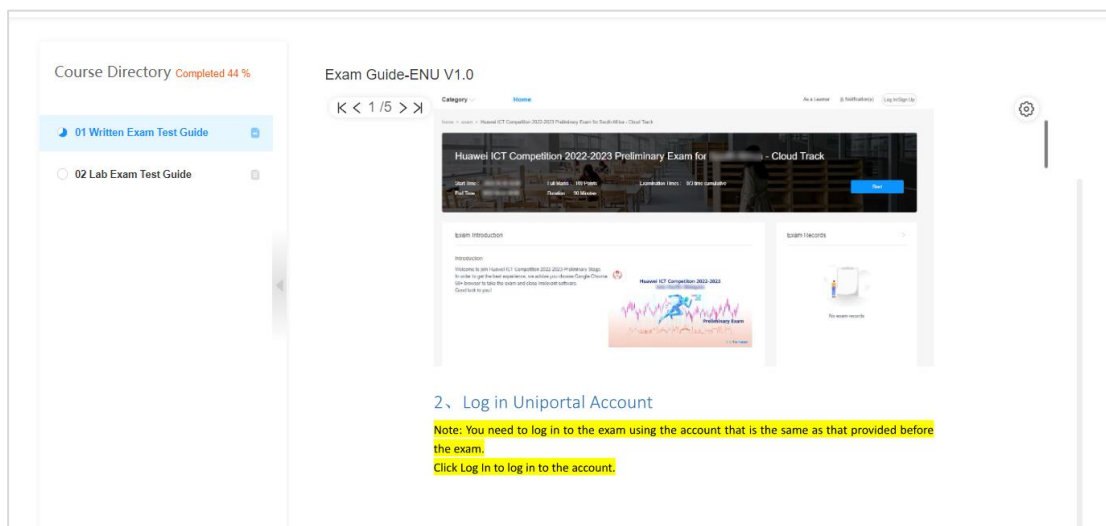
3.2 How to Perform Lab Exercise

A team consists of one main answerer and two auxiliary answerer. All team members need to view the exam paper and install the VirtualBox software following the steps in "**Chapter 2.1 Installing VirtualBox**". In addition, all team members need to import the openEuler image package and install the openGauss database according to the steps shown below.

The main answerer needs to work with two auxiliary answerer to submit one complete answer.

3.2.1 Importing the openEuler Image Package

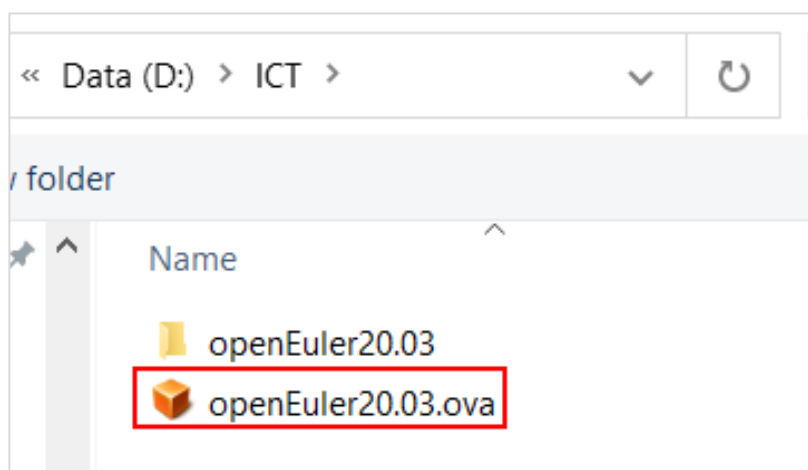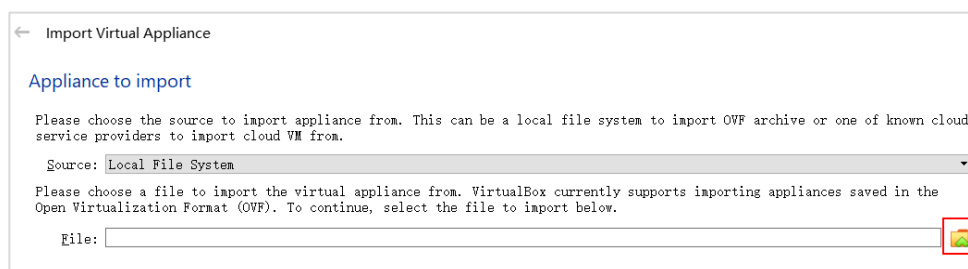**Step 1** Double-click to open the VirtualBox Software.

Step 2 import the openEuler image package.
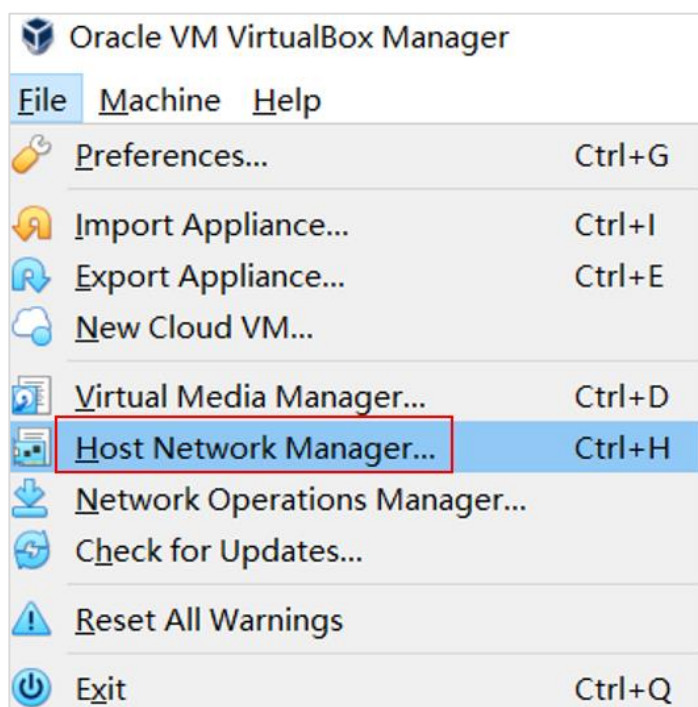
Click File -> Import Applicance.
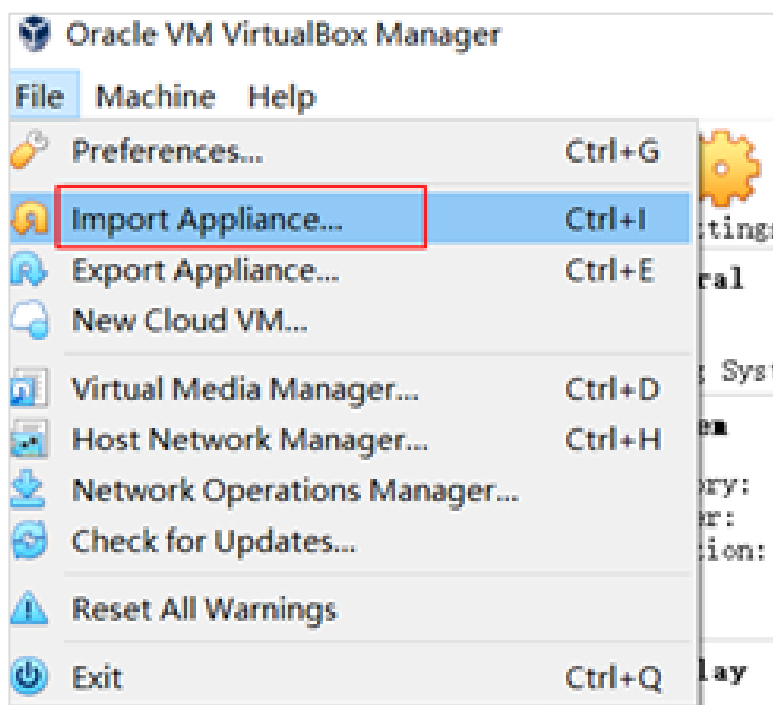
Select the openEuler image package path and import the package.

Step 3 Configure the Host-Only Network.
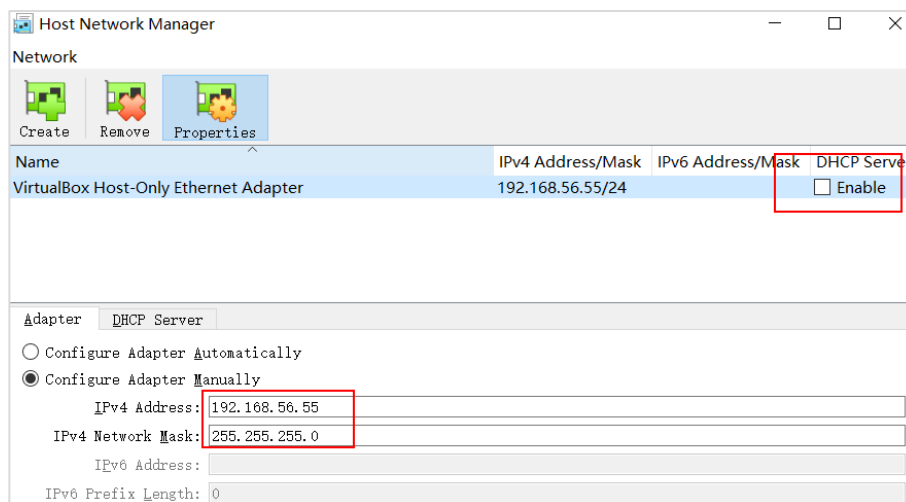
Click File -> Host NetWork Manager.

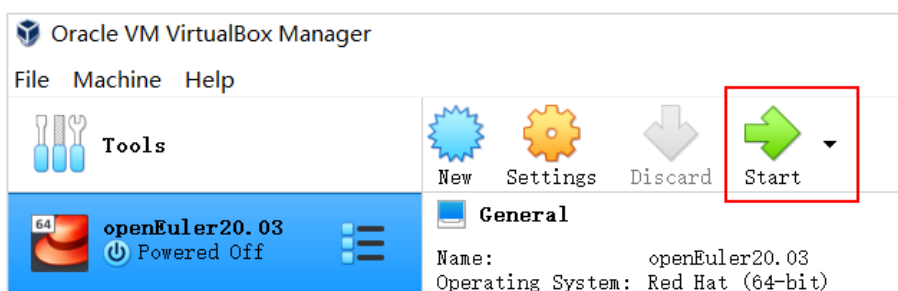Manually Modify the VirtualBox Host-only Network IP.

Disable the DHCP Server and configure adapter manually as shown below.

IPv4 Address: 192.168.56.55
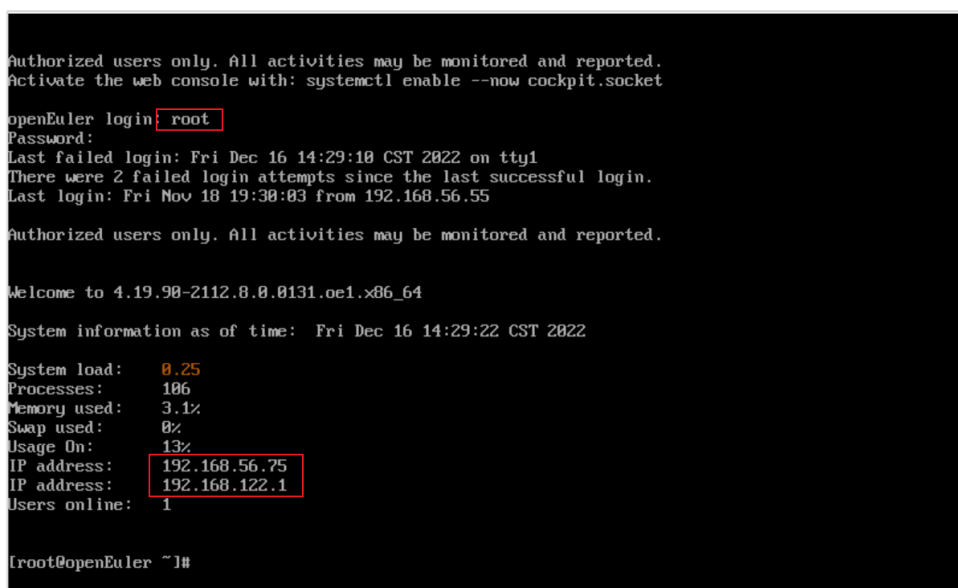
IPv4 Network Mask: 255.255.255.0

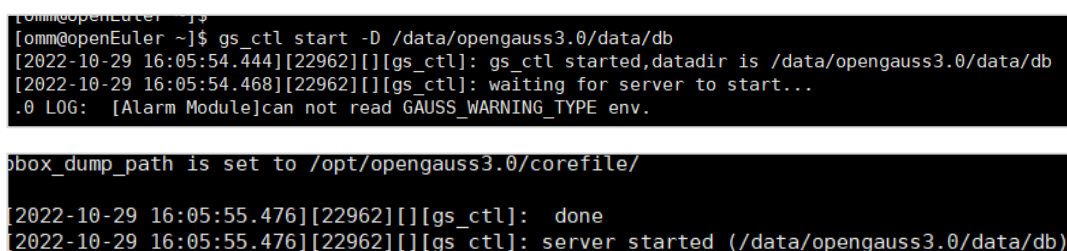**Step 4** Start the Virtual Machine and log in to the openEuler OS.

Login User: root

Login Password: openEuler2022

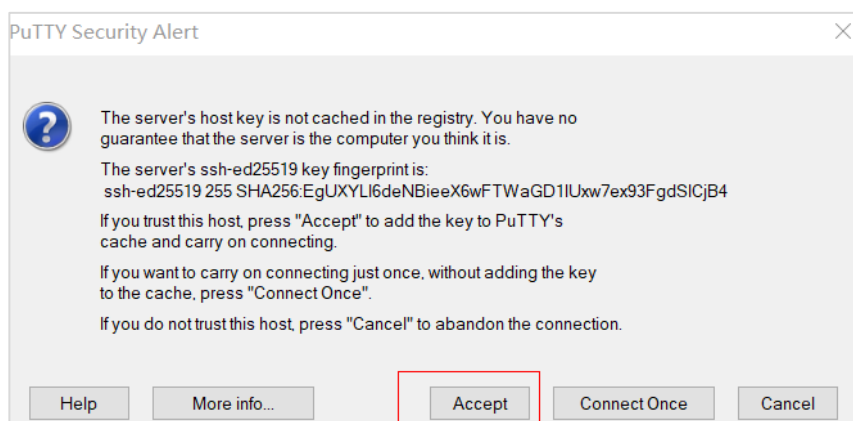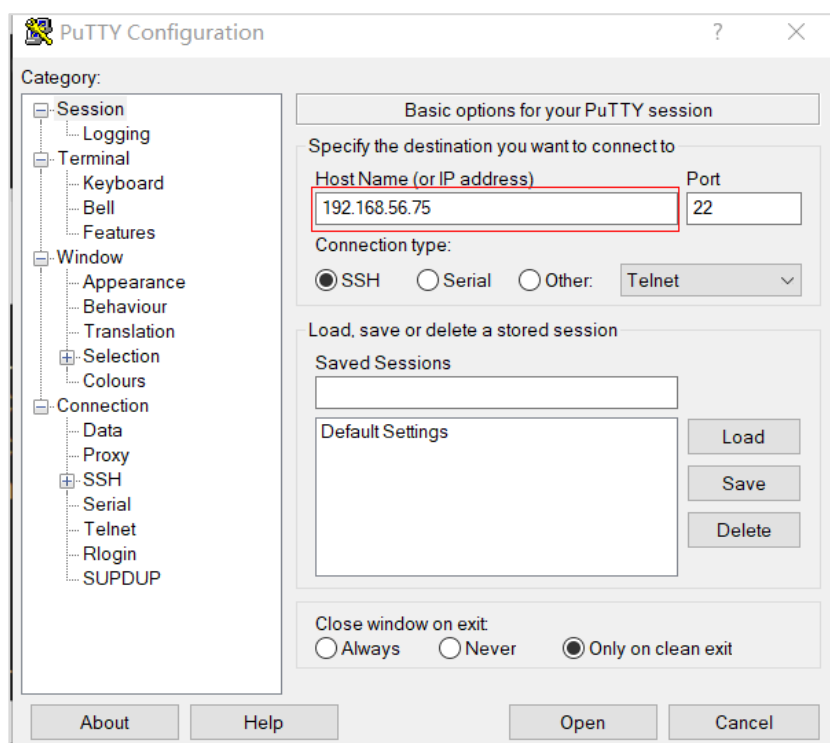**Step 5** Start the openGauss Database.

[root@openEuler ~]# su – omm

[omm@openEuler ~]$ gs_ctl start -D /data/opengauss3.0/data/db

3.2.2 **Checking the VirtualBox Environment**

Check whether the devices, especially the openEuler OS and the openGauss Database, can start properly on VirtualBox.

Step 1 Use PuTTY to log in to the openEuler OS.

Login User: root

Login Password: openEuler2022

Step 2 Confirm the network configuration.

[root@openEuler ~]# ifconfig

Step 3 Check the openGauss process.

[root@openEuler ~]# su – omm

[omm@openEuler ~]$ ps -ef|grep gauss

Step 4 Login the openGauss database.

[omm@openEuler ~]$ gsql -d postgres -p 15432 -r

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[omm@openEuler ~]$ gsql -d postgres -p 15432 -r
gsql ((openGauss 3.0.0 build 02c14696) compiled at 2022-04-01 18:12:19 commit 0 last mr  )
Non-SSL connection (SSL connection is recommended when requiring high-security)
Type "help" for help.

openGauss=#
```

3.3 How to solve the test encounters problems?

If you encounter any problems during the test, please refer to the FAQ below to find a solution. Or contact our examiner.

3.4 Test Results

Fill the test results in the table below.

Computing Test Result.xlsx

4 FAQs

4.1 How do I complete the exam?

The regional exam is a lab exam that lasts for 4 hours. Three examinees in a group work together to complete the exam. The group members can discuss and put their answers in a document and submit one complete answer.

4.2 Can I access online documents or websites during the exam?

During the exam, you can only refer to the following links. Referring to materials that are not included in the exam questions will be considered cheating.

openGauss Website: https://www.opengauss.org/en/

openEuler Website: https://www.openeuler.org/en/

4.3 Is translation software allowed during the exam?

You can only use the software tools installed before the exam. Using other software, including but not limited to translation and chat software, will be considered cheating.

4.4 How do I solve environmental issues during the exam?

The supervisor will check the environment before the exam. Environmental issues occurring during the exam are generally caused by inappropriate operations of the examinee. Read the exam requirements carefully before answering the questions. If the issue persists, ask the supervisor for help.