

WorldSkills UK IT Support Technician

Pre-Competition Activity Pack

NB Please note you are responsible for complying with the health and Safety requirements set out by the competition organiser and host establishment.

(World Skills UK does not have a liability for any injury, loss or damage incurred as a result of competing in skills competitions.)

Memo

From: ITST Lead Judge
To: Competitor
Subject: WorldSkills UK ITST Network

The network has a single Windows Server setup as an Active Directory domain controller. This server contains example files in a shared folder that you can use to help you test the functionality of new PC's before being rolled out to end users. The server also has DNS, File and Web Server services installed.

As part of this competition, you are required to test new software and hardware for use on the WSUK ITST network. For this purpose, you have been given a Base-PC machine to work on. This machine needs to be set-up and connected to the WSUK ITST domain, and you have an individual user account. The NetBIOS name of this machine is Base-XX.

Base-XX has a Windows 10 operating system and is capable of supporting virtual machines using Oracle Virtual Box. The competition team are using this opportunity to introduce Linux based operating systems and android tablets.

You will have an opportunity to demonstrate your skills in UTP structured cabling connections and testing.

There is a folder on the desktop of your Base-XX PC called Evidence XX. This is where you must save all evidence including screenshots and documents from your Virtual Machines. Use the Snipping Tool to grab screenshots.

The camera symbol indicates where a screenshot is required
Name each screenshot with a meaningful filename



Please read all documentation. Complete TASK 1 first and then complete the other tasks in your preferred order

Anywhere you see XX in this document, please replace with your station number provided.

Table 1:

Machines and devices:

WAP – Wireless access point for WSUK ITST domain

DC01– WSUK ITST Server/Domain Controller

Base-XX – Base PC used to host virtual machines using Hyper-V

Win7-XX – Windows 7 virtual machine

LM-XX – Linux Mint virtual machine

TABLET-XX – Android tablet

The following is the configuration in place for the devices already setup:

Device name	DC01
Domain name	ITST.Comp
Domain Username	Tech_user
Password:	P@ssw0rd
IP Address	10.10.10.254 /24
Firewall	Domain: Off; Private: Off; Public: Off
Remote Desktop	disabled
Device name	BASE-XX
Username [at setup]	Tech
Password:	<not set>
IP Address	10.10.10.XX /24
Firewall	Domain: Off; Private: Off; Public: Off
Remote Desktop	Disabled
OS	Windows 10 64 bit pre-installed, 8 GB RAM, SLAT enabled processor
Device name	Wireless access point
Wifi security	WPA2

SSID	WSUKITST
Password:	technician
IP Address	10.10.10.253 /24

The following is the configuration you should use for the devices you are setting up:

MS Windows VMs should use 2048 MB of RAM and a 100 GB dynamic HDD

Device name	Win10-XX
Username [at setup]	Technician
Password:	<not set>
IP Address	10.10.10.XX+1/24
Domain Username	TechnicianXX
Initial Password	P@ssw0rd [change at first login]
OS	Windows 10 VM hosted in Oracle VB

Device name	Win7-XX
Username [at setup]	Technician
Password:	<not set>
IP Address	10.10.10.XX+2/24
Domain Username	TechnicianXX
Initial Password	P@ssw0rd [change at first login]
OS	Windows 7 VM hosted in Oracle VB

Device name	LM-XX
Username [at setup]	Technician

Password: P@ssw0rd
IP Address 10.10.10.XX+3/24
OS Linux Mint Sylvia VM hosted in Oracle VB

Device name Tablet-XX
IP Address 10.10.10.XX+4/24
OS Android tablet

Task 1 for Base-PC

Please save all screenshots and evidence in the Evidence XX folder

- a) Use the details provided in Table 1 to give the Base-PC an IP address and the correct firewall settings.
- b) Install all components of Microsoft Office 2013.
- c) connect to the Base-PC to the WSUKITST network using a wired Ethernet connection d) Join the Base-PC to the domain 

Please alert your judges when this stage has been completed.

- e) Login to the Base-PC using your domain login details [TechnicianXX].
- f) Map a network drive with letter X to the Resources share on the server 
- g) Copy the linux mint VM files from the network drive to the System Images partition -
- h) Locate the quiz from the network drive and move it to the data partition. 
- i) Using Microsoft Office, complete the quiz and save to Evidence XX folder. Save the quiz as a

.doc file.

NOTE: Task 1(i) must be complete [timestamp] no later than 1100. Late submissions will be accepted but awarded less marks.

Using the Command prompt only for the following tasks: j) Display all of

information stored within the arp cache. 

k) Display the list of all installed device drivers. 

l) Load the system information and take a screenshot of the Domain and Login Server details.



Task 2 for Win7-PC [virtual machine]

Create a virtual PC using Oracle VB. You will not be assessed in your use or understanding of Oracle VB. Refer to Oracle VB instructions.

a) Install Windows 7 onto a 50 GB dynamically allocated vdi HDD using the iso image located in the system images partition.

b) Use the details in Table 1 to give the Win7-PC a login account, a device name, and all the correct settings.

c) Join the machine to the ITST.Comp domain via a wired ethernet connection, then reboot the PC.

d) Map a network drive to the Backup partition on the Base-PC and assign it to drive letter M



e) Login to your domain account on the Win7-PC (remember to login, you will need to have network connectivity). Logout and take a screenshot of the C:\Users folder. 

f) Create a restore point called ITComp19XX (with XX being your workstation number) on the M: drive [Backup partition].

g) Create a folder YourName-XX on the root of the C: drive. Set the folder's share permission for Everyone = Full control. Set the NTFS permissions for the Tech_user account on the domain: Modify. 

Please alert your judges when this stage has been completed.

- h) Create two local users: WSUK-Judge (local administrator) and WSUK-Competitor (standard account). Apply a password of P@ssw0rd to both accounts with the following settings:
Passwords for both users should never expire and ensure the competitor cannot change the password. 
- i) Ensure that when the computers are locked, the previous user's username are not displayed. 
- j) Enable Remote Desktop for the TechnicianXX user and set to Network Level Authentication.
- k) Set the homepage for Internet Explorer to http://10.10.10.25 
- l) Test the connection from the Win7-PC to the server DC01. 

Task 3 for Tablet

- a) Connect the tablet to the WSUK ITST Wifi
- b) Locate, download and install a remote desktop app to allow you to remote into the Win7-XX PC
- c) Remote into Win7-XX. Verify this remote connection with the Judge.
- d) On the Notes page [page 9], write the answers to the following questions:
- 172.20.10.91 /28 is an ipv4 address in a subnetwork. What is the Network address, broadcast address and subnet mask of this subnet?
 - 127.0.0.1 is the IPv4 loopback address, What is the IPv6 loopback address?
- e) Take a photo of this page and upload the photo using the file manager to Base-PC. Copy the photo to file to the Evidence XX folder

Task 4 for Linux Mint PC [virtual machine]

Create a virtual PC using Oracle VB. You will not be assessed in your use or understanding of Oracle VB. Refer to Oracle VB instructions.

- a) Add a new Virtual Machine using the Linux Mint Sylvia VM located in the system images partition.
- b) Use the details in Table 1 to give the LM-PC a login account, a device name, and all the correct settings. 
- c) Using the Command prompt test the connection from the LM-XX PC to the server DC01. 
- d) Install Cisco packet Tracer for Linux. Browse for the install file on 10.10.10.254. Verify this with the Judge.

Task 5 for Windows 10 [virtual machine]

Create a virtual PC using Oracle VB. You will not be assessed in your use or understanding of Oracle VB. Refer to Oracle VB instructions.

- a) Install Windows 10 onto a 50 GB dynamically allocated HDD using the iso image located in the system images partition.
- b) Locate the BIOS settings within the Windows 10 OS and take a screenshot. 
- c) Enable the local administrator account, and set the password to P@ssw0rd -
- d) Logoff the original user, and login with the Administrator account you have enabled.
- e) Delete the original user using the Computer Management console.
- f) Ensure the user's profile has been erased from the hard drive by looking at the profile settings in the System Properties. Take a screenshot of this window that should show the default profile, and the local administrator's profile *only*. 

Add a 2nd and 3rd Hard Disk Drive to the Win10 VM [see Oracle VB instructions] Each drive should be a 50GB dynamically allocated HDD

g) Using the Windows 10 Disk Management utility, create the following disk partitions on the Win10 PC:

20 GB spanned volume[partition] named SPAN and mapped to drive letter J:

20GB striped volume named STRIPE and mapped to drive letter K:

10 GB mirrored volume[partition] named MIRROR and mapped to drive letter L:



h) If you needed to create a 20 GB Raid5 volume[partition] what would you need to do to the VM setup? Write your answer in the notes section [page 9]

Task 6 - UTP structured cabling

Use the cabling tools provided to create a straight-thro connection between a wall socket and patch panel. Test the wall socket connection and if it is GOOD connect BASE-XX PC to the WSUK Network using wall socket and patch panel.

Minimise untwisting of the UTP strands when terminating connections.

Ensure that all screenshots taken throughout the competition from virtual machines are saved in the Evidence XX folder and labelled clearly with meaningful filenames in appropriate sub folders

Notes: