



# Computing Architecture /Networking Technologies

CA2

**Abstract**

Install Operating System / / Configure Network

XIAOHUI WENG  
2020387

# Install Operating System / / Configure Network

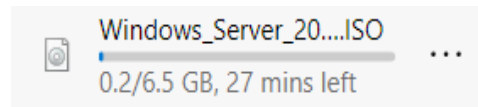
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# Install Operating System

## Task A: Renaming the servers

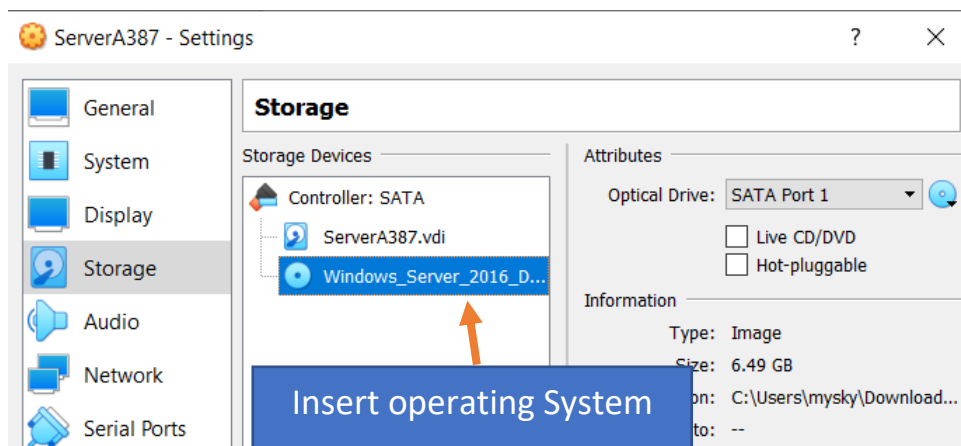
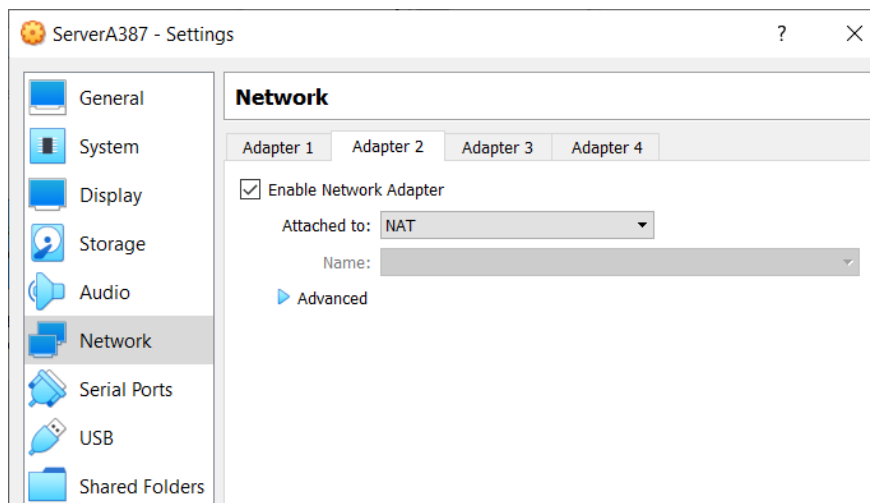
### Step1: Install Virtua Box and a server operating system



Server 2016 ISO disk image for the virtual machine, you cannot double click it. Otherwise it will install in your real computer.

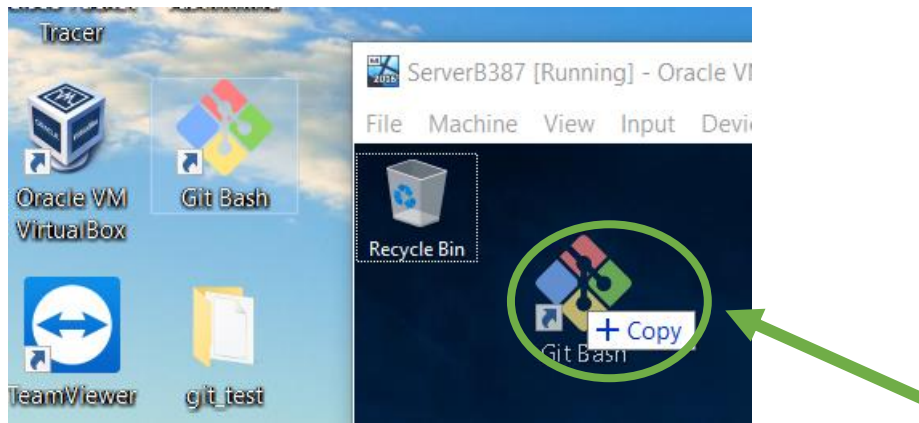
### Step2: Create virtual machines

#### 1. Enable Network Adaptor and Insert operating System



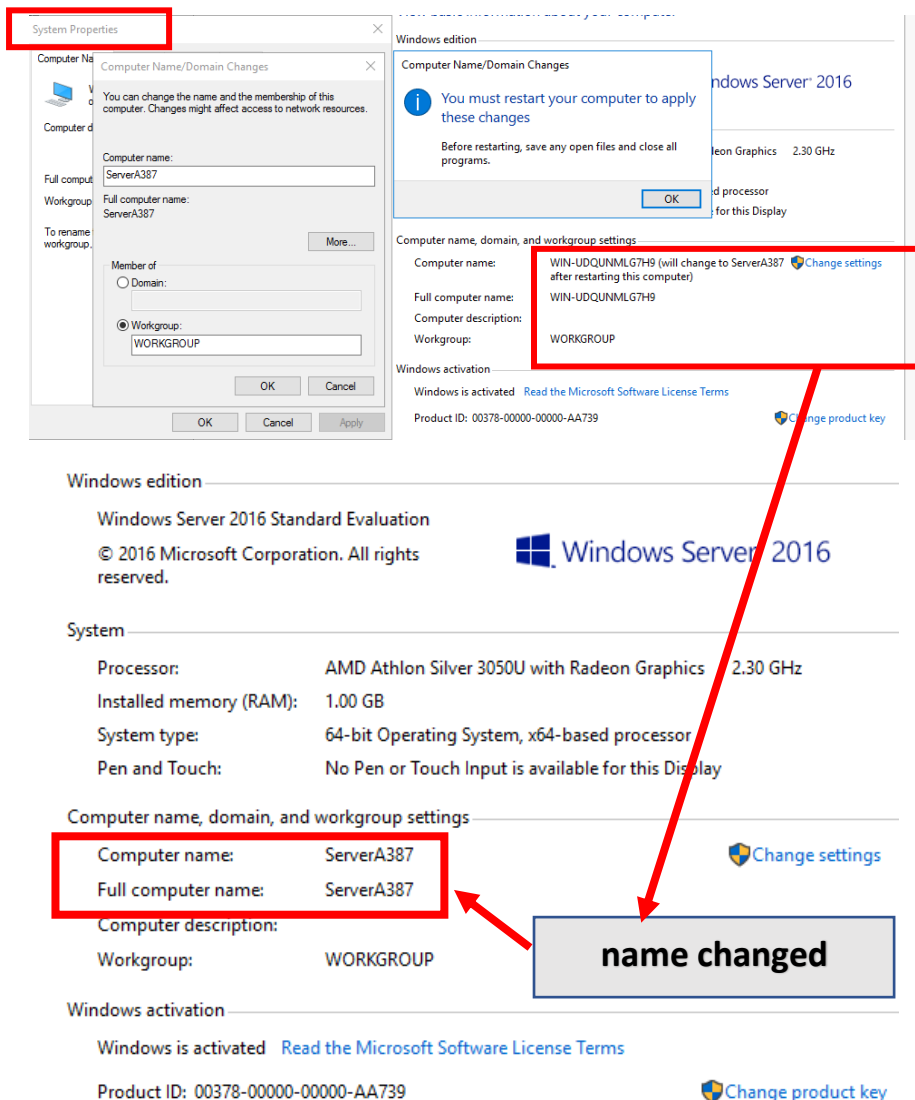
#### 2. Install Guest additions CD image

To be easy to copy files form the real computer to virtual machine



### Step3: Rename virtual machines by System properties and PowerShell

#### 1.Rename Server A by System properties



## 2. Rename Server B by PowerShell command

ServerB387 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> hostname
WIN-GG7KJNUV5UG
PS C:\Users\Administrator> Rename-computer ServerB387
WARNING: The changes will take effect after you restart the computer WIN-GG7KJNUV5UG.
PS C:\Users\Administrator> Rename-computer ServerB387 -restart
```

ServerB387 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

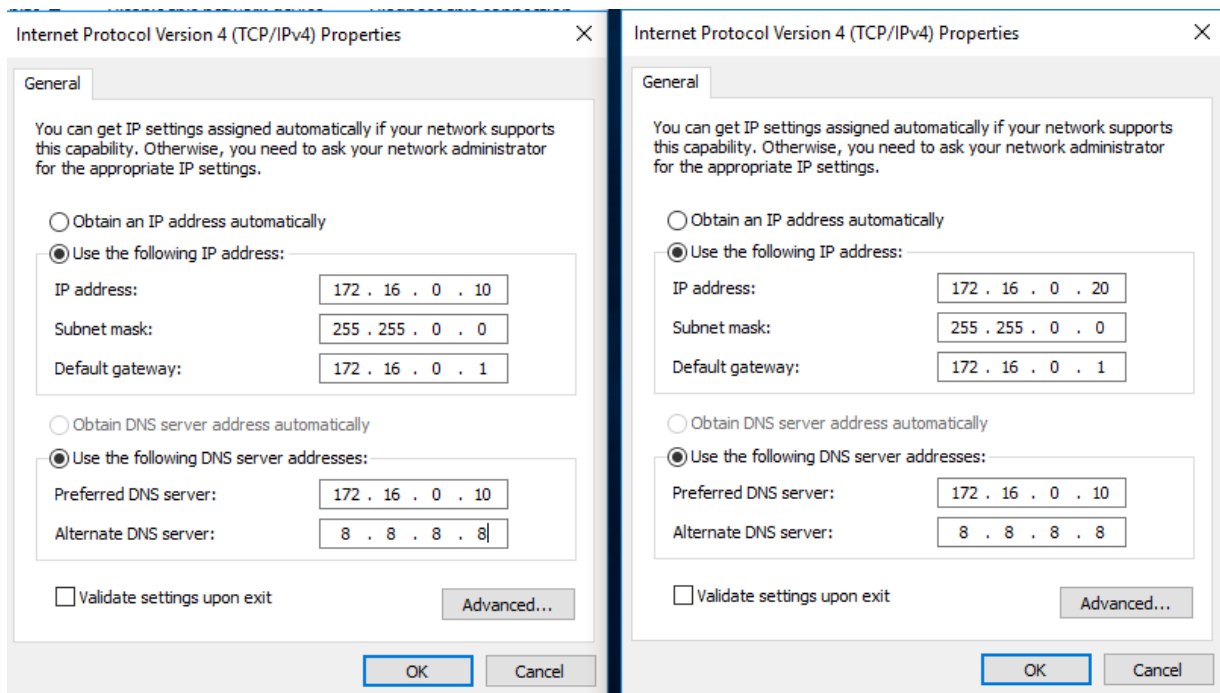
PS C:\Users\Administrator> hostname
ServerB387
PS C:\Users\Administrator>
```

name changed

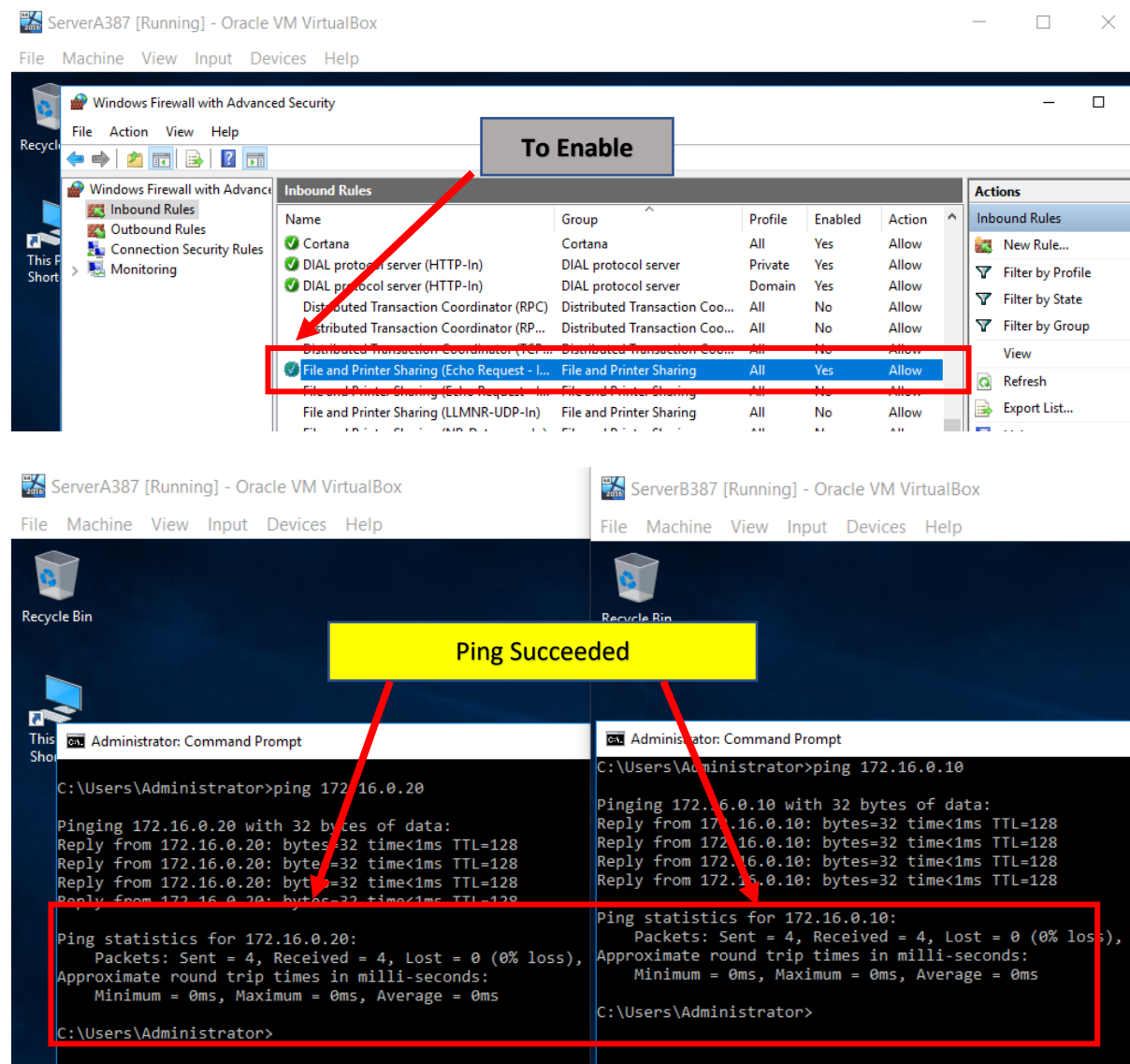
# Configure Network

## Task B: Network the two servers

### Step1: Set IP address



## Step2: Enable ICMP rule to connect



## Task C: Report

To install Operating System, there is a main thing which should be careful not to install it in your real computer. Once we created the virtual machine must enable network adapter to connect other machines. To connect two machines that must set up IP address. In order to recognize and communicate with other machines. Before ping two virtual machines can turn off the firewall to ping, but it is not a good idea. A firewall likes a security barrier to the system, insulating it from all dangers. By shutting down the firewall, the system is vulnerable to network attacks and the computer becomes insecurity. Instead of turning off the firewall, we can enable ICMP rule to ping. "The Ping program works much like a sonar echo-location. It sends a small packet of information containing an ICMP ECHO\_REQUEST to a specified computer, which then sends an ECHO\_REPLY packet in return." (ICMP Ping explained, 2020)

# TASK D: Internet RFCs and RFC 1918

## RFCs

It contains almost all the important written information about the Internet. If you want to become an expert in networking, then RFC is undoubtedly one of the most important and most frequently used materials. Usually, when an organization or group develops a set of standards or proposes an idea for a standard, and wants to seek outside opinion, it issues an RFC on the Internet. People interested in the issue can read the RFC and give their opinion. The vast majority of web standards specified in the form of RFC start, after a lot of argument and modification process, specified by the main organization for standardization, but recorded in RFC documents are not in use or is known, there are a large part of only used in some local areas were or were not used, a RFC specifically in what state is made clear in the file. (Request for Comments, 2020)

## RFC 1918

It is private IP address space which is not routable. Private IP is often used for some schools, companies or banks. This address space can be used by many companies. Addresses in private address Spaces are only guaranteed to be unique within an enterprise or within a group of enterprises that choose to communicate cooperatively within that space so that they can communicate within their own private networks.

RFC 1918 defines the private IP address range:

RFC1918 name	IP address range	Number of addresses	Largest CIDR block (subnet mask)
24-bit block	10.0.0.0 – 10.255.255.255	16 777 216	10.0.0.0/8 (255.0.0.0)
20-bit block	172.16.0.0 – 172.31.255.255	1 048 576	172.16.0.0/12 (255.240.0.0)
16-bit block	192.168.0.0 – 192.168.255.255	65 536	192.168.0.0/16 (255.255.0.0)

(Private network, 2020)

# References

Activexperts.com. 2020. ICMP Ping Explained. [online] Available at:

<<https://www.activexperts.com/network-component/tutorials/ping/>> [Accessed 6 November 2020]

En.wikipedia.org. 2020. Request for Comments. [online] Available at:

<[https://en.wikipedia.org/wiki/Request\\_for\\_Comments](https://en.wikipedia.org/wiki/Request_for_Comments)> [Accessed 6 November 2020]

En.wikipedia.org. 2020. Private Network. [online] Available at:

<[https://en.wikipedia.org/wiki/Private\\_network](https://en.wikipedia.org/wiki/Private_network)> [Accessed 6 November 2020]