Sri Lanka Institute of Information Technology

4th Year – 1st Semester

ESBPII

Assignment 6

VMOTION

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Weekday Batch

What is Vmotion?

VMware VMotion enables the live migration of running virtual machines from one physical server to another with zero downtime, continuous service availability, and complete transaction integrity. It is transparent to users.

vSphere Migration

The process of moving a virtual machine from one host or storage location to another.

vSphere Migration Types

- Cold migration

  Moves a powered-off virtual machine to a new host. Optionally, can relocate configuration and disk files to new storage locations. Cold migration can be used to migrate virtual machines from one datacenter to another.

  If a virtual machine is shut down, can move it to a different cluster, resource pool, or host by copying all virtual machine files to a different directory.

- Migration of a suspended virtual machine

  Moves a suspended virtual machine to a new host. Optionally, can relocate configuration and disk files to new storage location. Can migrate suspended virtual machines from one datacenter to another.

- Migration with VMotion

- Migration with Storage VMotion

Moves the virtual disks or configuration file of a powered-on virtual machine to a new datastore. Migration with Storage VMotion allows to move a virtual machine's storage without interruption in the availability of the virtual machine.

Storage VMotion allows to move a running virtual machine from one VMFS volume to another. Taking the virtual machine or its associated storage offline is not required. All datastore types are supported, including local storage, VMFS, and NAS (network attached storage).

Can place the virtual machine and all its disks in a single location, or select separate locations for the virtual machine configuration file and each virtual disk. The virtual machine remains on the same host during Storage VMotion.

To perform storage VMotion, use the VirtualMachine.RelocateVM_Task method. The Relocate VMSpec passed in to the method allows to specify the target data store and target host or resource pool.

VMware VMotion

VMware VMotion allows the live migration of running virtual machines from one physical server to another with zero downtime, continuous service availability, and complete transaction integrity.

VMotion can be used to

- Improve hardware utilization.
- Allow continued virtual machine operation while accommodating scheduled hardware downtime.
- Allows vSphere Distributed Resource Scheduler to balance virtual machines across hosts.
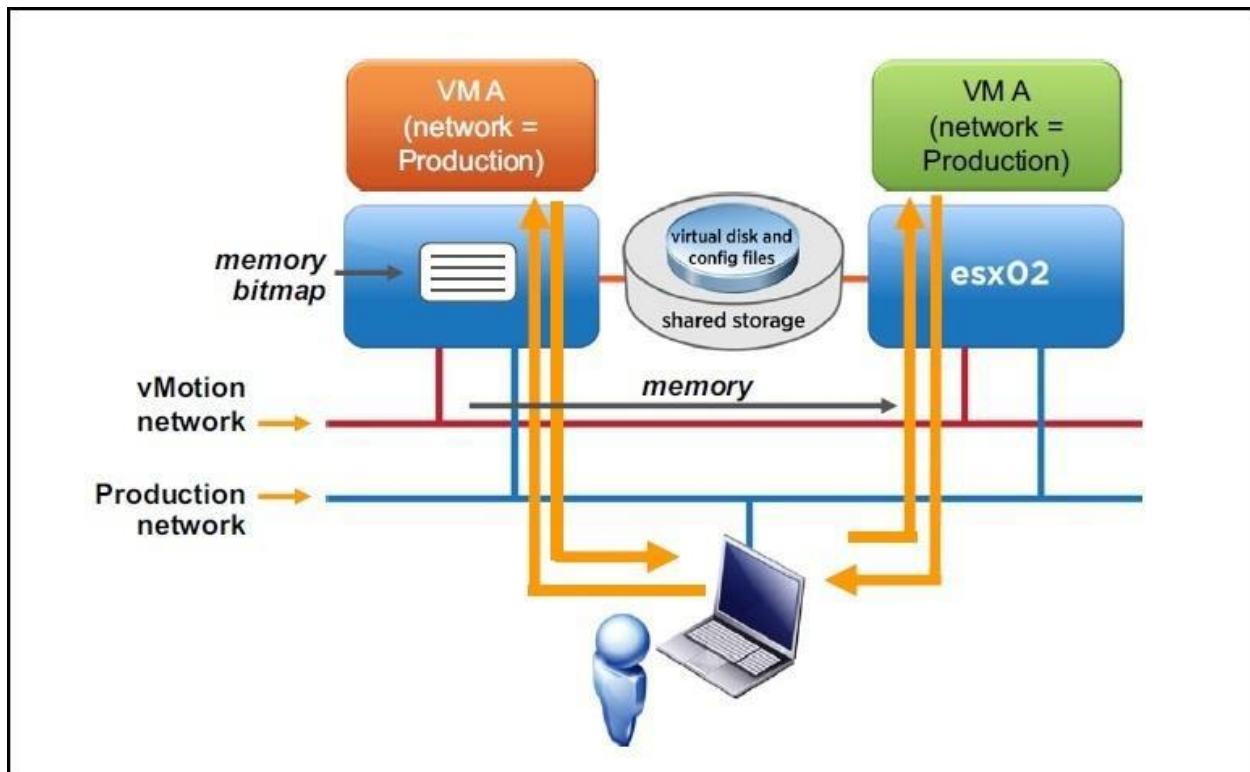
Requirements to perform vMotion

- Must have a shared storage, between two hosts.

No need to copy have to copy only the memory status.

- vMotion network.

- Production network.

- Must not have a connection to a virtual device.

- Virtual machines cannot have a connection to a vSwitch.

- Must not have CPU affinity configured.

Source and destination hosts must have.

- Visibility to all storage used by the virtual machine

- At least a Gigabit Ethernet network

- Access to the same physical networks

- Compatible CPUs
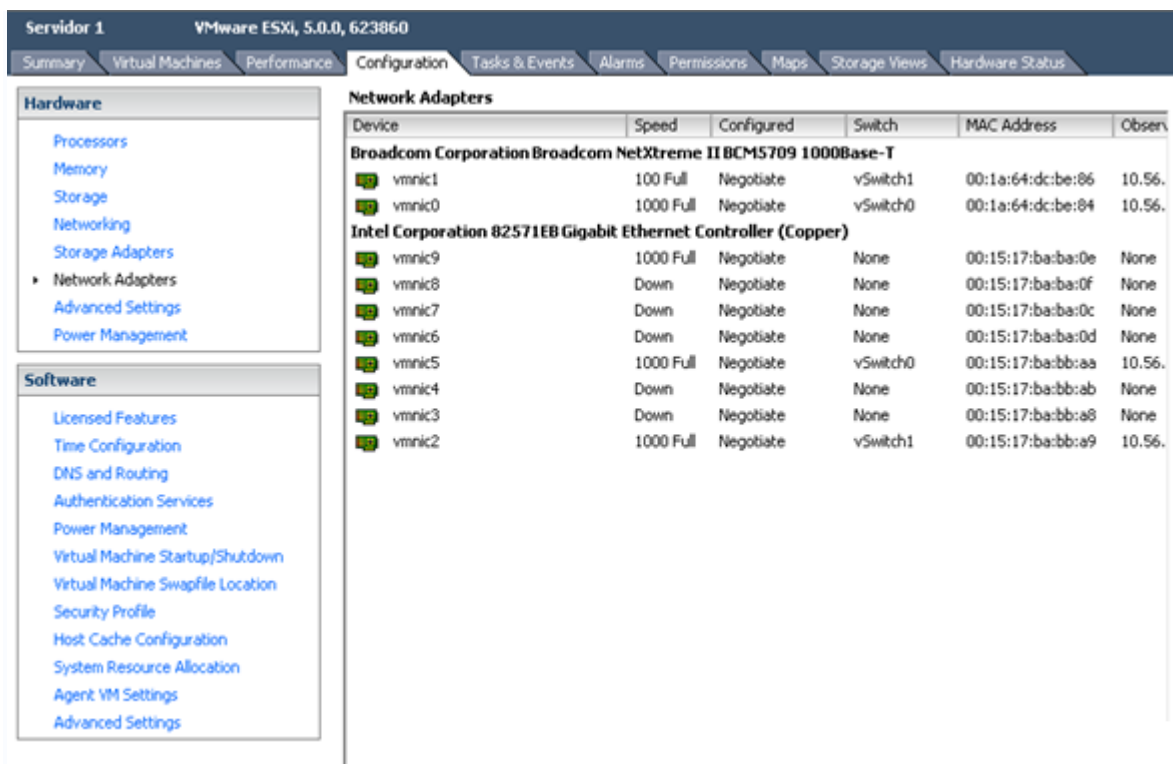
vMotion pros:

- Dynamic allocation services of the software allow you to allocate resources and memory while the processes are running.

- Security service of the software is flexible and allows you to implement user defined policy enforcement.

- The software supports all major operating systems as well as wide range of hardware.

- vMotion allows to precisely identify the optimal placement for virtual machine.

- Virtual machines can be optimized within resource pools automatically.

vMotion cons:

- There is no module for performance management on the software.
- Unlike its competitors, the software does not offer any reporting capabilities.
- Configuration features of the software do not include auto recovery, configuration history, and NIC teaming capabilities.
- There are no performance management features of adaptive analysis, memory compression, and continuous resource allocation on the software.

1. tab **Configuration-> Networking**

2. Click on **Add Networking** to create the vSwitch.

3. Select **VMKernel** and click on **Next.**
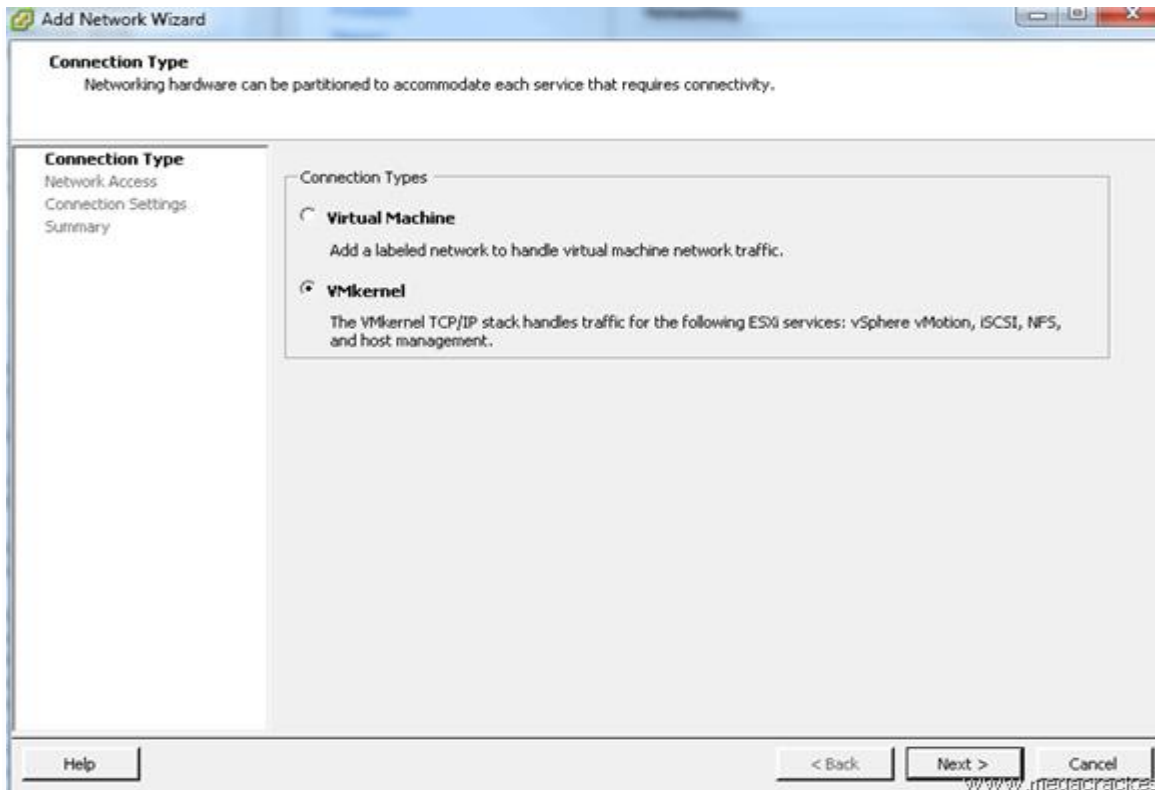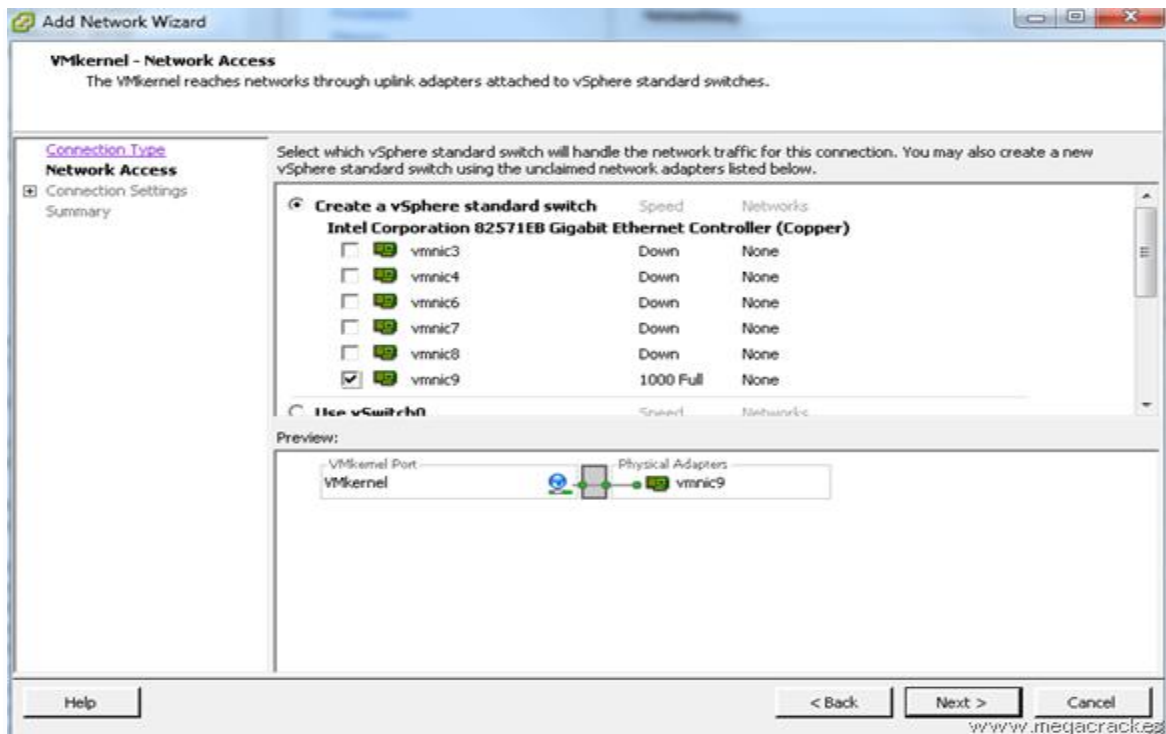
4. We set **Use this port group for vMotion.**

We wrote a **Label Network** different if you want example we put **Vmotion.**
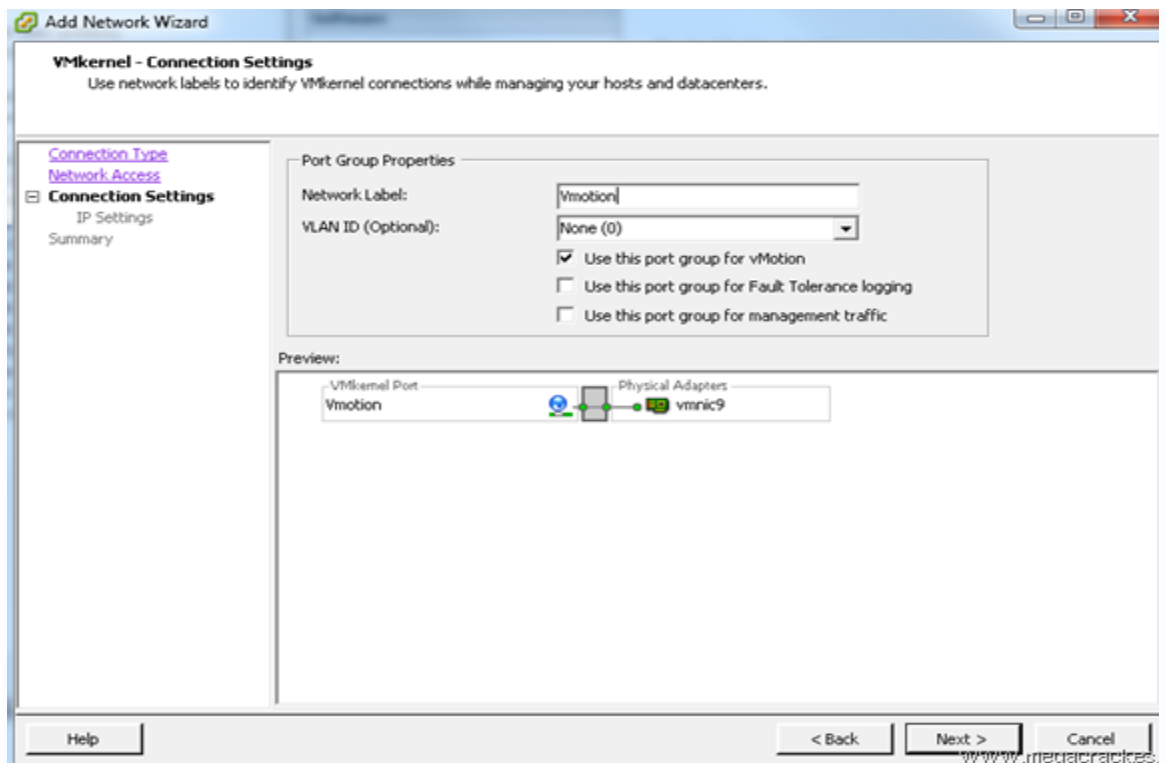
5. **IP Address: 50.50.50.1**
   Subnet Mask: 255.255.255.252 (Since we will use only 2 ip's).
   Click on **Next.**
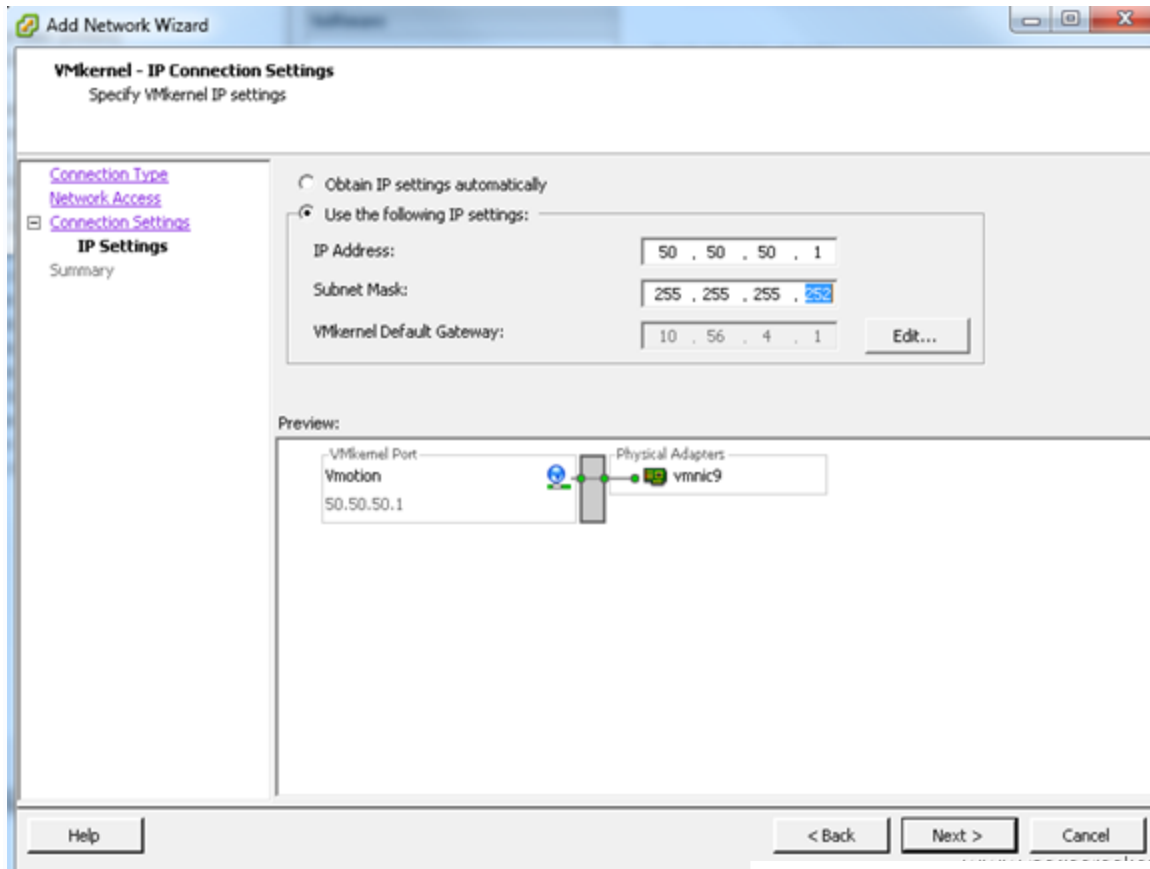
6. Click on **Finish.**
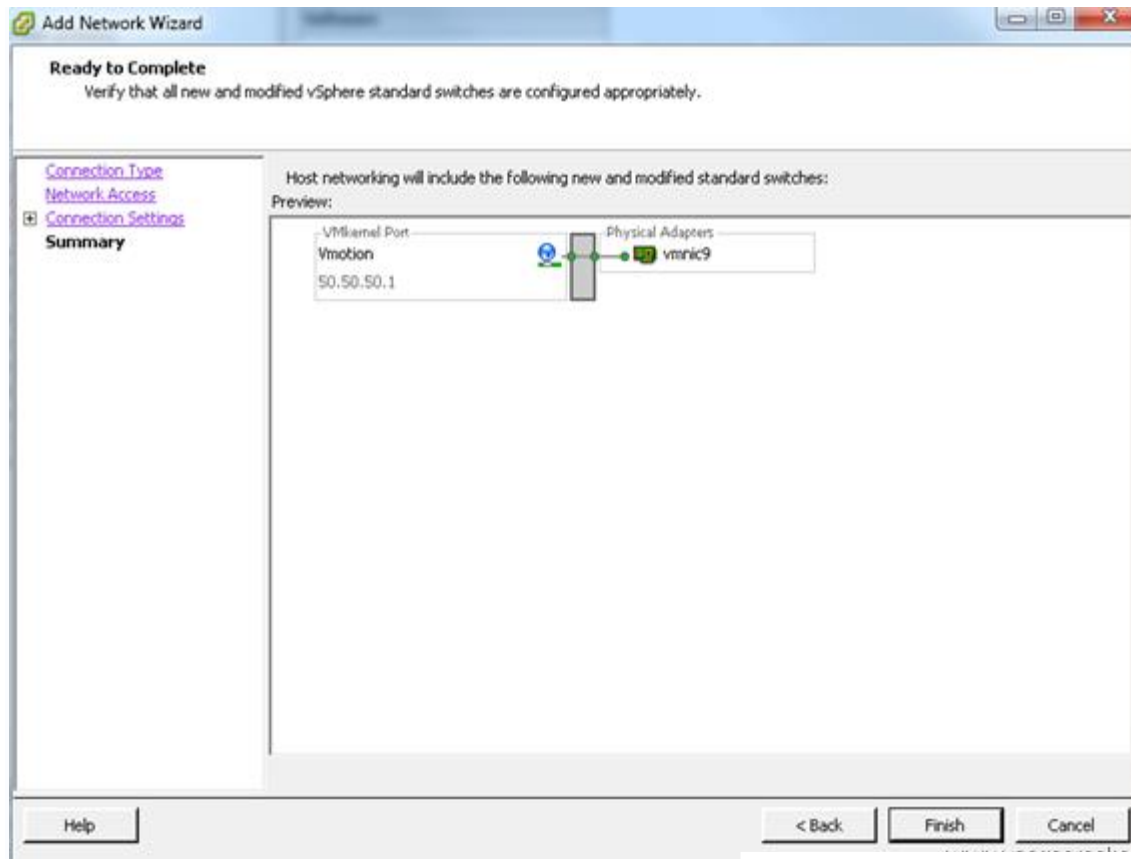
7. We select the tab **Configuration-> Network Adapters** and we see that we have visibility of the new connections.
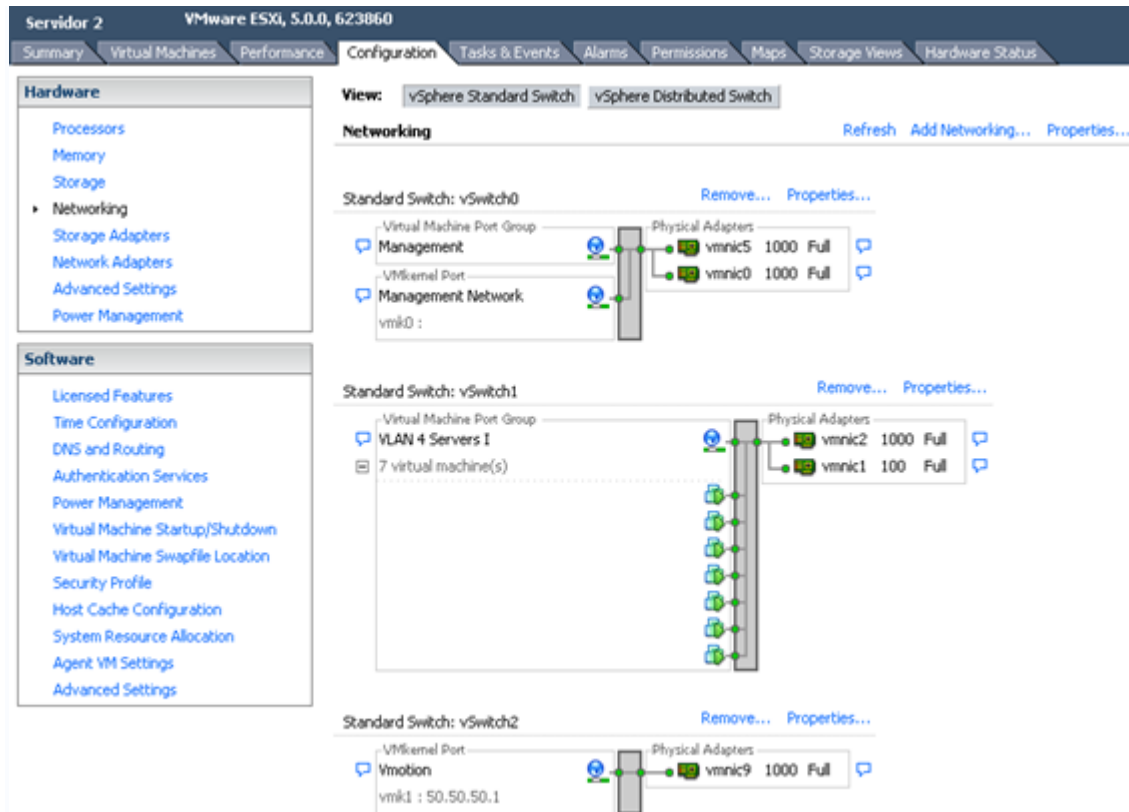
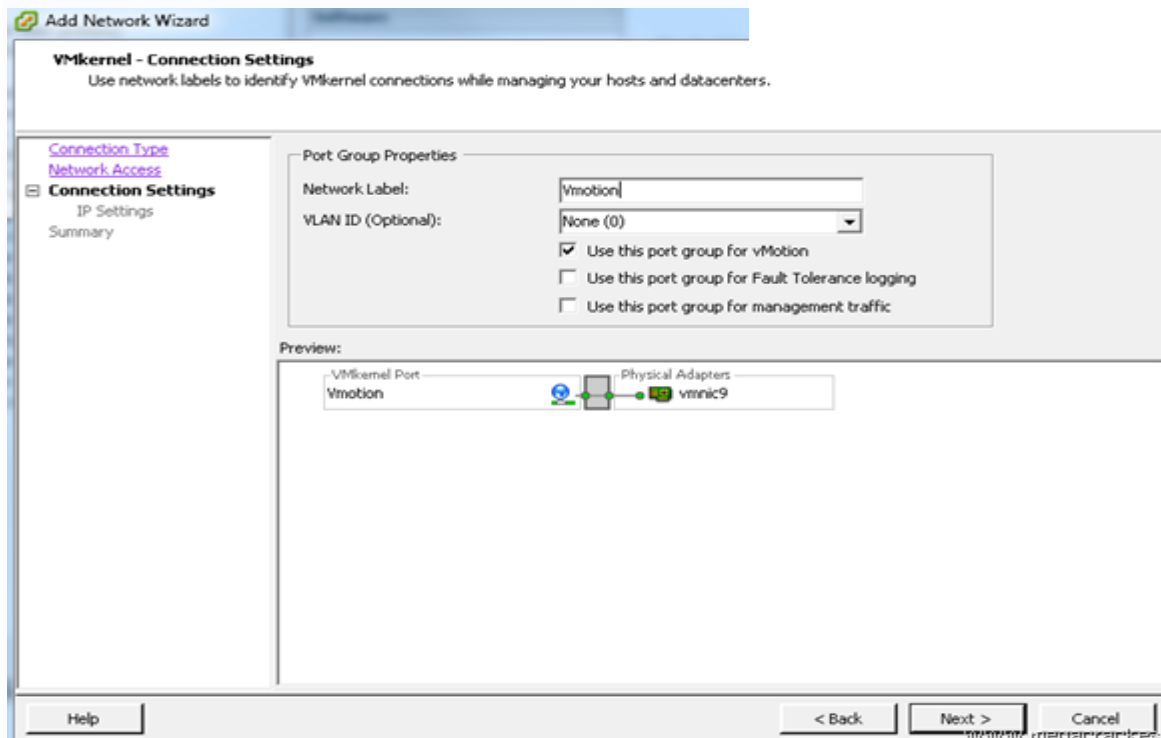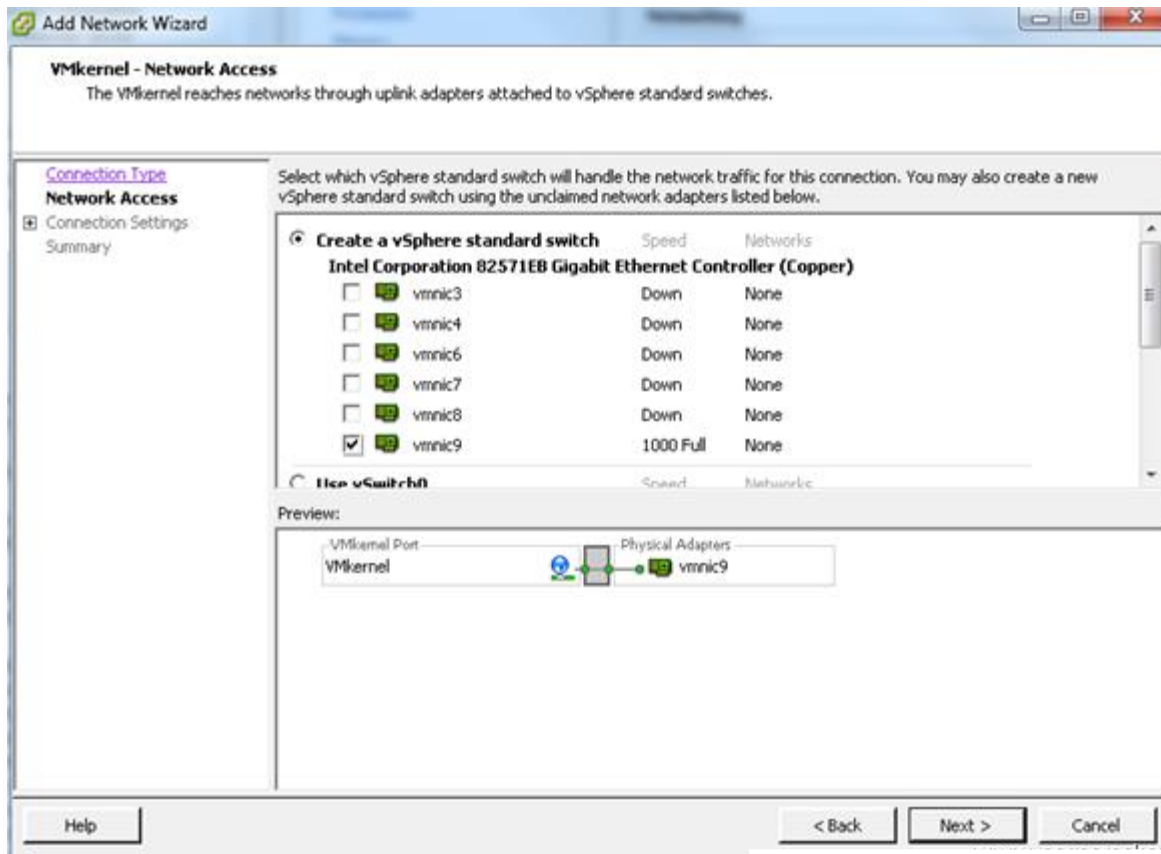8. Now look at the tab **Configuration-> Networking**

9. Click on **Add Networking** to create the vSwitch.

10. Select **VMKernel** and click on **Next.**
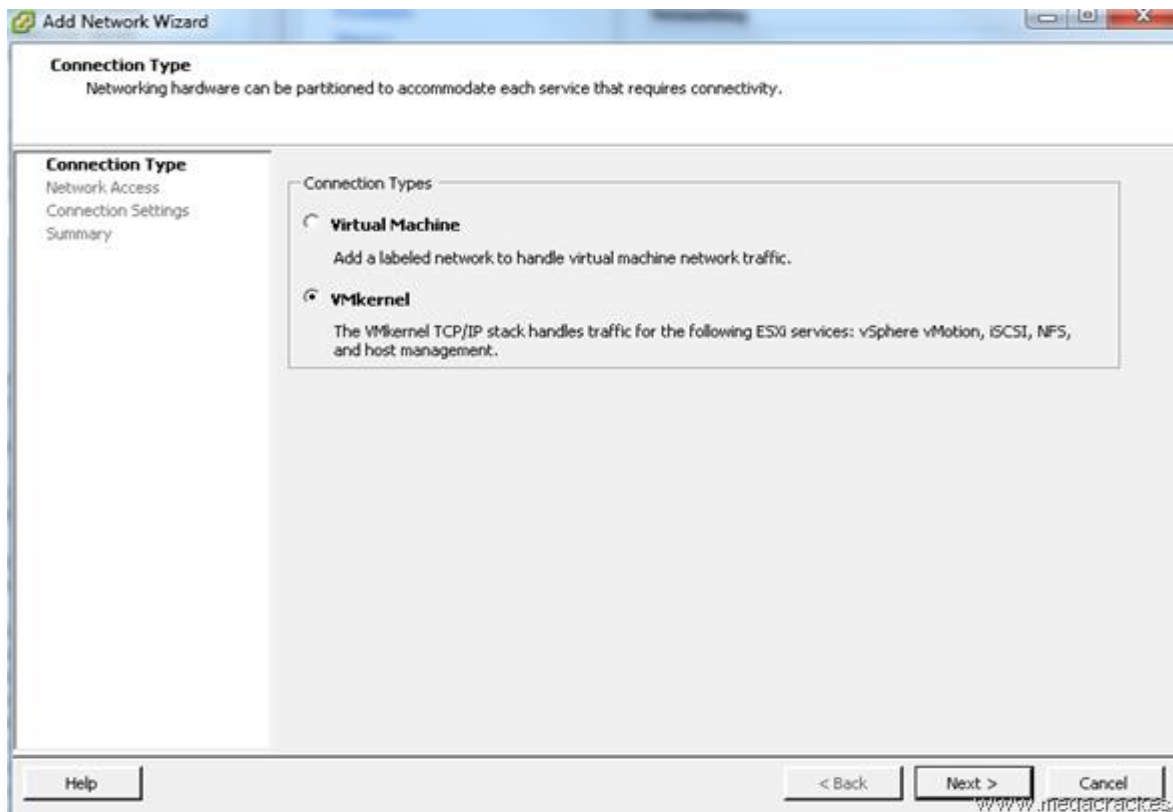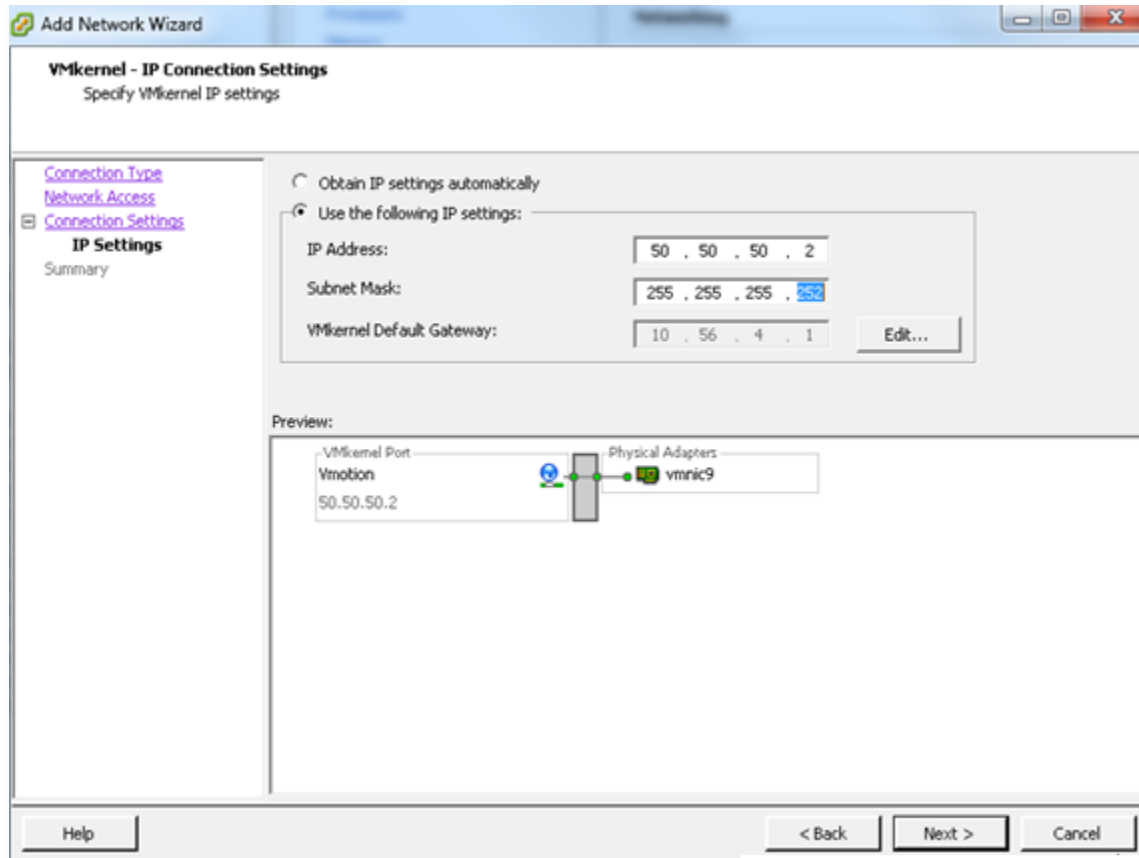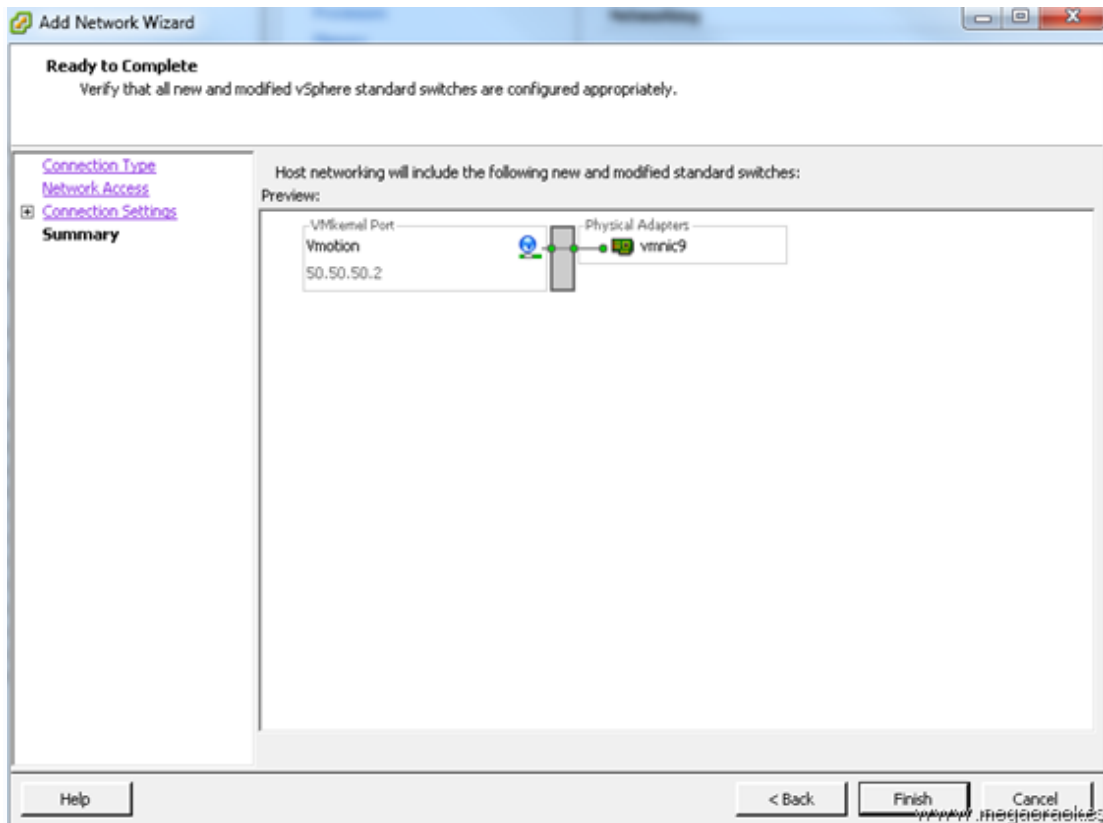
11. **Use this port group for VMotion.**

12. **IP Address: 50.50.50.2** (This ip must be different from the server that configured earlier 1).

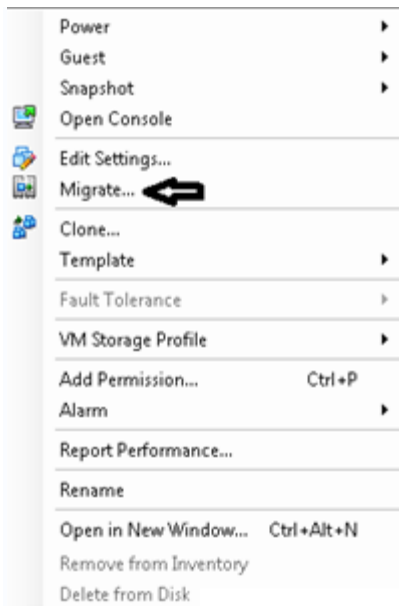**Subnet Mask: 255.255.255.252**

Click on **Next.**
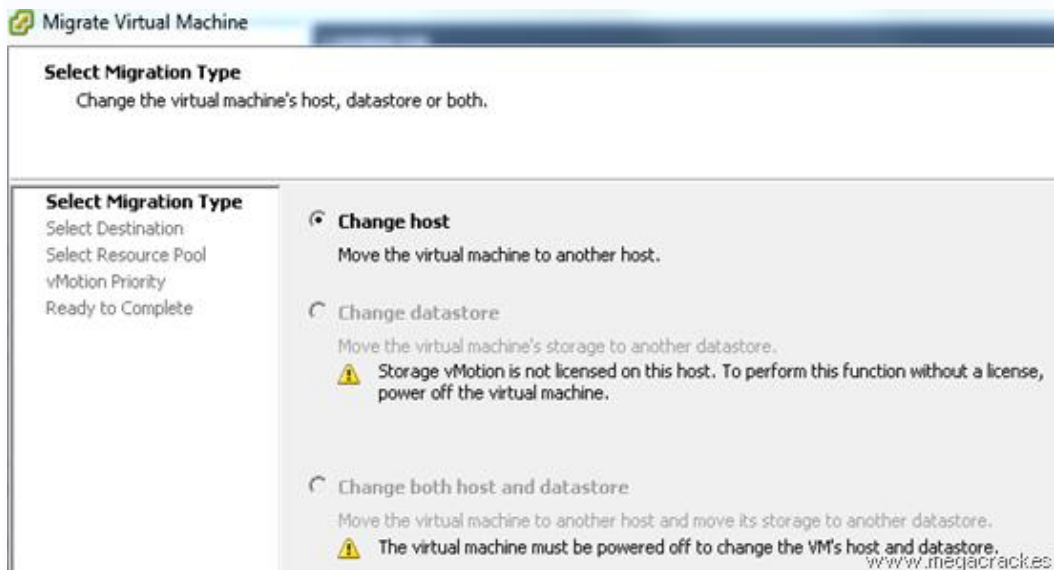
13. Click on **Finish**.

Now what we will do to ensure that the entire system is working properly migrate a VM from one ESXi to the other using Vmotion functionality you just configured.
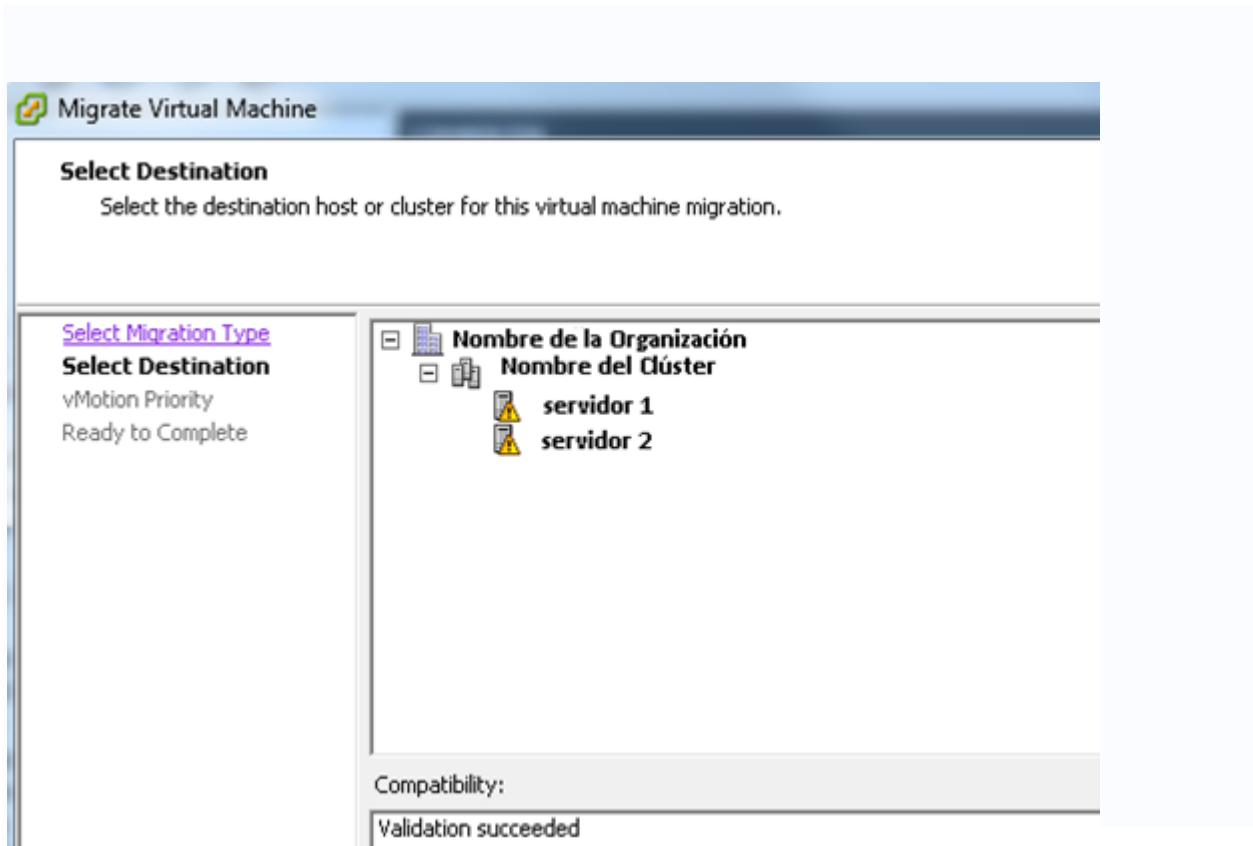
14. Click on **Migrate.**

15. Click on **Next.**

16. Select the target server where to move the virtual machine.

Click on **Next.**

17. Click on **Next.**

Migrate Virtual Machine

Ready to Complete
Click Finish to start migration

Select Migration Type
Select Destination
vMotion Priority
Ready to Complete

Host: **servidor 2**
Datastore: Current Location
vMotion Priority: High priority

:rack.es

Click on **Finish** to start the migration.

Name	Target	Status	Initiated by	Requested Start Ti... ▽	Start Time	Completed Time
✔ Migrate virtual machine	🔒 CONVERTER	✓ Completed		22/10/2012 14:55:02	22/10/2012 14:55:02	22/10/2012 14:55:49