Assignment 1

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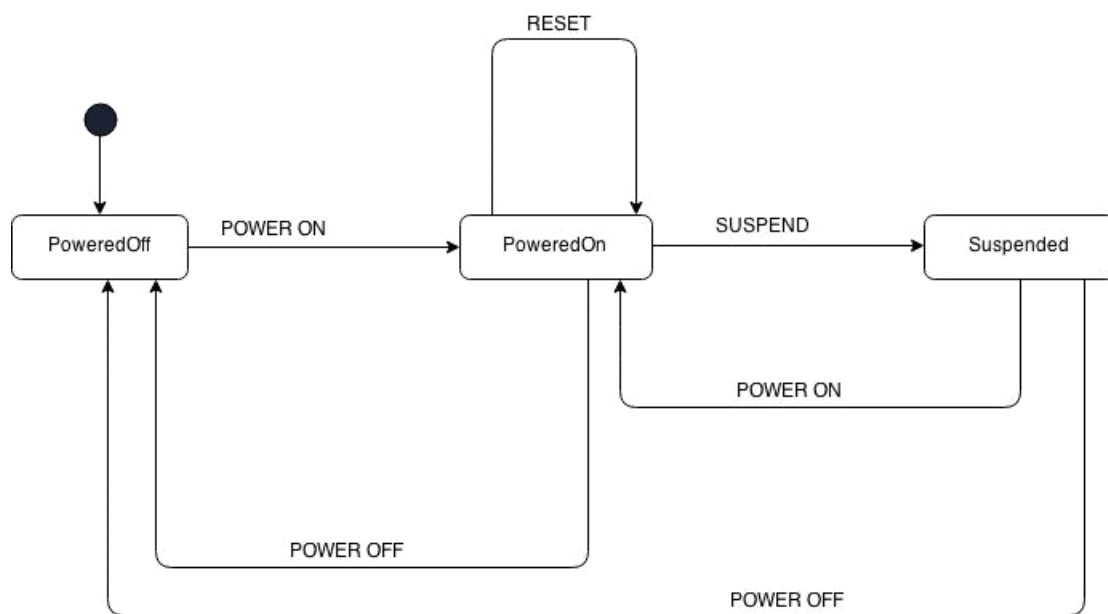
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Part I:

State Diagram:

Figure 1: State Diagram

Part II:

1. Java Command Line Application:

1. Enumerate all Hosts:

Application Results:

```
root:ha-folder-root

Host Namelocalhost.localdomain

Product Full Name: VMware ESXi 5.5.0 build-2068190

Datastore Name: datastore1    Capacity: 34896609280
FreeSpace: 2773483520

Network: VM Network
```

Figure 2:Host And DataStore Details

Verification:

DataStore Details:

NAME	TYPE	VALUE
accessible	boolean	true
capacity	long	34896609280
datastore	ManagedObjectReference:Datastore	54fe4968-aff91713-fa32-000c29a89499 (datastore1)
dynamicProperty	DynamicProperty[]	Unset
dynamicType	string	Unset
freeSpace	long	2773483520
maintenanceMode	string	Unset
multipleHostAccess	boolean	Unset
name	string	"datastore1"
type	string	"VMFS"
uncommitted	long	2597905338
url	string	"/vmfs/volumes/54fe4968-aff91713-fa32-000c29a89499"

Figure 3: Datastore Details

Host Details:

1. Product Full Name

dynamicProperty	DynamicProperty[]	Unset
dynamicType	string	Unset
fullName	string	"VMware ESXi 5.5.0 build-2068190"
instanceUuid	string	Unset

Figure 3: Product Full Name

2. Host Name

hardware	HostHardwareInfo	hardware
licensableResource	HostLicensableResourceInfo	licensableResource
name	string	"localhost.localdomain"
network	ManagedObjectReference:Network[]	HaNetwork-VM Network (VM Network)
overallStatus	ManagedEntityStatus	"green"

Figure 4: Host Name

3. Network Name

host	ManagedObjectReference:HostSystem[]	ha-host (localhost.localdomain)
name	string	"VM Network"
overallStatus	ManagedEntityStatus	"green"

Figure 5:Network Name

2. Enumerate All VMs:

1. Print Out VM Details

Program Output

VM1 Output:

```
************************Ubuntu14.4-654-1************************

VM Name Ubuntu14.4-654-1

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn
```

Figure 6: VM1 Details

VM2 Output:

```
************************Ubuntu14.4-654-2************************

VM Name Ubuntu14.4-654-2

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn
```

Figure 7:VM2 Details

2. Power Off All VMs That Are Powered On

VM1 Power Off Task:

```
************************Ubuntu14.4-654-1***********************

VM Name Ubuntu14.4-654-1

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn

Task Name:PowerOffVM_Task

Task Start Time:Mon Mar 09 20:44:01 PDT 2015

Ubuntu14.4-654-1 : Is Now Powered Off

Completion Time:Mon Mar 09 20:44:02 PDT 2015
```

Figure 8: VM1 Power Off And Tasks

VM2 Power Off Task:

```
************************Ubuntu14.4-654-2***********************

VM Name Ubuntu14.4-654-2

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn

Task Name:PowerOffVM_Task

Task Start Time:Mon Mar 09 20:44:02 PDT 2015

Ubuntu14.4-654-2 : Is Now Powered Off
```

Figure 9 : VM2 Power Off And Tasks

Verification Snapshot

Description	Type	Date Time	Task	Target	User
User root@192.168.16.1 logged out (login time:3 /9/2015 8:44:00 PM, number of API invocations: 0, user agent: Java/1.8.0_40)	info	3/9/2015 8:44:03 PM			root
Ubuntu14.4-654-2 is powered off	info	3/9/2015 8:44:03 PM		Ubuntu14....	root
Ubuntu14.4-654-2 is stopping	info	3/9/2015 8:44:02 PM		Ubuntu14....	root
Ubuntu14.4-654-1 is powered off	info	3/9/2015 8:44:02 PM		Ubuntu14....	root
Ubuntu14.4-654-1 is stopping	info	3/9/2015 8:44:01 PM		Ubuntu14....	root

Figure 10: Verification Log Of Power On And Off

3. Run Your Program Twice:

VM Power Off And Power On

Program Output

       VM1 Power Off And VM2 Power On:

```
***********************Ubuntu14.4-654-1***********************

VM Name Ubuntu14.4-654-1

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOff

Task Name:PowerOnVM_Task

Task Start Time:Mon Mar 09 21:52:54 PDT 2015

Ubuntu14.4-654-1 : Is Now Powered On

Completion Time:Mon Mar 09 21:52:54 PDT 2015

***********************Ubuntu14.4-654-2***********************

VM Name Ubuntu14.4-654-2

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn

Task Name:PowerOffVM_Task

Task Start Time:Mon Mar 09 21:52:54 PDT 2015

Ubuntu14.4-654-2 : Is Now Powered Off

Completion Time:Mon Mar 09 21:52:55 PDT 2015
```

Figure 11: VM1 Power Off And VM2 Power On

Task Verification Screenshot:

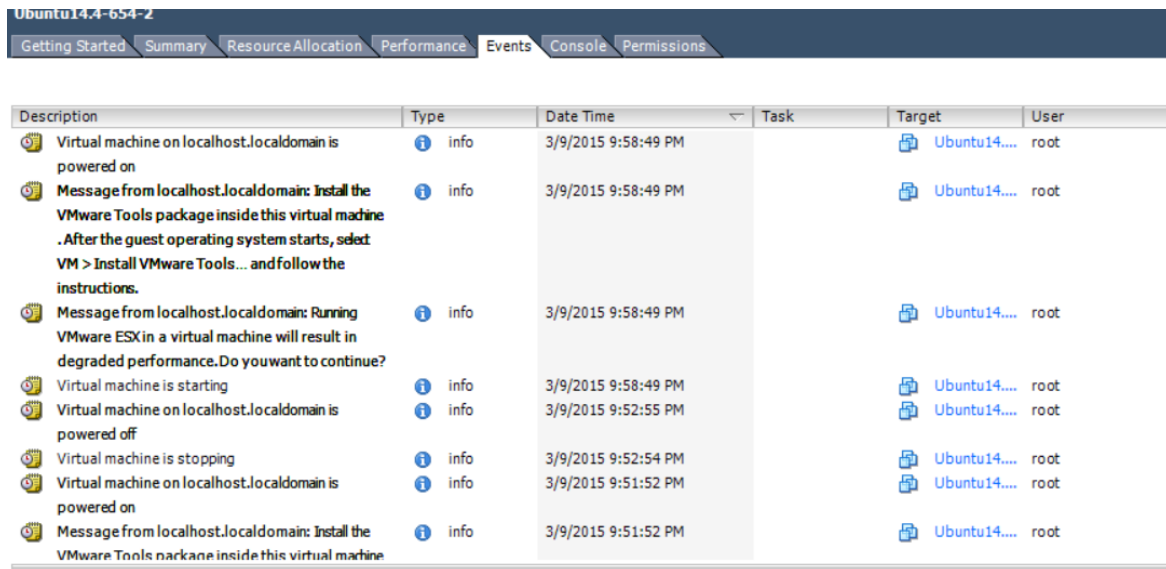|								
	Virtual machine on localhost.localdomain is powered on	ⓘ	info	3/9/2015 9:58:49 PM			Ubuntu14....	root
	Message from localhost.localdomain: Install the VMware Tools package inside this virtual machine . After the guest operating system starts, select VM > Install VMware Tools... and follow the instructions.	ⓘ	info	3/9/2015 9:58:49 PM			Ubuntu14....	root
	Message from localhost.localdomain: Running VMware ESX in a virtual machine will result in degraded performance. Do you want to continue?	ⓘ	info	3/9/2015 9:58:49 PM			Ubuntu14....	root
	Virtual machine is starting	ⓘ	info	3/9/2015 9:58:49 PM			Ubuntu14....	root
	Virtual machine on localhost.localdomain is powered off	ⓘ	info	3/9/2015 9:52:55 PM			Ubuntu14....	root
	Virtual machine is stopping	ⓘ	info	3/9/2015 9:52:54 PM			Ubuntu14....	root
	Virtual machine on localhost.localdomain is powered on	ⓘ	info	3/9/2015 9:51:52 PM			Ubuntu14....	root

Figure 12: Verification Log Of VM1 Power Off And VM2 Power On

VM2 Power On And VM1 Power On:

```
************************Ubuntu14.4-654-1**********************

VM Name Ubuntu14.4-654-1

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOn

Task Name:PowerOffVM_Task

Task Start Time:Mon Mar 09 21:58:47 PDT 2015

Ubuntu14.4-654-1 : Is Now Powered Off

Completion Time:Mon Mar 09 21:58:49 PDT 2015

************************Ubuntu14.4-654-2**********************

VM Name Ubuntu14.4-654-2

Guest OS Full Name:Ubuntu Linux (32-bit)

Guest State State: notRunning

Power State: poweredOff

Task Name:PowerOnVM_Task

Task Start Time:Mon Mar 09 21:58:49 PDT 2015

Ubuntu14.4-654-2 : Is Now Powered On

Completion Time:Mon Mar 09 21:58:49 PDT 2015
```

Figure 13: VM2 Power On And VM1 Power On

Task Verification Screenshots:

Figure 14: Verification Of VM1 Power On And VM2 Power Off