

Computer Systems Assignment - Ruben Bhatia

by Ruben Bhatia

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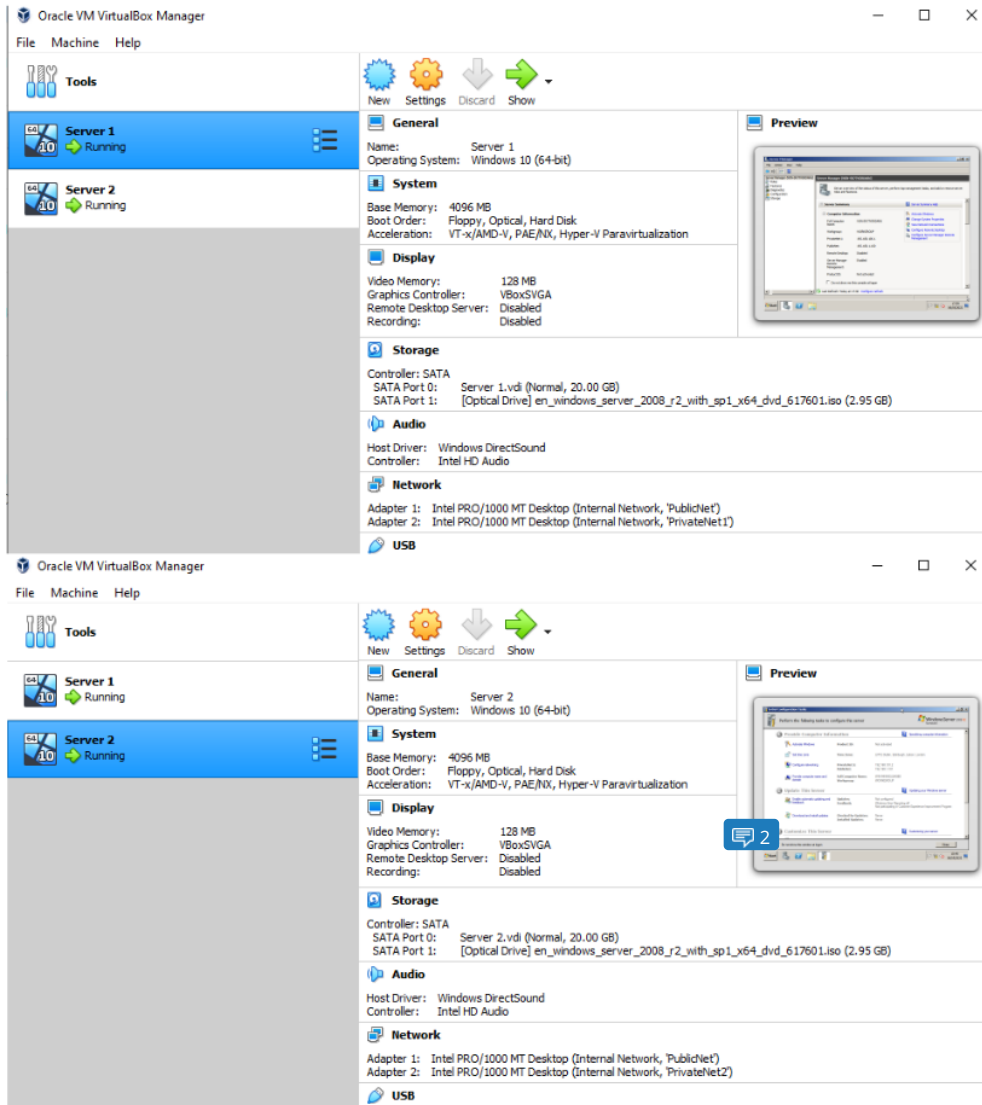
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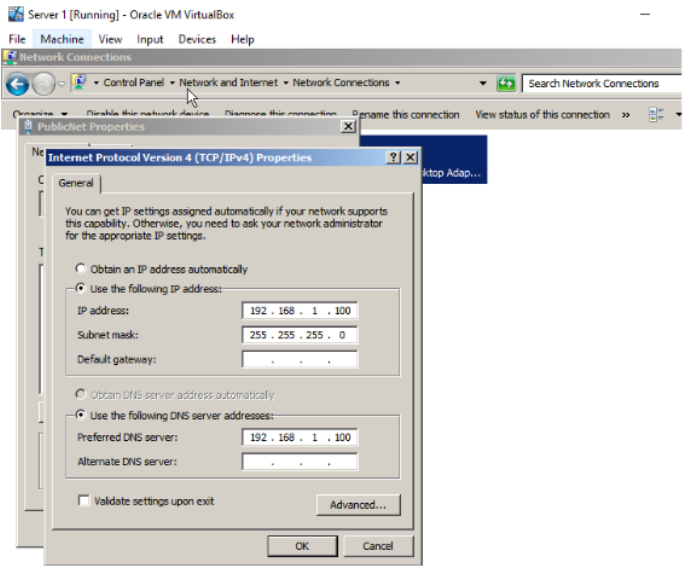
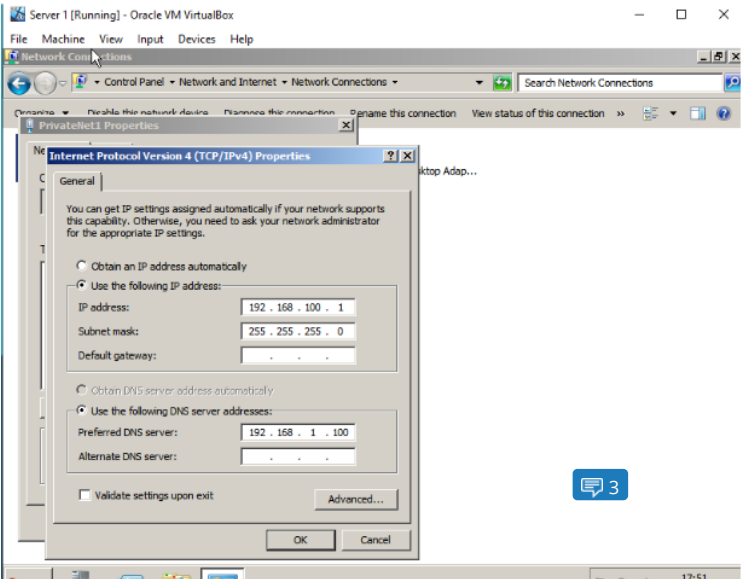
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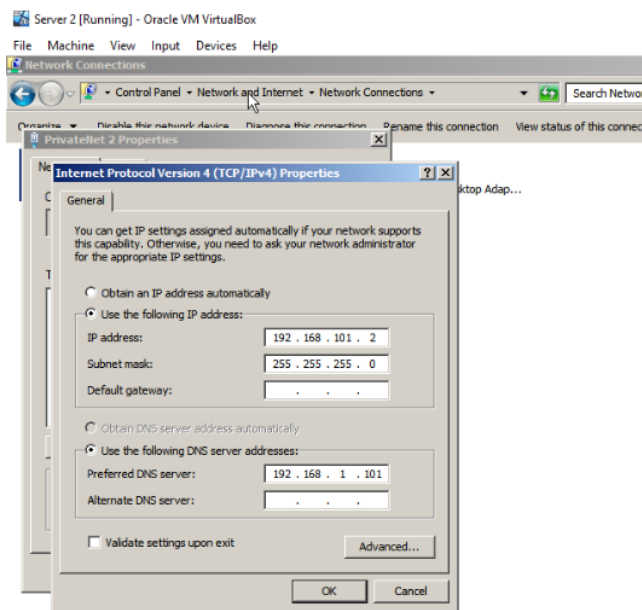
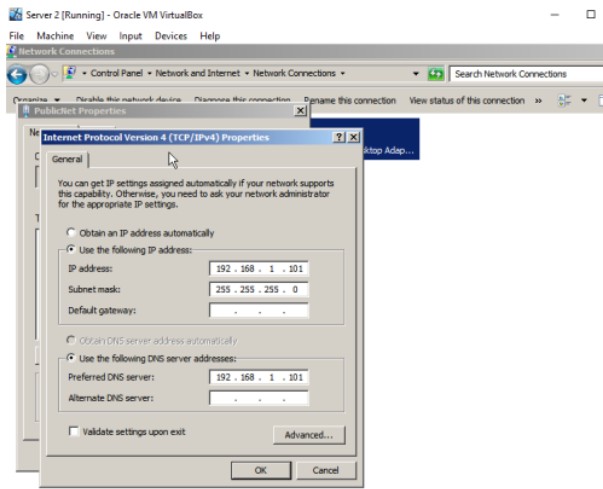
Here are two virtual machines set up in VirtualBox. Each machine (which acts as a server) has two network adapters, with one being a public network and the other being a private network.



Here are the IP Addresses of the adapters for Server 1:



Here are the IP Addresses for the adapters for Server 2:



Here are screenshots of the 'ping' command being used in the command prompt to validate the connection over the network.

```
Administrator: Command Prompt
C:\Users\Administrator>ping 192.168.100.1
Pinging 192.168.100.1 with 32 bytes of data:
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>ping 192.168.1.100
Pinging 192.168.1.100 with 32 bytes of data:
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>
```

```
Administrator: Command Prompt
C:\Users\Administrator>ping 192.168.101.2
Pinging 192.168.101.2 with 32 bytes of data:
Reply from 192.168.101.2: bytes=32 time<1ms TTL=128
Reply from 192.168.101.2: bytes=32 time<1ms TTL=128
Reply from 192.168.101.2: bytes=32 time<1ms TTL=128
Reply from 192.168.101.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.101.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>ping 192.168.1.101
Pinging 192.168.1.101 with 32 bytes of data:
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

However, the created private networks can only connect with the created public networks and not solely between private networks.

```
Administrator: Command Prompt
Pinging 192.168.100.1 with 32 bytes of data:
Reply from 192.168.1.101: Destination host unreachable.
Reply from 192.168.101.2: Destination host unreachable.
Reply from 192.168.1.101: Destination host unreachable.
Reply from 192.168.1.101: Destination host unreachable.

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

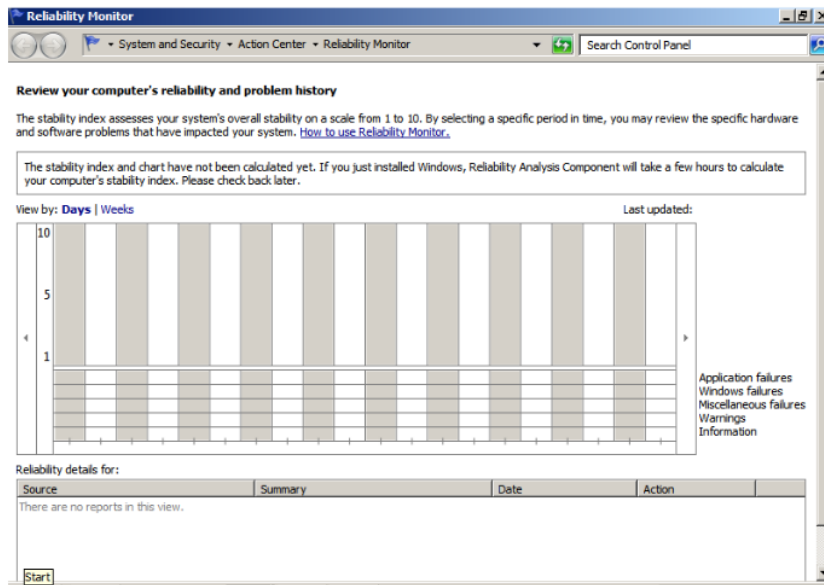
C:\Users\Administrator>ping 192.168.1.100
Pinging 192.168.1.100 with 32 bytes of data:
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

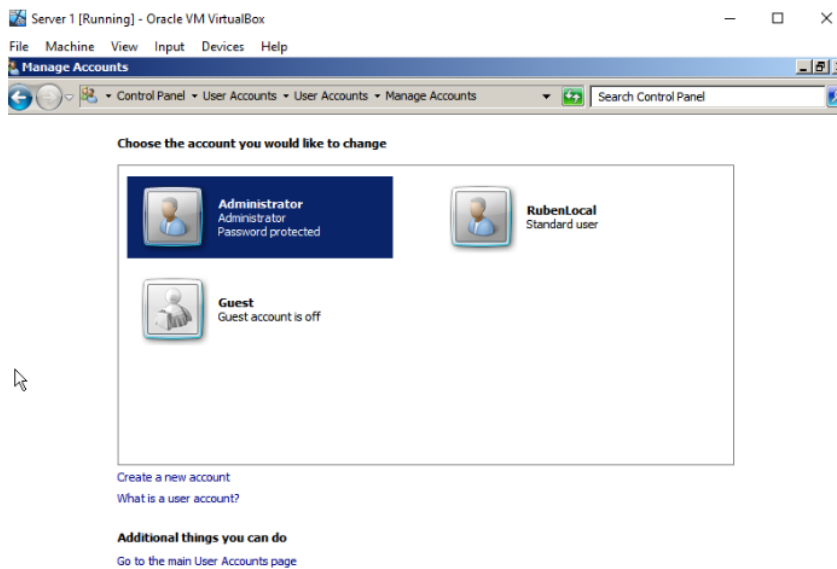
C:\Users\Administrator>
```

The screenshot above demonstrates that a private network is able to connect to a public network but not another private network.

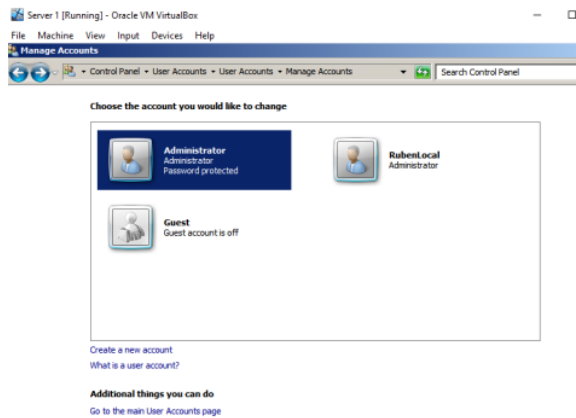
Here is the reliability monitor being used in Server 1.



Here is the option to change to another user account made by the administrator account.



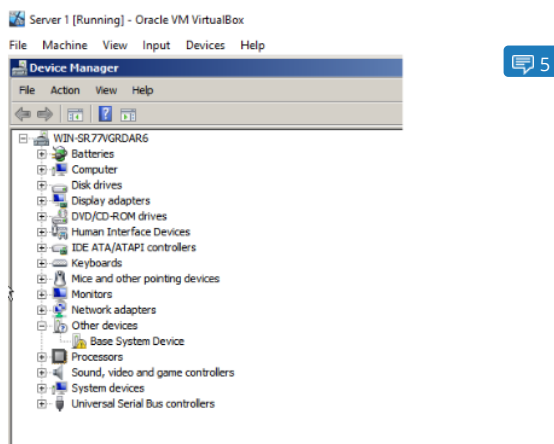
Here is the same user account with administrator privileges.

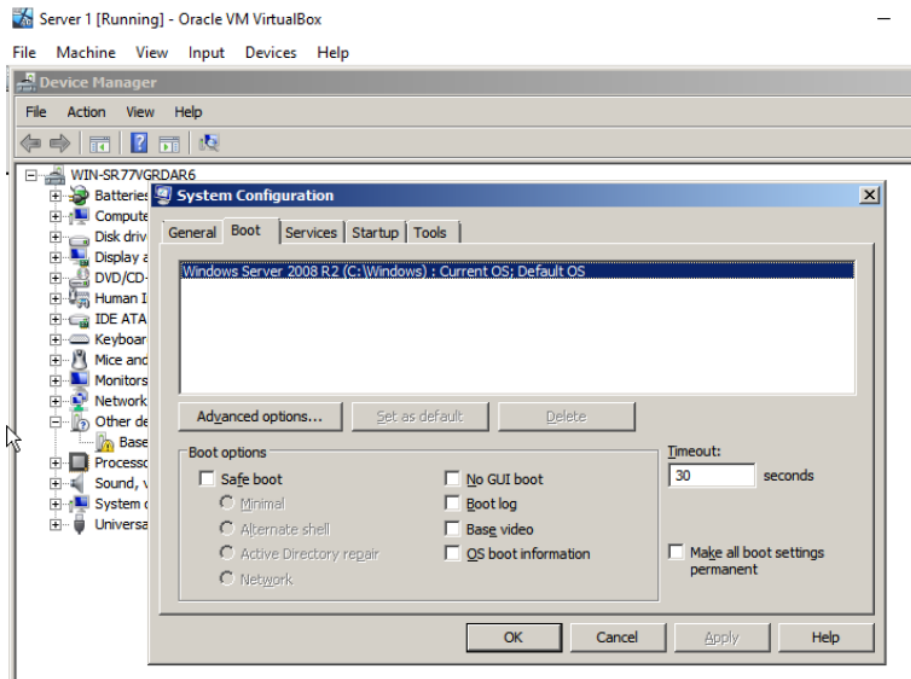


Here is the option to change between the administrator account and the new user account.

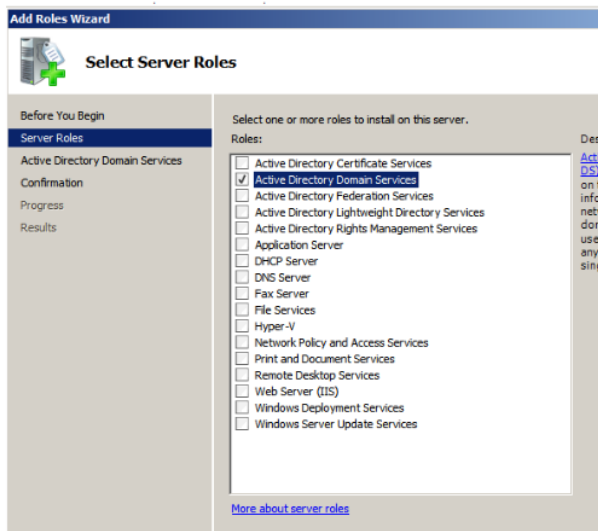


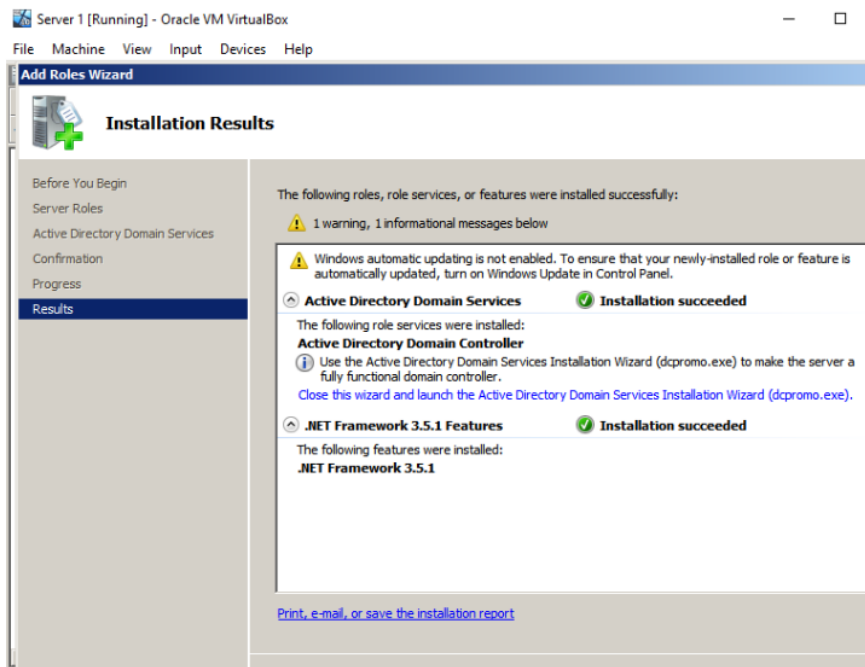
Here is device manager being used on Server 1.



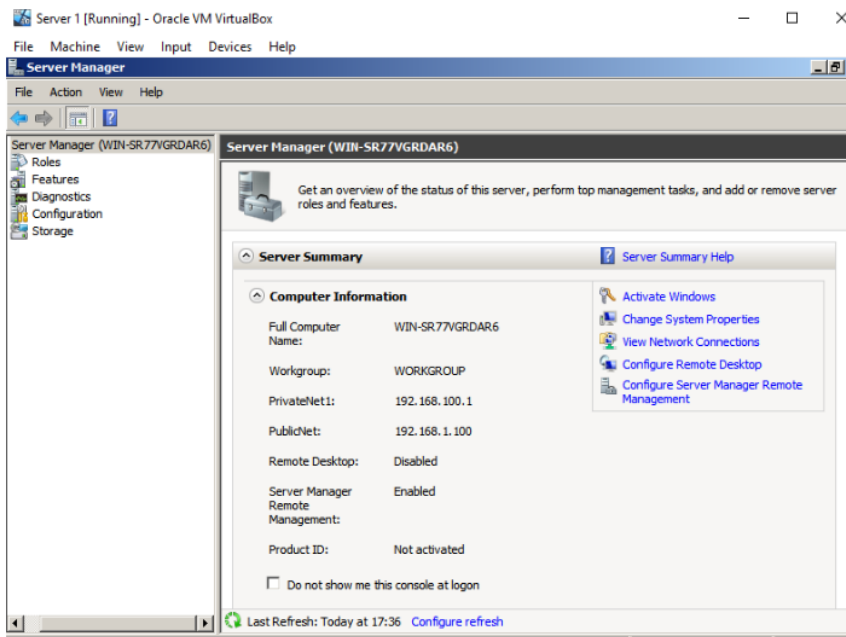


Here is the creation of an Active Directory Domain:





There was no 'Add Role/Feature' available on the software this was conducted on.



The advantages of using a type 2 hypervisor program is that everything will be contained, as well as it allows for the user to have greater control over the virtual machine's hardware. Disadvantages of using a type 2 hypervisor program is that it is

generally slower than just using a specific device as well as it is more demanding on the system running the type 2 hypervisor program.

Monitoring programs are useful when managing your networks as they provide information which is usually out of sight. The data that monitoring programs provide the user with (charts, graphs, temperatures etc) can be essential when maintaining a system or networks health as they show errors or show if everything is functioning as it should. Examples of monitoring programs are the reliability monitor and HWMonitor.



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GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

66/100

PAGE 1



Comment 1

introduction would be useful



Comment 2

evidence of server information provided

PAGE 2



Comment 3

well organised

PAGE 3

PAGE 4



Comment 4

interesting point

PAGE 5

PAGE 6



Comment 5

demonstrates good evidence of tasks here



Comment 6

process overview given well here



Comment 7

could have demonstrated more utility programs