In this lab exercise you will use below hosts. Please note down some details about these hosts as given below :

student-node :- This host will act as an Ansible master node where you will create playbooks, inventory, roles etc and you will be running your playbooks from this host itself.

node01 :- This host will act as an Ansible client/remote host where you will setup/install some stuff using Ansible playbooks. Below are the SSH credentials for this host:

User: bob ; Password: caleston123

node02 :- This host will also act as an Ansible client/remote host where you will setup/install some stuff using Ansible playbooks. Below are the SSH credentials for this host:

User: bob ; Password: caleston123

Look into the given sample inventory, which of the following formats this inventory is using? - ini

```
web ansible_host=webserver.com
db ansible_host=dbserver.com
```

Which of the following ports Ansible uses by default to connect to the Linux remote hosts? – 22

Which of the following inventory parameters can be used to establish a local connection instead of ssh in Ansible? – ansible_connection

What value we must set for ansible_connection parameter to connect to a Windows server? – winrm

```
[bob@student-node playbooks]$ cat inventory
# Sample Inventory File

server1.company.com
server2.company.com
server3.company.com
server4.company.com
[bob@student-node playbooks]$
```

added the aliases named web1, web2 and web3 for the first three hosts respectively. Update this inventory file to add an alias called db1 for server4.company.com host.

```
[bob@student-node playbooks]$ cat inventory
# Sample Inventory File

web1 ansible_host=server1.company.com
web2 ansible_host=server2.company.com
web3 ansible_host=server3.company.com
db1 ansible_host=server4.company.com
[bob@student-node playbooks]$
```

As per the details given in the table below, you can see that, the web servers are linux based hosts and the db server is a Windows machine.
Update the inventory /home/bob/playbooks/inventory to add a similar entry for server4.company.com host. Find the required details from the table below.

Alias	HOST	Connection	User	Password
web1	server1.company.com	ssh	root	Password123!
web2	server2.company.com	ssh	root	Password123!
web3	server3.company.com	ssh	root	Password123!
db1	server4.company.com	winrm	administrator	Dbp@ss123!

Note: For Linux based hosts, use ansible_ssh_pass parameter and for Windows based hosts, use ansible_password parameter.

```
[bob@student-node playbooks]$ cat inventory
# Sample Inventory File

# Web Servers
web1 ansible_host=server1.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web2 ansible_host=server2.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web3 ansible_host=server3.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!

# Db Servers
db1 ansible_host=server4.company.com ansible_connection=winrm ansible_user=administrator ansible_password=Dbp@ss12
3!
[bob@student-node playbooks]$
```

We have updated the /home/bob/playbooks/inventory file and added a group called web_servers for web servers. Similarly, add a group called db_servers for database servers.

```
[bob@student-node playbooks]$ vi inventory
[bob@student-node playbooks]$ cat inventory
# Sample Inventory File

# Web Servers
web1 ansible_host=server1.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web2 ansible_host=server2.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web3 ansible_host=server3.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!

# Database Servers
db1 ansible_host=server4.company.com ansible_connection=winrm ansible_user=administrator ansible_password=Password
123!


[web_servers]
web1
web2
web3

[db_servers]
db1
[bob@student-node playbooks]$
```

Let us now create a group of groups. Create a new group called all_servers and add the previously created groups web_servers and db_servers under it.

Note: Syntax would be as follows –

[parent_group:children]
child_group1
child_group2

```
[bob@student-node playbooks]$ cat inventory
# Sample Inventory File

# Web Servers
web1 ansible_host=server1.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web2 ansible_host=server2.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!
web3 ansible_host=server3.company.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Password123!

# Database Servers
db1 ansible_host=server4.company.com ansible_connection=winrm ansible_user=administrator ansible_password=Password
123!


[web_servers]
web1
web2
web3

[db_servers]
db1

[all_servers:children]
web_servers
db_servers
[bob@student-node playbooks]$
```

Update the /home/bob/playbooks/inventory file to represent the data given in the below table in Ansible Inventory format.

Server Alias	Server Name	OS	User	Password
sql_db1	sql01.xyz.com	Linux	root	Lin$Pass
sql_db2	sql02.xyz.com	Linux	root	Lin$Pass
web_node1	web01.xyz.com	Win	administrator	Win$Pass
web_node2	web02.xyz.com	Win	administrator	Win$Pass
web_node3	web03.xyz.com	Win	administrator	Win$Pass

Group the servers together based on this table

Group	Members
db_nodes	sql_db1, sql_db2
web_nodes	web_node1, web_node2, web_node3
boston_nodes	sql_db1, web_node1
dallas_nodes	sql_db2, web_node2, web_node3
us_nodes	boston_nodes, dallas_nodes

```
# Sample Inventory File
# Web Servers
web_node1 ansible_host=web01.xyz.com ansible_connection=winrm ansible_user=administrator ansible_password=Win$Pass
web_node2 ansible_host=web02.xyz.com ansible_connection=winrm ansible_user=administrator ansible_password=Win$Pass
web_node3 ansible_host=web03.xyz.com ansible_connection=winrm ansible_user=administrator ansible_password=Win$Pass
# DB Servers
sql_db1 ansible_host=sql01.xyz.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Lin$Pass
sql_db2 ansible_host=sql02.xyz.com ansible_connection=ssh ansible_user=root ansible_ssh_pass=Lin$Pass
[db_nodes]
sql_db1
sql_db2
[web_nodes]
web_node1
web_node2
web_node3
[boston_nodes]
sql_db1
web_node1
[dallas_nodes]
sql_db2
web_node2
web_node3
[us_nodes:children]
boston_nodes
dallas_nodes
[bob@student-node playbooks]$
```