Lab Exercise 04

Executing Ansible Modules

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Batch-2(DevOps)

Objective: To demonstrate the use of the Ansible module for server configuration and management

Tools required: Linux terminal

Prerequisites: None

Steps to be followed:
1. Use Ansible modules for server configuration

Step 1: Use Ansible modules for server configuration

1. Run the following command using the **setup** module to collect and display detailed system information about the servers:

   ansible -m setup dbservers

```
[ec2-user@ip-172-31-18-141 ~]$ ansible -m setup dbbservers
172.31.30.46 | SUCCESS => {
    "ansible_facts": {
        "ansible_all_ipv4_addresses": [
            "172.31.30.46"
        ],
        "ansible_all_ipv6_addresses": [
            "fe80::8ff:e6ff:fe97:1039"
        ],
        "ansible_apparmor": {
            "status": "disabled"
        },
        "ansible_architecture": "x86_64",
        "ansible_bios_date": "08/24/2006",
        "ansible_bios_version": "4.11.amazon",
        "ansible_cmdline": {
            "BOOT_IMAGE": "/boot/vmlinuz-5.10.234-225.921.amzn2.x86_64",
            "biosdevname": "0",
            "console": "ttyS0,115200n8",
            "net.ifnames": "0",
            "nvme_core.io_timeout": "4294967295",
            "rd.emergency": "poweroff",
            "rd.shell": "0",
            "ro": true,
            "root": "UUID=7b04f564-68b4-4385-9f70-5693ce07a995"
        },
        "ansible_date_time": {
            "date": "2025-04-16",
            "day": "16",
            "epoch": "1744791119",
            "hour": "08",
            "iso8601": "2025-04-16T08:11:59Z",
            "iso8601_basic": "20250416T081159963980",
            "iso8601_basic_short": "20250416T081159",
            "iso8601_micro": "2025-04-16T08:11:59.963980Z",
            "minute": "11",
            "month": "04",
            "second": "59",
            "time": "08:11:59",
            "tz": "UTC",
            "tz_offset": "+0000",
            "weekday": "Wednesday",
            "weekday_number": "3",
            "weeknumber": "15",
            "year": "2025"
        },
        "ansible_default_ipv4": {
            "address": "172.31.30.46",
            "alias": "eth0",
            "broadcast": "172.31.31.255",
            "gateway": "172.31.16.1",
            "interface": "eth0",
            "macaddress": "0a:ff:e6:97:10:39",
            "mtu": 9001,
            "netmask": "255.255.240.0",
            "network": "172.31.16.0",
            "type": "ether"
        },
        "ansible_default_ipv6": {},
```

2. Run the following command using the **shell** module to retrieve server hostnames:

ansible dbservers -m shell -a 'hostname'

```
[[ec2-user@ip-172-31-18-141 ~]$ ansible dbbservers -m shell -a "hostname"
172.31.30.46 | CHANGED | rc=0 >>
ip-172-31-30-46.ec2.internal
172.31.25.180 | CHANGED | rc=0 >>
ip-172-31-25-180.ec2.internal
[ec2-user@ip-172-31-18-141 ~]$ ▌
```

3. Run the following command using the **apt** module to install Git on servers:

ansible dbservers -m yum -a 'name=git state=present' - - become

```
[[ec2-user@ip-172-31-18-141 ~]$ ansible dbbservers -m raw -a "sudo yum install -y git"
172.31.25.180 | CHANGED | rc=0 >>
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                | 3.6 kB     00:00
Resolving Dependencies
--> Running transaction check
---> Package git.x86_64 0:2.47.1-1.amzn2.0.2 will be installed
--> Processing Dependency: git-core = 2.47.1-1.amzn2.0.2 for package: git-2.47.1-1.amzn2.0.2.x86_64
--> Processing Dependency: git-core-doc = 2.47.1-1.amzn2.0.2 for package: git-2.47.1-1.amzn2.0.2.x86_64
--> Processing Dependency: perl-Git = 2.47.1-1.amzn2.0.2 for package: git-2.47.1-1.amzn2.0.2.x86_64
--> Processing Dependency: perl(Git) for package: git-2.47.1-1.amzn2.0.2.x86_64
--> Processing Dependency: perl(Term::ReadKey) for package: git-2.47.1-1.amzn2.0.2.x86_64
--> Running transaction check
---> Package git-core.x86_64 0:2.47.1-1.amzn2.0.2 will be installed
---> Package git-core-doc.noarch 0:2.47.1-1.amzn2.0.2 will be installed
---> Package perl-Git.noarch 0:2.47.1-1.amzn2.0.2 will be installed
--> Processing Dependency: perl(Error) for package: perl-Git-2.47.1-1.amzn2.0.2.noarch
---> Package perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2 will be installed
--> Running transaction check
---> Package perl-Error.noarch 1:0.17020-2.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package              Arch      Version                 Repository     Size
================================================================================
Installing:
 git                  x86_64    2.47.1-1.amzn2.0.2      amzn2-core     57 k
Installing for dependencies:
 git-core             x86_64    2.47.1-1.amzn2.0.2      amzn2-core     11 M
 git-core-doc         noarch    2.47.1-1.amzn2.0.2      amzn2-core     3.2 M
 perl-Error           noarch    1:0.17020-2.amzn2       amzn2-core     32 k
 perl-Git             noarch    2.47.1-1.amzn2.0.2      amzn2-core     44 k
 perl-TermReadKey     x86_64    2.30-20.amzn2.0.2       amzn2-core     31 k

Transaction Summary
================================================================================
Install  1 Package (+5 Dependent packages)

Total download size: 15 M
Installed size: 47 M
Downloading packages:
(1/6): git-2.47.1-1.amzn2.0.2.x86_64.rpm                 |  57 kB   00:00
(2/6): git-core-2.47.1-1.amzn2.0.2.x86_64.rpm            |  11 MB   00:00
(3/6): git-core-doc-2.47.1-1.amzn2.0.2.noarch.rpm        | 3.2 MB   00:00
(4/6): perl-Error-0.17020-2.amzn2.noarch.rpm             |  32 kB   00:00
(5/6): perl-Git-2.47.1-1.amzn2.0.2.noarch.rpm            |  44 kB   00:00
(6/6): perl-TermReadKey-2.30-20.amzn2.0.2.x86_64.rpm     |  31 kB   00:00
--------------------------------------------------------------------------------
Total                                          43 MB/s |  15 MB  00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : git-core-2.47.1-1.amzn2.0.2.x86_64                    1/6
  Installing : git-core-doc-2.47.1-1.amzn2.0.2.noarch                2/6


Dependencies Resolved

================================================================================
 Package              Arch      Version                 Repository     Size
================================================================================
Installing:
 git                  x86_64    2.47.1-1.amzn2.0.2      amzn2-core     57 k
Installing for dependencies:
 git-core             x86_64    2.47.1-1.amzn2.0.2      amzn2-core     11 M
 git-core-doc         noarch    2.47.1-1.amzn2.0.2      amzn2-core     3.2 M
 perl-Error           noarch    1:0.17020-2.amzn2       amzn2-core     32 k
 perl-Git             noarch    2.47.1-1.amzn2.0.2      amzn2-core     44 k
 perl-TermReadKey     x86_64    2.30-20.amzn2.0.2       amzn2-core     31 k

Transaction Summary
================================================================================
Install  1 Package (+5 Dependent packages)

Total download size: 15 M
Installed size: 47 M
Downloading packages:
(1/6): git-2.47.1-1.amzn2.0.2.x86_64.rpm                 |  57 kB   00:00
(2/6): git-core-doc-2.47.1-1.amzn2.0.2.noarch.rpm        | 3.2 MB   00:00
(3/6): perl-Error-0.17020-2.amzn2.noarch.rpm             |  32 kB   00:00
(4/6): git-core-2.47.1-1.amzn2.0.2.x86_64.rpm            |  11 MB   00:00
(5/6): perl-Git-2.47.1-1.amzn2.0.2.noarch.rpm            |  44 kB   00:00
(6/6): perl-TermReadKey-2.30-20.amzn2.0.2.x86_64.rpm     |  31 kB   00:00
--------------------------------------------------------------------------------
Total                                          43 MB/s |  15 MB  00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : git-core-2.47.1-1.amzn2.0.2.x86_64                    1/6
  Installing : git-core-doc-2.47.1-1.amzn2.0.2.noarch                2/6
  Installing : 1:perl-Error-0.17020-2.amzn2.noarch                   3/6
  Installing : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64             4/6
  Installing : perl-Git-2.47.1-1.amzn2.0.2.noarch                    5/6
  Installing : git-2.47.1-1.amzn2.0.2.x86_64                         6/6
  Verifying  : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64             1/6
  Verifying  : perl-Git-2.47.1-1.amzn2.0.2.noarch                    2/6
  Verifying  : git-2.47.1-1.amzn2.0.2.x86_64                         3/6
  Verifying  : 1:perl-Error-0.17020-2.amzn2.noarch                   4/6
  Verifying  : git-core-doc-2.47.1-1.amzn2.0.2.noarch                5/6
  Verifying  : git-core-2.47.1-1.amzn2.0.2.x86_64                    6/6

Installed:
  git.x86_64 0:2.47.1-1.amzn2.0.2

Dependency Installed:
  git-core.x86_64 0:2.47.1-1.amzn2.0.2
  git-core-doc.noarch 0:2.47.1-1.amzn2.0.2
  perl-Error.noarch 1:0.17020-2.amzn2
  perl-Git.noarch 0:2.47.1-1.amzn2.0.2
  perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2

Complete!
Shared connection to 172.31.30.46 closed.
```