

NTUC MoneyOwl - DevOps Assignment

Tuesday, 12 April 2022 8:07 AM

- You can view the directory structure of current working directory using `tree` command

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ tree
.
+-- packer-build-.json
+-- provisio...
   +-- ansible
   |   +-- files
   |   +-- templates
   |   +-- scripts
5 directories, 1 file
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$
```

If `tree` is not installed; install the same using

```
sudo apt install tree
```

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws$ tree
Command 'tree' not found, but can be installed with:
sudo apt install tree

[sudo] password for vinayak:
Reading package lists... Done
Building dependency tree
Reading state information... Done
```

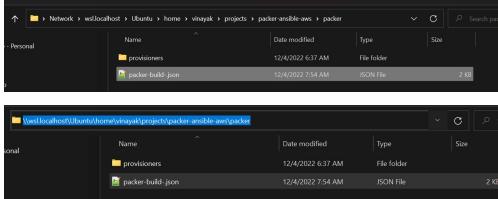
- what is the path of windows subsystem linux.

You can search the location of your folder using the command

```
explorer.exe .
```

This opens a explorer window where your Linux subsystem is running

```
/home/vinayak/projects/packer-ansible-aws/packer
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ explorer.exe .
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ ls
packer-build-.json  provisio...
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ ls -lrt
total 4
```



- Download tomcat application sample war file

```
wget https://tomcat.apache.org/tomcat-6.0-doc/appdev/sample/sample.war
```

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ wget https://tomcat.apache.org/tomcat-6.0-doc/appdev/sample/sample.war
--2022-04-12 11:02:18 (7.08 MiB/s) - `sample.war' saved [4606/4606]
Resolving tomcat.apache.org (tomcat.apache.org)... 151.101.2.132, 2604:4e42::644
Connecting to tomcat.apache.org (tomcat.apache.org)|151.101.2.132|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 4606 [bytes]
Saving to: `sample.war'

sample.war    100%[=====]  4.56K --.-KB/s   in 0.001s

2022-04-12 11:02:18 (7.08 MiB/s) - `sample.war' saved [4606/4606]
```

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer/provisioners/ansible/files$
```

Modify the source_ami_filter

```
Current:
"source_ami_filter": {
  "filters": {
    "virtualization-type": "hvm",
    "name": "ubuntu/images/hvm-ssd/ubuntu-focal-20.04-amd64-server-20211129",
    "root-device-type": "ebs"
  },
}
```

New:

```
"source_ami_filter": {
  "filters": {
    "virtualization-type": "hvm",
    "name": "ubuntu-focal-20.04-amd64-server-*",
    "root-device-type": "ebs"
  },
},
```

```
//"name": "099720109477/ubuntu/images/hvm-ssd/ubuntu-bionic-18.04-amd64-server-20211129"
```

Error: No AMI was found matching the provision filter under the json document.

This issue was resolved, by creating a AMI image of the existing EC2 instance running in ap-southeast-1 region.

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws/packer$ more build_artifact.txt
1649764744,,ui,say,=> amazon-eks: Force Deregister flag found!(PACKER_COMMA) skipping prevalidating AMI Name
1649764744,,ui,message,amazon-eks: Found Image ID: ami-088bf0b874dbbf7c6
1649764744,,ui,say,=> amazon-eks: Creating temporary security group for this instance: packer_62556989-c657-4432-16d4-9fc2cdc6fbef
1649764745,,ui,say,=> amazon-eks: Authorizing access to port 22 from [0.0.0.0/0] in the temporary security groups...
1649764746,,ui,say,=> amazon-eks: Launching a source AWS instance...
1649764746,,ui,message,amazon-eks: Adding tags to source instance
1649764747,,ui,error,-> amazon-eks: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\n=>
1649764747,,ui,message,amazon-eks: No valid AMI found!(PACKER_COMMA) skipping
1649764747,,ui,say,=> amazon-eks: Deleting temporary security group...
1649764774,,ui,error,-> amazon-eks: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) request id: 10fd3deb-b88a-41cb-b406-2e765e67f2ce
1649764774,,ui,message,amazon-eks: Deleting temporary keypair...
1649764775,,ui,error,-> amazon-eks: Deleting temporary keypair...
1649764775,,ui,say,=> amazon-eks: Deleting temporary keypair...
1649764775,,ui,error,-> amazon-eks: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) request id: 10fd3deb-b88a-41cb-b406-2e765e67f2ce
1649764775,,ui,say,=> amazon-eks: Building finished but no artifacts were created.
1649764775,,ui,message,amazon-eks: Some builds didn't complete successfully and had errors:
1649764775,,ui,error,-> amazon-eks: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\n=>
1649764775,,ui,message,amazon-eks: Creating temporary keypair: packer_62556a68-a993-b751-1b98-c36c07d9216b
1649764775,,ui,say,=> amazon-eks: Creating temporary security group for this instance: packer_62556a6d-b359-8a6d-a3db-bf90469c9cff
1649764774,,ui,say,=> amazon-eks: Authorizing access to port 22 from [0.0.0.0/0] in the temporary security groups...
1649764774,,ui,message,amazon-eks: Adding tags to source instance
1649764774,,ui,message,amazon-eks: Instance ID: i-054348e7029c75913
1649764775,,ui,say,=> amazon-eks: Waiting for instance (i-054348e7029c75913) to become ready.
```

```
[nayal@linode-192-168-1-104:~/Projects/packer-ansible-aws]$ packer more build_artifact.txt
1649764744, [ui, say, ==>] amazon-ebs: Force Deregister flag found!(PACKER_COMMA) skipping prevalidating AMI Name
1649764744, [ui, message, amazon-ebs: Found Image ID: ami-088bf0b874dbbf7c6
1649764744, [ui, say, ==>] amazon-ebs: Creating temporary keypair: packer-62556984-69c6-4a81-abe5-92cbca6a8047
1649764745, [ui, say, ==>] amazon-ebs: Creating temporary security group for this instance: packer-62556989-c657-4432-16d4-9fc2cd6fb9e9
1649764745, [ui, say, ==>] amazon-ebs: Authorizing access to port 22 from [0.0.0.0/0] in the temporary security groups...
1649764746, [ui, say, ==>] amazon-ebs: Launching a source AWS Instance...
1649764746, [ui, say, ==>] amazon-ebs: Adding tags to source instance
1649764746, [ui, message, amazon-ebs: Adding tag: "Name": "packer-build-image".
1649764746, [ui, error, ==>] amazon-ebs: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\n==>
1649764746, [ui, message, amazon-ebs: Request id: 10fd3deb-b88a-41cb-b406-2765e67f2ce
1649764747, [ui, say, ==>] amazon-ebs: No volumes to clean up!(PACKER_COMMA) skipping
1649764747, [ui, say, ==>] amazon-ebs: Deleting temporary security group
1649764747, [ui, error, ==>] amazon-ebs: Error cleaning up security group. Please delete the group manually: err: DependencyViolation: resource sg-0eaef60eab99cf80869 has a dependent object(s): amazon-ebs: status code: 400!(PACKER_COMMA) request id: 35f930e6c-8d13-4807-84b8-611afcbb91b9; security group ID: sg-0eaef60eab99cf80869
1649764747, [ui, say, ==>] amazon-ebs: Deleting temporary keypair...
1649764755, [ui, error, ==>] amazon-ebs: Deleting 'amazon-ebs' errored after 31 seconds 286 milliseconds: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\nstatus code: 400!(PACKER_COMMA) request id: 10fd3deb-b88a-41cb-b406-2765e67f2ce
1649764755, [ui, say, ==>] amazon-ebs: Wait completed after 31 seconds 286 milliseconds
1649764755, [ui, error, ==>] amazon-ebs: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\nstatus code: 400!(PACKER_COMMA) request id: 10fd3deb-b88a-41cb-b406-2765e67f2ce
1649764755, [ui, error, ==>] amazon-ebs: Error launching source instance: InvalidAMIID.Unavailable: AMI 'ami-088bf0b874dbbf7c6' is pending!(PACKER_COMMA) and cannot be run\nstatus code: 400!(PACKER_COMMA) request id: 10fd3deb-b88a-41cb-b406-2765e67f2ce
1649764755, [ui, say, ==>] amazon-ebs: Builds finished but no artifacts were created.
[nayal@linode-192-168-1-104:~/Projects/packer-ansible-aws]$ packer -s sudo packer build -machine-readable packer-build.json | tee build_artifact.txt
1649764973, [ui, say, ==>] amazon-ebs: Force Deregister flag found!(PACKER_COMMA) skipping prevalidating AMI Name
1649764973, [ui, message, amazon-ebs: Found Image ID: ami-088bf0b874dbbf7c6
1649764973, [ui, say, ==>] amazon-ebs: Creating temporary keypair: packer-62556984-ad93-b751-1b98-c36c0749216b
1649764973, [ui, say, ==>] amazon-ebs: Creating temporary security group for this instance: packer-6255698d-b259-8a6d-a3db-bf00469c9cff
1649764974, [ui, say, ==>] amazon-ebs: Authorizing access to port 22 from [0.0.0.0/0] in the temporary security groups...
1649764974, [ui, say, ==>] amazon-ebs: Launching a source AWS Instance...
1649764974, [ui, message, amazon-ebs: Adding tags to source instance
1649764974, [ui, message, amazon-ebs: Adding tag: "Name": "packer-build-image".
1649764975, [ui, message, amazon-ebs: Instance ID: i-053438e7029c75913
1649764975, [ui, say, ==>] amazon-ebs: Waiting for instance (i-053438e7029c75913) to become ready...
1649765982, [ui, say, ==>] amazon-ebs: Using ssh to connect to: 54.255.130.28
1649765982, [ui, say, ==>] amazon-ebs: Waiting for SSH to become available...
```

Error encountered with sudo yum install epel-release

Bootstrap.sh

```
sudo yum install -y epel-release # this was causing error
```

#so replace it with below

```
sudo amazon-linux-extras install epel
```

```
vinayak@vinayak-PC:~/projects/packer-ansible-aws$ packer
1649774486,,ui,message,amazon-eks: Transaction test succeeded
1649774486,,ui,message,amazon-eks: Running transaction
1649774487,,ui,message,amazon-eks:  Installing : python2-httplib2-0.18.1-3.el7.noarch 1/4
1649774487,,ui,message,amazon-eks:  Installing : sshpass-1.06-1.el7.x86_64 2/4
1649774487,,ui,message,amazon-eks:  Installing : python-paramiko-2.1.1-1.el7.noarch 3/4
1649774487,,ui,message,amazon-eks:  Installing : ansible-2.9.27-1.el7.noarch 4/4
1649774487,,ui,message,amazon-eks: Verifying : python-paramiko-2.1.1-1.el7.noarch 1/4
1649774487,,ui,message,amazon-eks: Verifying : sshpass-1.06-1.el7.x86_64 2/4
1649774487,,ui,message,amazon-eks: Verifying : python2-httplib2-0.18.1-3.el7.noarch 3/4
1649774487,,ui,message,amazon-eks: Verifying : ansible-2.9.27-1.el7.noarch 4/4
1649774488,,ui,message,amazon-eks: Installed:
1649774488,,ui,message,amazon-eks:   ansible.noarch 0:2.9.27-1.el7
1649774488,,ui,message,amazon-eks: Dependency Installed:
1649774488,,ui,message,amazon-eks:   python-paramiko.noarch 0:2.1.1-0.10.el7
1649774488,,ui,message,amazon-eks:   python2-httplib2.noarch 0:0.18.1-3.el7
1649774489,,ui,message,amazon-eks: sshpass.x86_64 0:1.06-1.el7
1649774489,,ui,message,amazon-eks: Complete!
1649774489,,ui,message,amazon-eks: Provisioning with Ansible...
1649774489,,ui,message,amazon-eks: Setting up proxy adapter for Ansible...
1649774489,,ui,say==> amazon-eks: Executing Ansible: ansible-playbook -e packer_builder_name="amazon-eks" -e packer_builder_type=amazon-eks --ssh-extra-args '-o IdentitiesOnly=true' -i /tmp/packer-provisioner-ansible0709957764 /home/vinayak/projects/packer-ansible-aws/packer/provisioners/amazon-eks/setup-server.yml
1649774489,,ui,message,amazon-eks: [DEPRECATION WARNING]: DEFAULT_SUDO_USER option%{PACKER_COMMA} In favor of Ansible Become%{PACKER_COMMA}
1649774489,,ui,message,amazon-eks: which is a generic framework. See become_user. %{PACKER_COMMA} use become instead. This feature will be removed in version 2.8. Deprecation warnings can be disabled by setting depreciation_warnings=False in ansible.cfg.
1649774490,,ui,message,amazon-eks: PLAY [Tomcat deployment playbook] ****
1649774490,,ui,message,amazon-eks: TASK [Gathering Facts] ****
1649774490,,ui,message,amazon-eks: ok: [default]
1649774490,,ui,message,amazon-eks: ****
1649774491,,ui,message,amazon-eks: TASK [Add EPEL repository] ****
1649774491,,ui,message,amazon-eks: ok: [default]
1649774492,,ui,message,amazon-eks: ****
1649774495,,ui,message,amazon-eks: TASK [Update all packages] ****
```

```
1649774865,ui,message,amazon-eks: TASK [Install basic packages] ****
1649774865,ui,message,amazon-eks: changed: [default]
1649775080,ui,message,amazon-eks: ****
1649775080,ui,message,amazon-eks: TASK [Install Java] ****
1649775085,ui,message,amazon-eks: changed: [default]
1649775085,ui,message,amazon-eks: ****
1649775086,ui,message,amazon-eks: changed: [default]
1649775094,ui,message,amazon-eks: ****
```

```
1649775971,ui,message,amazon-eks:changed:[default]
1649775971,ui,message,amazon-eks:TASK [Open tomcat port on the firewall] ****
1649775971,ui,message,amazon-eks:PLAY RECAP ****
1649775971,ui,message,amazon-eks:  <host>          Default     : ok=33    changed=11  unreachable=0    failed=0
1649775971,ui,say,==>amazon-eks: Provisioning with Ansible...
1649775971,ui,say,==>amazon-eks: Executing playbooks for Ansible...
1649775971,ui,say,==>amazon-eks: ansible-playbook -e packer_builder_type=amazon-eks --ssh-extra-args '-o IdentitiesOn
1649775971,ui,say,==>amazon-eks:     -e ansible_swap_file=/tmp/ansible-key723457801 -i /tmp/packer-provider-ansible@081607336 /home/vinayak/projects/packer-ansible-ebs/packer/provisioners/
1649775971,ui,message,amazon-eks: [DEPRECATION WARNING]: DEFAULT_SUOD_USER option in [PACKER_CONFIG] is no longer supported. Use of Ansible Recommands in [PACKER_CONFIG]
1649775973,ui,message,amazon-eks: which is a generic framework. Set become.user. WI PACKER_CONFIG). See become instead. This
1649775973,ui,message,amazon-eks: feature will be removed in version 2.8. Deprecation warnings can be disabled by
1649775973,ui,message,amazon-eks: setting deprecation_warnings=false in ansible.cfg.
1649775974,ui,message,amazon-eks: amazon-eks: PLAY [Deploy tomcat war application] ****
1649775974,ui,message,amazon-eks: amazon-eks: TASK [Gathering Facts] ****
```

```
1649775985 :ui,message, amazon-ebs: PLAY RECAP ****: ok=3    changed=2    unreachable=0    failed=0  
1649775985 :ui,message, amazon-ebs: default  
1649775985 :ui,message, amazon-ebs:
```

```

1649775085,,ui,message, amazon-ebs: PLAY RECAP ****
1649775085,,ui,message, amazon-ebs: default : ok=3    changed=2    unreachable=0    failed=0
1649775085,,ui,message, amazon-ebs: Stopping the source instance...
1649775085,,ui,message, amazon-ebs: Stopping instance
1649775085,,ui,message, amazon-ebs: Waiting for the instance to stop...
1649775116,,ui,say,==> amazon-ebs: Creating AMI tomcat-ami from instance i-0df380eea4c476159
1649775116,,ui,message, amazon-ebs: AMI: ami-01a69e107d27a120b
1649775207,,ui,say,==> amazon-ebs: Waiting for AMI to become ready...
1649775207,,ui,say,==> amazon-ebs: Terminating the source AWS instance...
1649775223,,ui,say,==> amazon-ebs: No volumes to clean up!(PACKER_COMMA) skipping
1649775223,,ui,say,==> amazon-ebs: Deleting temporary security group...
1649775223,,ui,say,==> amazon-ebs: Deleting temporary keypair...
1649775223,,ui,say,Build 'amazon-ebs' finished after 6 minutes 43 seconds.
1649775223,,ui,say,!=> Wait completed after 6 minutes 43 seconds
1649775223,,ui,say,!=> Building finished. The artifacts of successful builds are:
1649775223,amazon-ebs,artifact,@artifact_count,1
1649775223,amazon-ebs,artifact,@builder_id,mitchellh,amazon-ebs
1649775223,amazon-ebs,artifact,@string_AMIs were created:@nap-southeast-1: ami-01a69e107d27a120b\n
1649775223,amazon-ebs,artifact,@files_count,0
1649775223,amazon-ebs,artifact,@,0,nd
1649775223,,ui,say,-> amazon-ebs: AMIs were created:@nap-southeast-1: ami-01a69e107d27a120b\n
vinayak@Vinayak-PC:~/projects/packer-ansible-aws/packer$
```

```

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ terraform init
Initializing the backend...
Initializing provider plugins...
  - Checking for available provider plugins...
  - Downloading plugin for provider "aws" (hashicorp/aws) 3.37.0...
The following providers do not have any version constraints in configuration,
so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking
changes, it is recommended to add version = "...". constraints to the
provider block in configuration, with the constraint strings
suggested below.

  provider.aws: version = "~> 3.37"

Warning: registry.terraform.io: This version of Terraform has an outdated GPG key and is unable to verify new provider releases. Please upgrade Terraform to at least 0.12.3
  to receive new provider updates. For details see: https://discuss.hashicorp.com/t/hccsec-2021-12-codec-security-event-and-hashicorp-gpg-key-exposure/23512

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
run this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$
```

```

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ terraform plan
Error: Unsupported block type

  on main.tf line 17, in resource "aws_instance" "test-instance":
  17:   tags {  

Blocks of type "tags" are not expected here. Did you mean to define argument
"tags"? If so, use the equals sign to assign it a value.  

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ ls
main.tf  

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ vi main.tf
vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ terraform plan
Refreshing Terraform state in-memory prior to plan...
The refreshed state will be used to calculate this plan, but will not be
persisted to local or remote state storage.

-----
An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:
+ create  


```

The key_pair name supplied was with .pem extension which caused the below error

```

Plan: 1 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

aws_instance.test-instance: Creating...
Error: Error launching source instance: InvalidKeyPair.NotFound: The key pair 'KP-CSA-C02.pem' does not exist
  status code: 400, request id: e12eaef-0d47-4d24-a1ae-41db1be751a

  on main.tf line 8, in resource "aws_instance" "test-instance":
  8: resource "aws_instance" "test-instance" {  

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ vi main.tf
vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform$ terraform apply
aws_security_group.test-sg: Refreshing state... [id=msg-0ce51e35811324516]

An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:
+ create  

Terraform will perform the following actions:  


```

So, after removing the .pem extension above error was resolved.

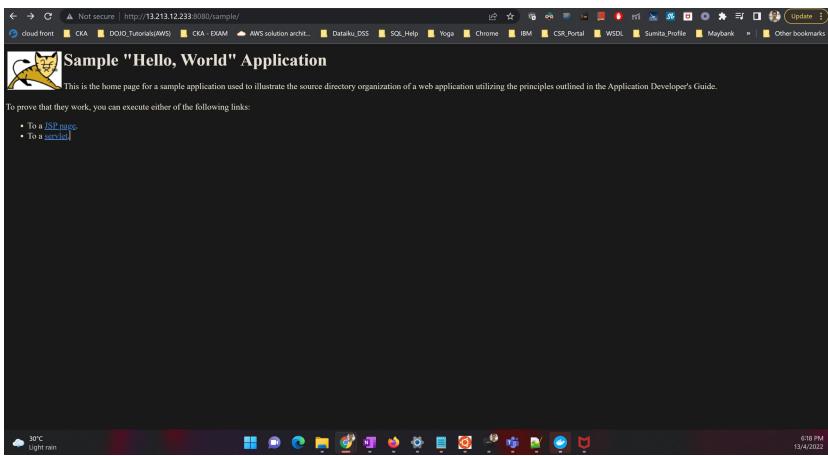
```

Sudo iptables -F
Sudo service sshd restart
```

Resolved the <http://hostip:8080/sample/> access

```

[ec2-user@ip-172-31-39-120 ~]$ sudo iptables -F
[ec2-user@ip-172-31-39-120 ~]$ sudo service sshd restart
Redirecting to /bin/systemctl restart sshd.service
[ec2-user@ip-172-31-39-120 ~]$ sudo netstat -tnlp |grep :22
tcp        0      0 0.0.0.0:22          0.0.0.0:*          LISTEN      7218/sshd
tcp6       0      0 ::1:22           ::*              LISTEN      7218/sshd
[ec2-user@ip-172-31-39-120 ~]$ sudo netstat -tnlp |grep :80
tcp6       0      0 ::1:800          ::*              LISTEN      3030/java
tcp6       0      0 ::1:80           ::*              LISTEN      3021/httpd
tcp6       0      0 127.0.0.1:8005    ::*              LISTEN      3030/java
tcp6       0      0 ::1:8009         ::*              LISTEN      3030/java
[ec2-user@ip-172-31-39-120 ~]$
```



- Deploy the updated terraform (main.tf) with load balancer, autoscaling group, launch configuration, and image_id (which was created using the ansible and packer)

```
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

aws_default_subnet.default_azl: Creating...
aws_instance.new-test-instance: Destroying... [id=i-01eb6a50b8692420]
aws_security_group.elb_http: Creating...
aws_security_group.allow_http: Creating...
aws_launch_configuration.default: Creation complete after 0s [id=subnet-a808f1e0]
aws_security_group.allow_http: Creation complete after 2s [id=sg-02f6a06665144d9de]
aws_security_group.elb_http: Creation complete after 2s [id=sg-0070c824458ec660]
aws_launch_configuration.web: Creating...
aws_elb.web_elb: Creating...
aws_launch_configuration.web: Creation complete after 0s [id=web-20220414034152844200000001]
aws_elb.web_elb: Creation complete after 2s [id=web-elb]
aws_autoscaling_group.web: Creating...
aws_autoscaling_group.web: Destroying... [id=i-01eb6a650b8692420, 10s elapsed]
aws_instance.new-test-instance: Destruction complete after 10s
aws_security_group.new-test-sg: Destroying... [id=sg-ea7bd6a31fbcf906]
aws_autoscaling_group.web: Still creating... [0s elapsed]
aws_security_group.new-test-sg: Destruction complete after 6s
aws_autoscaling_group.web: Still creating... [20s elapsed]
aws_autoscaling_group.web: Still creating... [30s elapsed]
aws_autoscaling_group.web: Creation complete after 38s [id=web-20220414034152844200000001-asg]
aws_autoscaling_policy.web_policy_up: Creating...
aws_autoscaling_policy.web_policy_down: Creating...
aws_autoscaling_policy.web_policy_down: Creation complete after 0s [id=web_policy_down]
aws_autoscaling_policy.web_policy_up: Creation complete after 0s [id=web_policy_up]
aws_cloudwatch_metric_alarm.web_cpu_alarm_down: Creating...
aws_cloudwatch_metric_alarm.web_cpu_alarm_up: Creating...
aws_cloudwatch_metric_alarm.web_cpu_alarm_down: Creation complete after 0s [id=web_cpu_alarm_down]
aws_cloudwatch_metric_alarm.web_cpu_alarm_up: Creation complete after 0s [id=web_cpu_alarm_up]

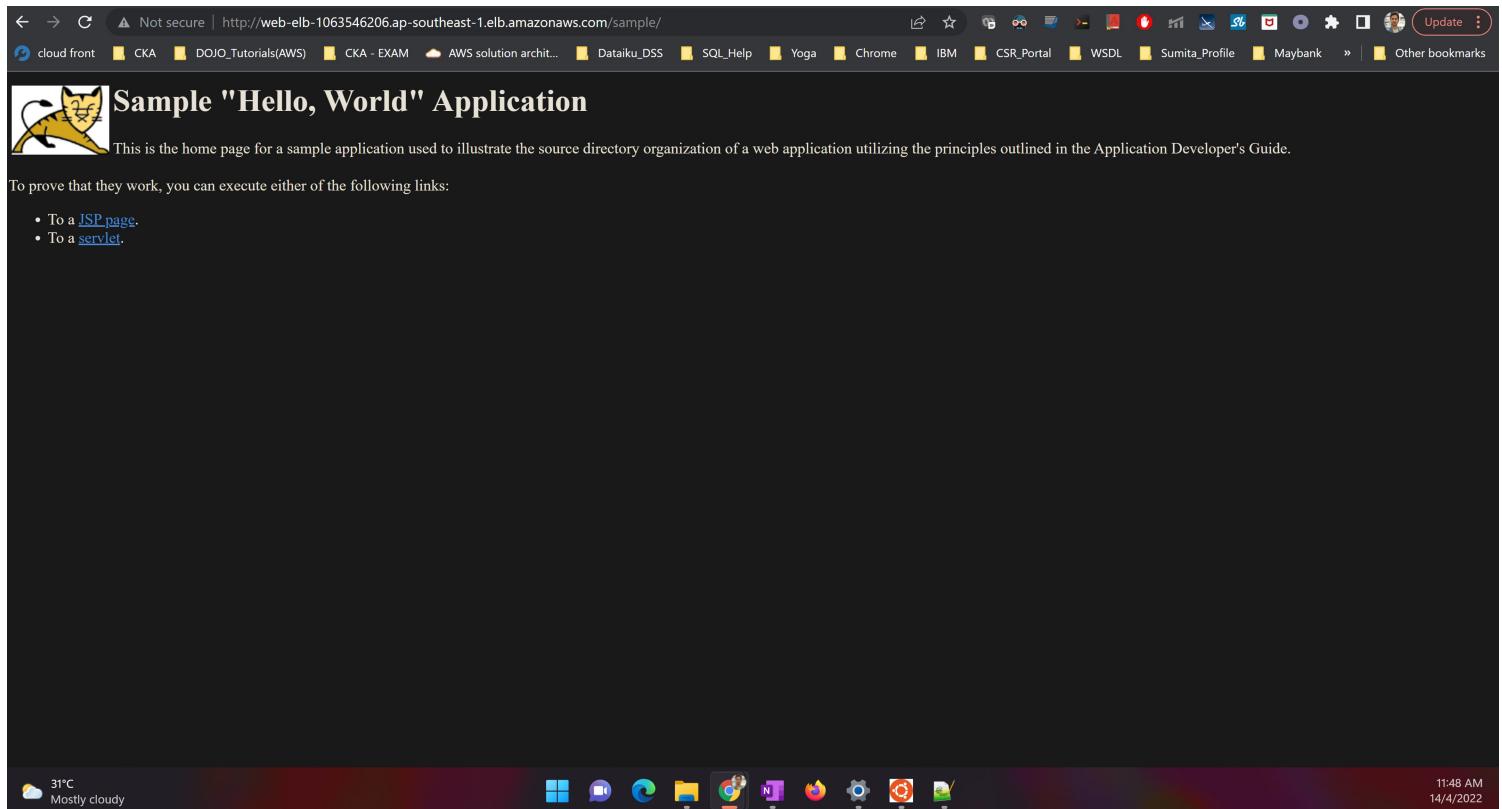
Apply complete! Resources: 10 added, 0 changed, 2 destroyed.

Outputs:

elb_dns_name = web-elb-1063546206.ap-southeast-1.elb.amazonaws.com
vinayak@vinayak-PC:~/projects/packer-ansible-aws/terraform$
```

Name	VPC ID	Availability Zones	Type
web-elb	vpc-332cc855	ap-southeast-1b, ap-so... classic	

- Successfully accessed the web application using ELB DNS endpoint



- To save on cost destroyed those above created resources

```
        ],
        ] -> null
- name = "elb_http" -> null
- owner_id = "257551796884" -> null
- revoke_rules_on_delete = false -> null
- tags = [
    {
        "Name": "Allow HTTP through ELB Security Group"
    }
] -> null
- vpc_id = "vpc-332cc855" -> null
```

Plan: 0 to add, 1 to change, 10 to destroy

Do you really want to destroy all resources?
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

Enter a value: yes

```
aws.cloudwatch_metric.alarm_web.cpu_alarm_down: Destroying... [id:web_cpu_alarm_down]
aws.cloudwatch_metric.alarm_web.cpu_alarm_up: Destroying... [id:web_cpu_alarm_up]
aws.default.default_az1: Destroying... [id:subnet-a089ff]
aws.default.default_az1: Destruction complete after 0s
aws.cloudwatch_metric.alarm_web.cpu_alarm_down: Destruction complete after 0s
aws.cloudwatch_metric.alarm_web.cpu_alarm_up: Destruction complete after 0s
aws.autoscaling_policy.web_policy_up: Destroying... [id:web_policy_up]
aws.autoscaling_policy.web_policy_up: Destruction complete after 0s
aws.autoscaling_policy.web_policy_up: Destruction complete after 0s
aws.autoscaling_group.web: Destroying... [id:web-20230414084152844200000001]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 10s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 26s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 42s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 46s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 50s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 58s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 1m0s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 1m08s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 1m20s elapsed]
aws.autoscaling_group.web: Still destroying... [id:web-20230414084152844200000001-asg, 1m30s elapsed]
aws.launch_configuration.web: Destruction complete after 0s
aws.security_group_allow_http: Destroying... [id:sg-017e05651449d9e]
aws.security_group_allow_http: Destruction complete after 0s
aws.security_group_allow_http: Destroying... [id:sg-0bb0c823458ec608]
aws.security_group_allow_http: Destruction complete after 0s
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 10s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 26s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 42s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 46s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 50s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 58s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 1m0s elapsed]
aws.security_group_allow_http: Still destroying... [id:sg-0bb0c823458ec608, 1m08s elapsed]
aws.elb.attachment: Destroying... [id:elb-attachment-0000000000000001]
aws.elb.attachment: Destruction complete after 0ms
aws.launch_configuration.elb: Destroying... [id:elb-launch-configuration-0000000000000001]
```

vinayak@Vinayak-PC:~/projects/packer-ansible-aws/terraform\$

Mostly cloudy

- Directories and Files

```
vinayak@vinayak-PC:~/projects$ tree
.
└── packer-ansible-app
    ├── KP-CSA-C02.pem
    ├── KP-CSA-C02.pem.Zone.Identifier
    └── packer
        ├── build_artifact.txt
        ├── packer-build.json
        ├── provisones
        │   ├── ansible
        │   ├── deploy_app.yml
        │   ├── files
        │   │   └── sample.war
        │   ├── setup-server.yml
        │   └── templates
        │       └── tomcat.service.j2
        ├── scripts
        │   ├── bootstrap.sh
        │   ├── bootstrap.sh
        │   └── build_artifact.txt
        └── packer_bootstrap.sh

    └── src
        └── application
            ├── terraform
            │   ├── KP-CSA-C02.pem
            │   ├── KP-CSA-C02.pem.Zone.Identifier
            │   ├── complete_main.tf.Reference
            │   ├── main.tf
            │   ├── tf_working_v1
            │   └── terraform.tfstate
            └── terraform.tfstate.backup

10 directories, 19 files
vinayak@vinayak-PC:~/projects$
```