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Terraform Associate

HashiCorp Certified: Terraform Associate

Version 1.0

Exam A

QUESTION 1

The terraform.tfstate file always matches your currently built infrastructure.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/state/index.html

QUESTION 2 One remote backend configuration always maps to a single remote workspace.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/settings/backends/remote.html

QUESTION 3 How is the Terraform remote backend different than other state backends such as S3, Consul, etc.?

A. It can execute Terraform runs on dedicated infrastructure on premises or in Terraform Cloud
B. It doesn't show the output of a terraform apply locally
C. It is only available to paying customers
D. All of the above

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
If you and your team are using Terraform to manage meaningful infrastructure, we recommend using the remote backend with Terraform Cloud or Terraform Enterprise. Reference:
https://www.terraform.io/docs/language/settings/backends/index.html

QUESTION 4 What is the workflow for deploying new infrastructure with Terraform?

A. terraform plan to import the current infrastructure to the state file, make code changes, and terraform apply to update the infrastructure
B. Write a Terraform configuration, run terraform show to view proposed changes, and terraform apply to create new infrastructure.
C. terraform plan to import the current infrastructure to the state file, make code changes, and terraform apply to update the infrastructure
D. Write a Terraform configuration, run terraform init, run terraform plan to view planned infrastructure changes, and terraform apply to create new infrastructure.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 5 A provider configuration block is required in every Terraform
configuration.

Example:

```
provider "provider_name" {
  ...
}
```

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://github.com/hashicorp/terraform/issues/17928

QUESTION 6 You run a local-exec provisioner in a null resource called null_resource.run_script and realize that you need to
rerun the script.

Which of the following commands would you use first?

A. terraform taint null_resource.run_script
B. terraform apply -target=null_resource.run_script
C. terraform validate null_resource.run_script
D. terraform plan -target=null_resource.run_script

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7 Which provisioner invokes a process on the resource created
by Terraform?

A. remote-exec
B. null-exec
C. local-exec
D. file

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The remote-exec provisioner invokes a script on a remote resource after it is created.
Reference: https://www.terraform.io/docs/language/resources/provisioners/remote-exec.html

QUESTION 8 Which of the following is **not** true of
Terraform providers?

A. Providers can be written by individuals
B. Providers can be maintained by a community of users
C. Some providers are maintained by HashiCorp
D. Major cloud vendors and non-cloud vendors can write, maintain, or collaborate on Terraform providers
E. None of the above

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Reference: https://jayendrapatil.com/terraform-cheat-sheet/#Terraform_Read_and_write_configuration

QUESTION 9 What command does Terraform require the first time you run it within a
configuration directory?

A. terraform import
B. terraform init
C. terraform plan
D. terraform workspace

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
terraform init command is used to initialize a working directory containing Terraform configuration files. Reference:
https://www.terraform.io/docs/cli/commands/init.html

QUESTION 10 You have deployed a new webapp with a public IP address on a clod provider. However, you did not create any
outputs for your code.

What is the best method to quickly find the IP address of the resource you deployed?

A. Run terraform output ip_address to view the result
B. In a new folder, use the terraform_remote_state data source to load in the state file, then write an output for each resource that you find the state file
C. Run terraform state list to find the name of the resource, then terraform state show to find the attributes including public IP addressD. Run terraform destroy then terraform apply and look for the IP address in stdout

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/cli/commands/output.html

QUESTION 11 Which of the following is **not** a key principle of
infrastructure as code?

A. Versioned infrastructure
B. Golden images
C. Idempotence
D. Self-describing infrastructure

Correct Answer: ABD
Section: (none)
Explanation

Explanation/Reference:
Reference: https://docs.microsoft.com/en-us/azure/devops/learn/what-is-infrastructure-as-code#:~:text=Idempotence%20is%20a%20principle%20of,of%20the%20environment's%20starting%20state.

QUESTION 12 Terraform variables and outputs that set the "description" argument will store that description
in the state file.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/values/outputs.html

QUESTION 13
What is the provider for this fictitious resource?

```
resource "aws_vpc" "main" {
    name = "test"
}
```

A. vpc
B. main
C. aws
D. test

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Reference: https://docs.aws.amazon.com/cloudformation-cli/latest/userguide/resource-types.html

QUESTION 14 If you manually destroy infrastructure, what is the best practice reflecting this
change in Terraform?

A. Run terraform refresh
B. It will happen automatically
C. Manually update the state fire
D. Run terraform import

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 15 What is **not** processed when running a
terraform refresh?

A. State file
B. Configuration file
C. Credentials
D. Cloud provider

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/cli/commands/refresh.html

QUESTION 16 What information does the public Terraform Module Registry automatically expose about published modules?

A. Required input variables
B. Optional inputs variables and default values
C. Outputs
D. All of the above
E. None of the above

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/registry/modules/publish.html

QUESTION 17 If a module uses a local variable, you can expose that value with a terraform output.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Output values are like function return values.
Reference: https://www.terraform.io/docs/language/values/locals.html https://www.terraform.io/docs/language/values/outputs.html

QUESTION 18 You should store secret data in the same version control repository as your Terraform configuration.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://blog.gruntwork.io/a-comprehensive-guide-to-managing-secrets-in-your-terraform-code-1d586955ace1

QUESTION 19 Which of the following is **not** a valid string function in Terraform?

A. split
B. join
C. slice
D. chomp

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/functions/chomp.html

QUESTION 20 You have provisioned some virtual machines (VMs) on Google Cloud Platform (GCP) using the gcloud command line tool. However, you are standardizing with Terraform and want to manage these VMs using Terraform instead.

What are the two things you **must do** to achieve this? (Choose two.)

A. Provision new VMs using Terraform with the same VM names
B. Use the terraform import command for the existing VMs
C. Write Terraform configuration for the existing VMs
D. Run the terraform import-gcp command

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The terraform import command is used to import existing infrastructure.
Import existing Google Cloud resources into Terraform with Terraformer.

Reference: https://www.terraform.io/docs/cli/import/usage.html https://cloud.google.com/docs/terraform

QUESTION 21
You have recently started a new job at a retailer as an engineer. As part of this new role, you have been tasked with evaluating multiple outages that occurred during peak shopping time during the holiday season. Your investigation found that the team is manually deploying new compute instances and configuring each compute instance manually. This has led to inconsistent configuration between each compute instance.

How would you solve this using infrastructure as code?

A. Implement a ticketing workflow that makes engineers submit a ticket before manually provisioning and configuring a resource
B. Implement a checklist that engineers can follow when configuring compute instances
C. Replace the compute instance type with a larger version to reduce the number of required deployments
D. Implement a provisioning pipeline that deploys infrastructure configurations committed to your version control system following code reviews

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 22
terraform init initializes a sample main.tf file in the current directory.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/cli/commands/init.html

QUESTION 23 Which two steps are required to provision new infrastructure in the Terraform
workflow? (Choose two.)

A. Destroy
B. Apply
C. Import
D. Init
E. Validate

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/guides/core-workflow.html

QUESTION 24 Why would you use the terraform
taint command?

A. When you want to force Terraform to destroy a resource on the next apply
B. When you want to force Terraform to destroy and recreate a resource on the next apply
C. When you want Terraform to ignore a resource on the next apply
D. When you want Terraform to destroy all the infrastructure in your workspace

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The terraform taint command manually marks a Terraform-managed resource as tainted, forcing it to be destroyed and recreated on the next apply. Reference:
https://www.terraform.io/docs/cli/commands/taint.html

QUESTION 25 Terraform requires the Go runtime as a prerequisite
for installation.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/extend/guides/v1-upgrade-guide.html

QUESTION 26
When should you use the force-unlock command?

A. You see a status message that you cannot acquire the lock
B. You have a high priority change
C. Automatic unlocking failed
D. Your apply failed due to a state lock

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Manually unlock the state for the defined configuration.

Reference: https://www.terraform.io/docs/cli/commands/force-unlock.html

QUESTION 27 Terraform can import modules from a number of sources – which of the following is **not**
a valid source?

A. FTP server
B. GitHub repository
C. Local path
D. Terraform Module Registry

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 28
Which of the following is available only in Terraform Enterprise or Cloud workspaces and **not** in Terraform CLI?

A. Secure variable storage
B. Support for multiple cloud providers
C. Dry runs with terraform plan
D. Using the workspace as a data source

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/providers/configuration.html

QUESTION 29
terraform validate validates the syntax of Terraform files.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The terraform validate command validates the syntax and arguments of the Terraform configuration files. Reference:
https://www.terraform.io/docs/cli/code/index.html

QUESTION 30
You have used Terraform to create an ephemeral development environment in the cloud and are now ready to destroy all the infrastructure described by your Terraform configuration. To be safe, you would like to first see all the infrastructure that will be deleted by Terraform.

Which command should you use to show all of the resources that will be deleted? (Choose two.)

A. Run terraform plan -destroy.
B. This is not possible. You can only show resources that will be created.

C. Run terraform state rm *.
D. Run terraform destroy and it will first output all the resources that will be deleted before prompting for approval.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/cli/commands/state/rm.html

QUESTION 31 Which of the following is the correct way to pass the value in the variable num_servers into a module with the input servers?

A. servers = num_servers
B. servers = variable.num_servers
C. servers = var(num_servers)
D. servers = var.num_servers

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 32 A Terraform provisioner must be nested inside a resource configuration block.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Most provisioners require access to the remote resource via SSH or WinRM, and expect a nested connection block with details about how to connect. Reference:

https://www.terraform.io/docs/language/resources/provisioners/connection.html

QUESTION 33 Terraform can run on Windows or Linux, but it requires a Server version of the Windows operating system.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://cloud.google.com/kubernetes-engine/docs/how-to/creating-a-cluster-windows

QUESTION 34 What does the default "local" Terraform backend store?

A. tfplan files
B. Terraform binary

C. Provider plugins
D. State file

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The local backend stores state on the local filesystem, locks that state using system APIs, and performs operations locally. Reference:

https://www.terraform.io/docs/language/settings/backends/local.html

QUESTION 35
You have multiple team members collaborating on infrastructure as code (IaC) using Terraform, and want to apply formatting standards for readability.

How can you format Terraform HCL (HashiCorp Configuration Language) code according to standard Terraform style convention?

A. Run the terraform fmt command during the code linting phase of your CI/CD process
B. Designate one person in each team to review and format everyone's code
C. Manually apply two spaces indentation and align equal sign "=" characters in every Terraform file (*.tf)D. Write a shell script to transform Terraform files using tools such as *AWK, Python,* and *sed*

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
▪ Indent two spaces for each nesting level.
▪ When multiple arguments with single-line values appear on consecutive lines at the same nesting level, align their equals signs. Reference:
https://www.terraform.io/docs/language/syntax/style.html

QUESTION 36
What value does the Terraform Cloud/Terraform Enterprise private module registry provide over the public Terraform Module Registry?

A. The ability to share modules with public Terraform users and members of Terraform Enterprise Organizations
B. The ability to tag modules by version or release
C. The ability to restrict modules to members of Terraform Cloud or Enterprise organizationsD. The ability to share modules publicly with any user of Terraform

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Terraform Registry is an index of modules shared publicly using this protocol. This public registry is the easiest way to get started with Terraform and find modules created by others in the community. Reference:

https://www.terraform.io/docs/language/modules/sources.html

QUESTION 37 Which task does terraform
init **not** perform?

A. Sources all providers present in the configuration and ensures they are downloaded and available locally
B. Connects to the backend
C. Sources any modules and copies the configuration locally
D. Validates all required variables are present

Correct Answer: D
Section: (none)

Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/cli/commands/init.html

QUESTION 38 You have declared a variable called var.list which is a list of objects that all have an attribute id.

Which options will produce a list of the IDs? (Choose two.)

A. { for o in var.list : o => o.id }
B. var.list[*].id
C. [var.list[*].id]
D. [for o in var.list : o.id]

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:

QUESTION 39 Which argument(s) is (are) required when declaring a Terraform variable?

A. type
B. default
C. description
D. All of the above
E. None of the above

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The variable declaration can also include a default argument.
Reference: https://www.terraform.io/docs/language/values/variables.html

QUESTION 40
When using a module block to reference a module stored on the public Terraform Module Registry such as:

```
module "consul" {
   source = "hashicorp/consul/aws"
}
```

How do you specify version 1.0.0?

A. Modules stored on the public Terraform Module Registry do not support versioning
B. Append ?ref=v1.0.0 argument to the source path
C. Add version = "1.0.0" attribute to module block
D. Nothing – modules stored on the public Terraform Module Registry always default to version 1.0.0

Correct Answer: A
Section: (none)
Explanation
Explanation/Reference:

Reference: https://www.terraform.io/docs/language/modules/sources.html

QUESTION 41 What features does the hosted service Terraform Cloud
provide? (Choose two.)

A. Automated infrastructure deployment visualization
B. Automatic backups
C. Remote state storage
D. A web-based user interface (UI)

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/enterprise/admin/automated-recovery.html
https://www.terraform.io/docs/language/state/remote.html

QUESTION 42 Where does the Terraform local backend
store its state?

A. In the /tmp directory
B. In the terraform.tfvars file
C. In the terraform.tfstate file
D. In the user's .terraformrc file

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The local backend stores state on the local filesystem, locks that state using system APIs, and performs operations locally.
Reference: https://www.terraform.io/docs/language/settings/backends/local.html

QUESTION 43 Which option can **not** be used to keep secrets out of Terraform
configuration files?

A. A Terraform provider
B. Environment variables
C. A -var flag
D. secure string

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Reference: https://secrethub.io/blog/secret-management-for-terraform/

QUESTION 44 What is one disadvantage of using dynamic
blocks in Terraform?

A. They cannot be used to loop through a list of values
B. Dynamic blocks can construct repeatable nested blocks
C. They make configuration harder to read and understand
D. Terraform will run more slowly
Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
Reference: https://github.com/hashicorp/terraform/issues/19291

QUESTION 45 Only the user that generated a
plan may apply it.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The optional -out argument can be used to save the generated plan to a file for later execution with terraform apply, which can be useful when running Terraform in automation. Reference:
https://learn.hashicorp.com/tutorials/terraform/automate-terraform

QUESTION 46 Examine the following Terraform configuration, which uses the data source
for an AWS AMI.

What value should you enter for the ami argument in the AWS instance resource?

```
data "aws_ami" "ubuntu" {
  ...
}

resource "aws_instance" "web" {
  ami = _____
  instance_type = "t2.micro"

  tags = {
    Name = "HelloWorld"
  }
}
```

A. aws_ami.ubuntu
B. data.aws_ami.ubuntu
C. data.aws_ami.ubuntu.id
D. aws_ami.ubuntu.id

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
resource "aws_instance" "web" {   ami
= data.aws_ami.ubuntu.id

Reference: https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/instance

QUESTION 47
FILL BLANK

You need to specify a dependency manually.

What resource meta-parameter can you use to make sure Terraform respects the dependency?

Type your answer in the field provided. The text field is not case-sensitive and all variations of the correct answer are accepted.

Correct Answer: the local_file data source
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/language/functions/file.html

QUESTION 48
You have never used Terraform before and would like to test it out using a shared team account for a cloud provider. The shared team account already contains 15 virtual machines (VM). You develop a Terraform configuration containing one VM, perform terraform apply, and see that your VM was created successfully.

What should you do to delete the newly-created VM with Terraform?

A. The Terraform state file contains all 16 VMs in the team account. Execute terraform destroy and select the newly-created VM.
B. The Terraform state file only contains the one new VM. Execute terraform destroy.
C. Delete the Terraform state file and execute *Terraform apply*.
D. Delete the VM using the cloud provider console and terraform apply to apply the changes to the Terraform state file.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 49
What is the name assigned by Terraform to reference this resource?

```
resource "azurerm_resource_group" "dev" {
  name = "test"
  location = "westus"
}
```

A. dev
B. azurerm_resource_group
C. azurerm
D. test

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 50 Setting the TF_LOG environment variable to DEBUG causes debug messages to be logged into syslog.

A. True
B. False
Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/internals/debugging.html

QUESTION 51 Where in your Terraform configuration do you specify a
state backend?

A. The terraform block
B. The resource block
C. The provider block
D. The datasource block

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Backends are configured with a nested backend block within the top-level terraform block.

Reference: https://www.terraform.io/docs/language/settings/backends/configuration.html

QUESTION 52 In Terraform 0.13 and above, outside of the required_providers block, Terraform configurations always refer to providers by
their local names.

A. True
B. False

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Outside of the required_providers block, Terraform configurations always refer to providers by their local names.
Reference: https://www.terraform.io/docs/language/providers/requirements.html

QUESTION 53 What command should you run to display all workspaces for the current
configuration?

A. terraform workspace
B. terraform workspace showC. terraform workspace list
D. terraform show workspace

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
terraform workspace list
The command will list all existing workspaces.
Reference: https://www.terraform.io/docs/cli/commands/workspace/list.html

QUESTION 54
Terraform providers are always installed from the Internet.

A. True
B. False

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Terraform configurations must declare which providers they require, so that Terraform can install and use them. Reference:

https://www.terraform.io/docs/language/providers/configuration.html

QUESTION 55 Which of these is the best practice to protect sensitive
values in state files?

A. Blockchain
B. Secure Sockets Layer (SSL)
C. Enhanced remote backends
D. Signed Terraform providers

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use of remote backends and especially the availability of Terraform Cloud, there are now a variety of backends that will encrypt state at rest and will not store the state in cleartext on machines running.
Reference: https://www.terraform.io/docs/extend/best-practices/sensitive-state.html

QUESTION 56 When does terraform apply reflect changes in the
cloud environment?

A. Immediately
B. However long it takes the resource provider to fulfill the request
C. After updating the state file
D. Based on the value provided to the -refresh command line argument
E. None of the above

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 57
How would you reference the "name" value of the second instance of this fictitious resource?

```
resource "aws_instance" "web" {
  count = 2
  name = "terraform-${count.index}"
}
```

A. element(aws_instance.web, 2)
B. aws_instance.web[1].name
C. aws_instance.web[1]
D. aws_instance.web[2].name
E. aws_instance.web.*.name

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.terraform.io/docs/configuration-0-11/interpolation.html