

Exam Questions Terraform-Associate-003

HashiCorp Certified: Terraform Associate (003)

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NEW QUESTION 1

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

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

Answer: D

Explanation:

The key principle of infrastructure as code that is not listed among the options is golden images. Golden images are pre-configured, ready-to-use virtual machine images that contain a specific set of software and configuration. They are often used to create multiple identical instances of the same environment, such as for testing or production. However, golden images are not a principle of infrastructure as code, but rather a technique that can be used with or without infrastructure as code. The other options are all key principles of infrastructure as code, as explained below:

? Self-describing infrastructure: This means that the infrastructure is defined in code that describes its desired state, rather than in scripts that describe the steps to create it. This makes the infrastructure easier to understand, maintain, and reproduce.

? Idempotence: This means that applying the same infrastructure code multiple times will always result in the same state, regardless of the initial state. This makes the infrastructure consistent and predictable, and avoids errors or conflicts caused by repeated actions.

? Versioned infrastructure: This means that the infrastructure code is stored in a version control system, such as Git, that tracks the changes and history of the code. This makes the infrastructure code reusable, auditable, and collaborative, and enables practices such as branching, merging, and rollback. References = [Introduction to Infrastructure as Code with Terraform], [Infrastructure as Code in a Private or Public Cloud]

NEW QUESTION 2

You've used Terraform to deploy a virtual machine and a database. You want to replace this virtual machine instance with an identical one without affecting the database. What is the best way to achieve this using Terraform?

- A. Use the terraform state rm command to remove the VM from state file
- B. Use the terraform taint command targeting the VMs then run terraform plan and terraform apply
- C. Use the terraform apply command targeting the VM resources only
- D. Delete the Terraform VM resources from your Terraform code then run terraform plan and terraform apply

Answer: B

Explanation:

The terraform taint command marks a resource as tainted, which means it will be destroyed and recreated on the next apply. This way, you can replace the VM instance without affecting the database or other resources. References = [Terraform Taint]

NEW QUESTION 3

How does Terraform determine dependencies between resources?

- A. Terraform requires resource dependencies to be defined as modules and sourced in order
- B. Terraform automatically builds a resource graph based on resources provisioners, special meta-parameters, and the state file (if present)
- C. Terraform requires resources in a configuration to be listed in the order they will be created to determine dependencies
- D. Terraform requires all dependencies between resources to be specified using the depends_on parameter

Answer: B

Explanation:

This is how Terraform determines dependencies between resources, by using the references between them in the configuration files and other factors that affect the order of operations.

NEW QUESTION 4

You must initialize your working directory before running terraform validate.

- A. True
- B. False

Answer: A

Explanation:

You must initialize your working directory before running terraform validate, as it will ensure that all the required plugins and modules are installed and configured properly. If you skip this step, you may encounter errors or inconsistencies when validating your configuration files.

NEW QUESTION 5

terraform validate confirms that your infrastructure matches the Terraform state file.

- A. True
- B. False

Answer: B

Explanation:

terraform validate does not confirm that your infrastructure matches the Terraform state file. It only checks whether the configuration files in a directory are syntactically valid and internally consistent. To confirm that your infrastructure matches the Terraform state file, you need to use terraform plan or terraform apply

with the -refresh- only option.

NEW QUESTION 6

A developer on your team is going to tear down an existing deployment managed by Terraform and deploy a new one. However, there is a server resource named `aws_instance.ubuntu[1]` they would like to keep. What command should they use to tell Terraform to stop managing that specific resource?

- A. Terraform plan `rm:aws_instance.ubuntu[1]`
- B. Terraform state `rm:aws_instance.ubuntu[1]`
- C. Terraform apply `rm:aws_instance.ubuntu[1]`
- D. Terraform destroy `rm:aws_instance.ubuntu[1]`

Answer: B

Explanation:

To tell Terraform to stop managing a specific resource without destroying it, you can use the `terraform state rm` command. This command will remove the resource from the Terraform state, which means that Terraform will no longer track or update the corresponding remote object. However, the object will still exist in the remote system and you can later use `terraform import` to start managing it again in a different configuration or workspace. The syntax for this command is `terraform state rm <address>`,

where `<address>` is the resource address that identifies the resource instance to remove.

For example, `terraform state rm aws_instance.ubuntu[1]` will remove the second instance of the `aws_instance` resource named `ubuntu` from the state. References = : Command: `state rm` : Moving Resources

NEW QUESTION 7

You cannot install third party plugins using `terraform init`.

- A. True
- B. False

Answer: B

Explanation:

You can install third party plugins using `terraform init`, as long as you specify the plugin directory in your configuration or as a command-line argument. You can also use the `terraform providers mirror` command to create a local mirror of providers from any source.

NEW QUESTION 8

Your DevOps team is currently using the local backend for your Terraform configuration. You would like to move to a remote backend to store the state file in a central location. Which of the following backends would not work?

- A. Artifactory
- B. Amazon S3
- C. Terraform Cloud
- D. Git

Answer: D

Explanation:

This is not a valid backend for Terraform, as it does not support locking or versioning of state files⁴. The other options are valid backends that can store state files in a central location.

NEW QUESTION 9

Which of the following is not a valid Terraform collection type?

- A. Tree
- B. Map
- C. List
- D. set

Answer: A

Explanation:

This is not a valid Terraform collection type, as Terraform only supports three collection types: list, map, and set. A tree is a data structure that consists of nodes with parent-child relationships, which is not supported by Terraform.

NEW QUESTION 10

If a module declares a variable with a default, that variable must also be defined within the module.

- A. True
- B. False

Answer: B

Explanation:

A module can declare a variable with a default value without requiring the caller to define it. This allows the module to provide a sensible default behavior that can be customized by the caller if needed. References = [Module Variables]

NEW QUESTION 10

When you use a remote backend that needs authentication, HashiCorp recommends that you:

- A. Write the authentication credentials in the Terraform configuration files
- B. Keep the Terraform configuration files in a secret store
- C. Push your Terraform configuration to an encrypted git repository
- D. Use partial configuration to load the authentication credentials outside of the Terraform code

Answer: D

Explanation:

This is the recommended way to use a remote backend that needs authentication, as it allows you to provide the credentials via environment variables, command-line arguments, or interactive prompts, without storing them in the Terraform configuration files.

NEW QUESTION 14

Only the user that generated a plan may apply it.

- A. True
- B. False

Answer: B

Explanation:

Any user with permission to apply a plan can apply it, not only the user that generated it. This allows for collaboration and delegation of tasks among team members.

NEW QUESTION 16

As a developer, you want to ensure your plugins are up to date with the latest versions. Which Terraform command should you use?

- A. terraform refresh -upgrade
- B. terraform apply -upgrade
- C. terraform init -upgrade
- D. terraform providers -upgrade

Answer: C

Explanation:

This command will upgrade the plugins to the latest acceptable version within the version constraints specified in the configuration. The other commands do not have an - upgrade option.

NEW QUESTION 21

The Terraform binary version and provider versions must match each other in a single configuration.

- A. True
- B. False

Answer: B

Explanation:

The Terraform binary version and provider versions do not have to match each other in a single configuration. Terraform allows you to specify provider version constraints in the configuration's terraform block, which can be different from the Terraform binary version¹. Terraform will use the newest version of the provider that meets the configuration's version constraints². You can also use the dependency lock file to ensure Terraform is using the correct provider version³.

References =

- 1: Providers - Configuration Language | Terraform | HashiCorp Developer
- 2: Multiple provider versions with Terraform - Stack Overflow
- 3: Lock and upgrade provider versions | Terraform - HashiCorp Developer

NEW QUESTION 24

You add a new resource to an existing Terraform configuration, but do not update the version constraint in the configuration. The existing and new resources use the same provider. The working contains a .terraform.lock, hc1 file.

How will Terraform choose which version of the provider to use?

- A. Terraform will use the version recorded in your lock file
- B. Terraform will use the latest version of the provider for the new resource and the version recorded in the lock file to manage existing resources
- C. Terraform will check your state file to determine the provider version to use
- D. Terraform will use the latest version of the provider available at the time you provision your new resource

Answer: A

Explanation:

This is how Terraform chooses which version of the provider to use, when you add a new resource to an existing Terraform configuration, but do not update the version constraint in the configuration. The lock file records the exact version of each provider that was installed in your working directory, and ensures that Terraform will always use the same provider versions until you run terraform init -upgrade to update them.

NEW QUESTION 27

You want to define a single input variable to capture configuration values for a server. The values must represent memory as a number, and the server name as a string.

Which variable type could you use for this input?

- A. List
- B. Object
- C. Map
- D. Terraform does not support complex input variables of different types

Answer: B

Explanation:

This is the variable type that you could use for this input, as it can store multiple attributes of different types within a single value. The other options are either invalid or incorrect for this use case.

NEW QUESTION 29

What type of block is used to construct a collection of nested configuration blocks?

- A. Dynamic
- B. For_each
- C. Nesting
- D. repeated.

Answer: A

Explanation:

This is the type of block that is used to construct a collection of nested configuration blocks, by using a for_each argument to iterate over a collection value and generate a nested block for each element. For example, you can use a dynamic block to create multiple ingress rules for a security group resource.

NEW QUESTION 31

Which configuration consistency errors does terraform validate report?

- A. Terraform module isn't the latest version
- B. Differences between local and remote state
- C. Declaring a resource identifier more than once
- D. A mix of spaces and tabs in configuration files

Answer: C

Explanation:

Terraform validate reports configuration consistency errors, such as declaring a resource identifier more than once. This means that the same resource type and name combination is used for multiple resource blocks, which is not allowed in Terraform. For example, resource "aws_instance" "example" {...} cannot be used more than once in the same configuration. Terraform validate does not report errors related to module versions, state differences, or formatting issues, as these are not relevant for checking the configuration syntax and structure. References = [Validate Configuration], [Resource Syntax]

NEW QUESTION 34

Terraform can only manage resource dependencies if you set them explicitly with the depends_on argument.

- A. True
- B. False

Answer: B

Explanation:

Terraform can manage resource dependencies implicitly or explicitly. Implicit dependencies are created when a resource references another resource or data source in its arguments. Terraform can infer the dependency from the reference and create or destroy the resources in the correct order. Explicit dependencies are created when you use the depends_on argument to specify that a resource depends on another resource or module. This is useful when Terraform cannot infer the dependency from the configuration or when you need to create a dependency for some reason outside of Terraform's scope. References = : Create resource dependencies : Terraform Resource Dependencies Explained

NEW QUESTION 38

You add a new provider to your configuration and immediately run terraform apply in the CD using the local backend. Why does the apply fail?

- A. The Terraform CD needs you to log into Terraform Cloud first
- B. Terraform requires you to manually run terraform plan first
- C. Terraform needs to install the necessary plugins first
- D. Terraform needs you to format your code according to best practices first

Answer: C

Explanation:

The reason why the apply fails after adding a new provider to the configuration and immediately running terraform apply in the CD using the local backend is because Terraform needs to install the necessary plugins first. Terraform providers are plugins that Terraform uses to interact with various cloud services and other APIs. Each provider has a source address that determines where to download it from. When Terraform encounters a new provider in the configuration, it needs to run terraform init first to install the provider plugins in a local directory. Without the plugins, Terraform cannot communicate with the provider and perform the desired actions. References = [Provider Requirements], [Provider Installation]

NEW QUESTION 43

In a Terraform Cloud workspace linked to a version control repository speculative plan run start automatically commit changes to version control.

- A. True

B. False

Answer: A

Explanation:

When you use a remote backend that needs authentication, HashiCorp recommends that you:

NEW QUESTION 47

Module variable assignments are inherited from the parent module and you do not need to explicitly set them.

A. True

B. False

Answer: B

Explanation:

Module variable assignments are not inherited from the parent module and you need to explicitly set them using the source argument. This allows you to customize the behavior of each module instance.

NEW QUESTION 52

Which of the following are advantages of using infrastructure as code (IaC) instead of provisioning with a graphical user interface (GUI)? Choose two correct answers.

A. Prevents manual modifications to your resources

B. Lets you version, reuse, and share infrastructure configuration

C. Secures your credentials

D. Provisions the same resources at a lower cost

E. Reduces risk of operator error

Answer: BE

Explanation:

Infrastructure as code (IaC) is a way of managing and provisioning cloud infrastructure using programming techniques instead of manual processes¹. IaC has many advantages over using a graphical user interface (GUI) for provisioning infrastructure, such as:

- Versioning: IaC allows you to store your infrastructure configuration in a version control system, such as Git, and track changes over time. This enables you to roll back to previous versions, compare differences, and collaborate with other developers².

- Reusability: IaC allows you to create reusable modules and templates that can be applied to different environments, such as development, testing, and production. This reduces duplication, improves consistency, and speeds up deployment³.

- Sharing: IaC allows you to share your infrastructure configuration with other developers, teams, or organizations, and leverage existing code from open source repositories or registries. This fosters best practices, innovation, and standardization⁴.

- Risk reduction: IaC reduces the risk of human error, configuration drift, and security breaches that can occur when provisioning infrastructure manually or using a GUI. IaC also enables you to perform automated testing, validation, and compliance checks on your infrastructure before deploying it⁵. References =

- 1: What is Infrastructure as Code? Explained for Beginners - freeCodeCamp.org

- 2: The benefits of Infrastructure as Code - Microsoft Community Hub

- 3: Infrastructure as Code : Best Practices, Benefits & Examples - Spacelift

- 4: 5 Benefits of Infrastructure as Code (IaC) for Modern Businesses in the Cloud

- 5: The 7 Biggest Benefits of Infrastructure as Code - DuploCloud

NEW QUESTION 56

Module version is required to reference a module on the Terraform Module Registry.

A. True

B. False

Answer: B

Explanation:

Module version is optional to reference a module on the Terraform Module Registry. If you omit the version constraint, Terraform will automatically use the latest available version of the module

NEW QUESTION 59

You are using a networking module in your Terraform configuration with the name label my-network. In your main configuration you have the following code:

```
output "net_id" {
  value = module.my_network.vnet_id
}
```

When you run terraform validate, you get the following error:

```
Error: Reference to undeclared output value

on main.tf line 12, in output "net_id":
12:   value = module.my_network.vnet_id
```

What must you do to successfully retrieve this value from your networking module?

A. Change the reference value to my-network,outputs,vmet_id

B. Define the attribute vmet_id as a variable in the networking modeule

C. Define the attribute vnet_id as an output in the networking module

D. Change the reference value module.my.network.outputs.vnet_id

Answer: C

Explanation:

This is what you must do to successfully retrieve this value from your networking module, as it will expose the attribute as an output value that can be referenced by other modules or resources. The error message indicates that the networking module does not have an output value named vnet_id, which causes the reference to fail.

NEW QUESTION 62

Once you configure a new Terraform backend with a terraform code block, which command(s) should you use to migrate the state file?

- A. terraform destroy, then terraform apply
- B. terraform init
- C. terraform push
- D. terraform apply

Answer: A

Explanation:

This command will initialize the new backend and prompt you to migrate the existing state file to the new location⁴. The other commands are not relevant for this task.

NEW QUESTION 67

Define the purpose of state in Terraform.

- A. State maps real world resources to your configuration and keeps track of metadata
- B. State lets you enforce resource configurations that relate to compliance policies
- C. State stores variables and lets you quickly reuse existing code
- D. State codifies the dependencies of related resources

Answer: A

Explanation:

The purpose of state in Terraform is to keep track of the real-world resources managed by Terraform, mapping them to the configuration. The state file contains metadata about these resources, such as resource IDs and other important attributes, which Terraform uses to plan and manage infrastructure changes. The state enables Terraform to know what resources are managed by which configurations and helps in maintaining the desired state of the infrastructure. References = This role of state in Terraform is outlined in Terraform's official documentation, emphasizing its function in mapping configuration to real-world resources and storing vital metadata .

NEW QUESTION 70

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 Most Voted
- 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

Answer: A

Explanation:

The terraform fmt command is used to rewrite Terraform configuration files to a canonical format and style. This command applies a subset of the Terraform language style conventions, along with other minor adjustments for readability. Running this command on your configuration files before committing them to source control can help ensure consistency of style between different Terraform codebases, and can also make diffs easier to read. You can also use the -check and -diff options to check if the files are formatted and display the formatting changes respectively². Running the terraform fmt command during the code linting phase of your CI/CD process can help automate this process and enforce the formatting standards for your team. References = [Command: fmt]²

NEW QUESTION 74

Which of these actions will prevent two Terraform runs from changing the same state file at the same time?

- A. Refresh the state after running Terraform
- B. Delete the state before running Terraform
- C. Configure state locking for your state backend
- D. Run Terraform with parallelism set to 1

Answer: B

Explanation:

To prevent two Terraform runs from changing the same state file simultaneously, state locking is used. State locking ensures that when one Terraform operation is running, others will be blocked from making changes to the same state, thus preventing conflicts and data corruption. This is achieved by configuring the state backend to support locking, which will lock the state for all operations that could write to the state. References = This information is supported by Terraform's official documentation, which explains the importance of state locking and how it can be configured for different backends to prevent concurrent state modifications .

NEW QUESTION 75

It is best practice to store secret data in the same version control repository as your Terraform configuration.

- A. True
- B. False

Answer: B

Explanation:

It is not a best practice to store secret data in the same version control repository as your Terraform configuration, as it could expose your sensitive information to unauthorized parties or compromise your security. You should use environment variables, vaults, or other mechanisms to store and provide secret data to Terraform.

NEW QUESTION 79

Which of these is true about Terraform's plugin-based architecture?

- A. Terraform can only source providers from the internet
- B. Every provider in a configuration has its own state file for its resources
- C. You can create a provider for your API if none exists
- D. All providers are part of the Terraform core binary

Answer: C

Explanation:

Terraform is built on a plugin-based architecture, enabling developers to extend Terraform by writing new plugins or compiling modified versions of existing plugins¹. Terraform plugins are executable binaries written in Go that expose an implementation for a specific service, such as a cloud resource, SaaS platform, or API². If there is no existing provider for your API, you can create one using the Terraform Plugin SDK³ or the Terraform Plugin Framework⁴. References =

- 1: Plugin Development - How Terraform Works With Plugins | Terraform | HashiCorp Developer
- 2: Lab: Terraform Plug-in Based Architecture - GitHub
- 3: Terraform Plugin SDK - Terraform by HashiCorp
- 4: HashiCorp Terraform Plugin Framework Now Generally Available

NEW QUESTION 82

You are creating a Terraform configuration which needs to make use of multiple providers, one for AWS and one for Datadog. Which of the following provider blocks would allow you to do this?

A)

```
terraform {  
  provider "aws" {  
    profile = var.aws_profile  
    region  = var.aws_region  
  }  
  
  provider "datadog" {  
    api_key = var.datadog_api_key  
    app_key = var.datadog_app_key  
  }  
}
```

B)


```
provider "aws" {  
    profile = var.aws_profile  
    region  = var.aws_region  
}  
  
provider "datadog" {  
    api_key = var.datadog_api_key  
    app_key = var.datadog_app_key  
}
```

C)

```
provider "aws" {  
    profile = var.aws_profile  
    region  = var.aws_region  
}  
  
provider "datadog" {  
    api_key = var.datadog_api_key  
    app_key = var.datadog_app_key  
}
```

D)

```
provider {  
  "aws" {  
    profile = var.aws_profile  
    region  = var.aws_region  
  }  
  
  "datadog" {  
    api_key = var.datadog_api_key  
    app_key = var.datadog_app_key  
  }  
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Explanation:

Option C is the correct way to configure multiple providers in a Terraform configuration. Each provider block must have a name attribute that specifies which provider it configures². The other options are either missing the name attribute or using an invalid syntax.

NEW QUESTION 87

Which of the following command would be use to access all of the attributes and details of a resource managed by Terraform?

- A. Terraform state show ?? provider_type_name
- B. Terraform state list
- C. Terraform get provider_type_name
- D. Terraform state list provider_type_name

Answer: A

Explanation:

This is the command that you would use to access all of the attributes and details of a resource managed by Terraform, by providing the resource address as an argument. For example, terraform state show 'aws_instance.example' will show you all the information about the AWS instance named example.

NEW QUESTION 89

You ate making changes to existing Terraform code to add some new infrastructure. When is the best time to run terraform validate?

- A. After you run terraform apply so you can validate your infrastructure
- B. Before you run terraform apply so you can validate your provider credentials
- C. Before you run terraform plan so you can validate your code syntax
- D. After you run terraform plan so you can validate that your state file is consistent with your infrastructure

Answer: C

Explanation:

This is the best time to run terraform validate, as it will check your code for syntax errors, typos, and missing arguments before you attempt to create a plan. The other options are either incorrect or unnecessary.

NEW QUESTION 91

A developer accidentally launched a VM (virtual machine) outside of the Terraform workflow and ended up with two servers with the same name. They don't know which VM Terraform manages but do have a list of all active VM IDs.

Which of the following methods could you use to discover which instance Terraform manages?

- A. Run terraform state list to find the names of all VMs, then run terraform state show for each of them to find which VM ID Terraform manages
- B. Update the code to include outputs for the ID of all VMs, then run terraform plan to view the outputs
- C. Run terraform taint/code on all the VMs to recreate them
- D. Use terraform refresh/code to find out which IDs are already part of state

Answer: A

Explanation:

The terraform state list command lists all resources that are managed by Terraform in the current state file¹. The terraform state show command shows the attributes of a single resource in the state file². By using these two commands, you can compare the VM IDs in your list with the ones in the state file and identify which one is managed by Terraform.

NEW QUESTION 93

How does Terraform manage most dependencies between resources?

- A. Terraform will automatically manage most resource dependencies
- B. Using the depends_on parameter
- C. By defining dependencies as modules and including them in a particular order
- D. The order that resources appear in Terraform configuration indicates dependencies

Answer: A

Explanation:

This is how Terraform manages most dependencies between resources, by using the references between them in the configuration files. For example, if resource A depends on resource B, Terraform will create resource B first and then pass its attributes to resource A.

NEW QUESTION 97

How can a ticket-based system slow down infrastructure provisioning and limit the ability to scale? Choose two correct answers.

- A. End-users have to request infrastructure changes
- B. Ticket based systems generate a full audit trail of the request and fulfillment process
- C. Users can access catalog of approved resources from drop down list in a request form
- D. The more resources your organization needs, the more tickets your infrastructure team has to process

Answer: A

Explanation:

These are some of the ways that a ticket-based system can slow down infrastructure provisioning and limit the ability to scale, as they introduce delays, bottlenecks, and manual interventions in the process of creating and modifying infrastructure.

NEW QUESTION 100

When does Sentinel enforce policy logic during a Terraform Cloud run?

- A. Before the plan phase
- B. During the plan phase
- C. Before the apply phase
- D. After the apply phase

Answer: C

Explanation:

Sentinel policies are checked after the plan stage of a Terraform run, but before it can be confirmed or the terraform apply is executed³. This allows you to enforce rules on your infrastructure before it is created or modified.

NEW QUESTION 102

Which backend does the Terraform CU use by default?

- A. Depends on the cloud provider configured
- B. HTTP
- C. Remote
- D. Terraform Cloud
- E. Local

Answer: E

Explanation:

This is the backend that the Terraform CLI uses by default, unless you specify a different backend in your configuration. The local backend stores the state file in a local file named terraform.tfstate, which can be used to track and manage the state of your infrastructure.

NEW QUESTION 107

Terraform configuration (including any module references) can contain only one Terraform provider type.

- A. True
- B. False

Answer: B

Explanation:

Terraform configuration (including any module references) can contain more than one Terraform provider type. Terraform providers are plugins that Terraform uses to interact with various cloud services and other APIs. A Terraform configuration can use multiple providers to manage resources across different platforms and services. For example, a configuration can use the AWS provider to create a virtual machine, the Cloudflare provider to manage DNS records, and the GitHub provider to create a repository. Terraform supports hundreds of providers for different use cases and scenarios. References = [Providers], [Provider Requirements], [Provider Configuration]

NEW QUESTION 112

How can terraform plan aid in the development process?

- A. Initializes your working directory containing your Terraform configuration files
- B. Validates your expectations against the execution plan without permanently modifying state
- C. Formats your Terraform configuration files
- D. Reconciles Terraform's state against deployed resources and permanently modifies state using the current status of deployed resources

Answer: B

Explanation:

The terraform plan command is used to create an execution plan. It allows you to see what actions Terraform will take to reach the desired state defined in your configuration files. It evaluates the current state and configuration, showing a detailed outline of the resources that will be created, updated, or destroyed. This is a critical step in the development process as it helps you verify that the changes you are about to apply will perform as expected, without actually modifying any state or infrastructure.

References:

? Terraform documentation on terraform plan: Terraform Plan

NEW QUESTION 113

You have a list of numbers that represents the number of free CPU cores on each virtual cluster:



```
numcpus = [ 18, 3, 7, 11, 2 ]
```

What Terraform function could you use to select the largest number from the list?

- A. top(numcpus)
- B. max(numcpus)
- C. ceil (numcpus)
- D. hight[numcpus]

Answer: B

Explanation:

In Terraform, the max function can be used to select the largest number from a list of numbers. The max function takes multiple arguments and returns the highest one. For the list numcpus = [18, 3, 7, 11, 2], using max(numcpus...) will return 18, which is the largest number in the list.

References:

? Terraform documentation on max function: Terraform Functions - max

NEW QUESTION 115

Infrastructure as Code (IaC) can be stored in a version control system along with application code.

- A. True
- B. False

Answer: A

Explanation:

Infrastructure as Code (IaC) can indeed be stored in a version control system along with application code. This practice is a fundamental principle of modern infrastructure management, allowing teams to apply software development practices like versioning, peer review, and CI/CD to infrastructure management. Storing IaC configurations in version control facilitates collaboration, history tracking, and change management. References = While this concept is a foundational aspect of IaC and is widely accepted in the industry, direct references from the HashiCorp Terraform Associate (003) study materials were not found in the provided files. However, this practice is encouraged in Terraform's best practices and various HashiCorp learning resources.

NEW QUESTION 118

Why does this backend configuration not follow best practices?

```
terraform {  
  backend "s3" {  
    bucket      = "terraform-state-prod"  
    key         = "network/terraform.tfstate"  
    region      = "us-east-1"  
    access_key  = "AKIAIOSFODNN7EXAMPLE"  
    secret_key  = "wJalrXUtnFEMI/K7MDENG/bPxrFiCYEXAMPLEKEY"  
  }  
  
  required_providers {  
    aws = {  
      source = "hashicorp/aws"  
      version = "~> 3.38"  
    }  
  }  
  
  required_version = ">= 0.15"  
}
```

- A. An alias meta-argument should be included in backend blocks whenever possible
- B. You should use the local enhanced storage backend whenever possible
- C. You should not store credentials in Terraform configuration
- D. The backend configuration should contain multiple credentials so that more than one user can execute terraform plan and terraform apply

Answer: C

Explanation:

This is a bad practice, as it exposes your credentials to anyone who can access your configuration files or state files. You should use environment variables, credential files, or other mechanisms to provide credentials to Terraform.

NEW QUESTION 121

You're writing a Terraform configuration that needs to read input from a local file called id_rsa.pub . Which built-in Terraform function can you use to import the file's contents as a string?

- A. file("id_rsa.pub")
- B. templatefile("id_rsa.pub")
- C. filebase64("id_rsa.pub")
- D. fileset<"id_rsa.pub")

Answer: A

Explanation:

To import the contents of a local file as a string in Terraform, you can use the built-in file function. By specifying file("id_rsa.pub"), Terraform reads the contents of the id_rsa.pub file and uses it as a string within your Terraform configuration. This function is particularly useful for scenarios where you need to include file data directly into your configuration, such as including an SSH public key for provisioning cloud instances. References = This information is a standard part of Terraform's functionality with built-in functions, as outlined in Terraform's official documentation and commonly used in various Terraform configurations.

NEW QUESTION 125

Which of the following should you put into the required_providers block?

- A. version >= 3.1
- B. version = ??>= 3.1??
- C. version ~> 3.1

Answer: B

Explanation:

The required_providers block is used to specify the provider versions that the configuration can work with. The version argument accepts a version constraint string, which must be enclosed in double quotes. The version constraint string can use operators such as >=, ~>, =, etc. to specify the minimum, maximum, or exact version of the provider. For example, version = ">= 3.1" means that the configuration can work with any provider version that is 3.1 or higher. References = [Provider Requirements] and [Version Constraints]

NEW QUESTION 128

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


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

- A. aws_instance.web(2),name
- B. element(aws_instance.web, 2)
- C. aws_instance-web(1)
- D. aws_instance_web(1),name
- E. Aws_instance,web,* , name

Answer: D

Explanation:

In Terraform, when you use the count meta-argument, you can reference individual instances using an index. The indexing starts at 0, so to reference the "name" value of the second instance, you would use aws_instance.web[1].name. This syntax allows you to access the properties of specific instances in a list generated by the count argument.

References:

? Terraform documentation on count and accessing resource instances: Terraform Count

NEW QUESTION 133

Which of the following is not a valid Terraform variable type?

- A. list
- B. array
- C. nap
- D. string

Answer: B

Explanation:

This is not a valid Terraform variable type. The other options are valid variable types that can store different kinds of values.

NEW QUESTION 137

When using multiple configuration of the same Terraform provider, what meta-argument must you include in any non-default provider configurations?

- A. Alias
- B. Id
- C. Depends_on
- D. name

Answer: A

Explanation:

This is the meta-argument that you must include in any non-default provider configurations, as it allows you to give a friendly name to the configuration and reference it in other parts of your code. The other options are either invalid or irrelevant for this purpose.

NEW QUESTION 142

All modules published on the official Terraform Module Registry have been verified by HashiCorp.

- A. True
- B. False

Answer: B

Explanation:

Not all modules published on the official Terraform Module Registry have been verified by HashiCorp. While HashiCorp verifies some modules, there are many community-contributed modules that are not verified. Verified modules have a "Verified" badge indicating that HashiCorp has reviewed them for security and best practices, but the registry also includes unverified modules.

References:

? Terraform Module Registry documentation: Terraform Registry

NEW QUESTION 147

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
- B. Execute terraform destroy and select the newly-created VM.
- C. Delete the Terraform state file and execute terraform apply.
- D. The Terraform state file only contains the one new V
- E. Execute terraform destroy.
- F. Delete the VM using the cloud provider console and terraform apply to apply the changes to the Terraform state file.

Answer: C

Explanation:

This is the best way to delete the newly-created VM with Terraform, as it will only affect the resource that was created by your configuration and state file. The other options are either incorrect or inefficient.

NEW QUESTION 151

Which parameters does terraform import require? Choose two correct answers.

- A. Provider
- B. Resource ID
- C. Resource address
- D. Path

Answer: BC

Explanation:

These are the parameters that terraform import requires, as they allow Terraform to identify the existing resource that you want to import into your state file, and match it with the corresponding configuration block in your files.

NEW QUESTION 156

You have created a main.tf Terraform configuration consisting of an application server, a database and a load balanced. You ran terraform apply and Terraform created all of the resources successfully.

Now you realize that you do not actually need the load balancer, so you run terraform destroy without any flags. What will happen?

- A. Terraform will prompt you to pick which resource you want to destroy
- B. Terraform will destroy the application server because it is listed first in the code
- C. Terraform will prompt you to confirm that you want to destroy all the infrastructure
- D. Terraform will destroy the main, tf file
- E. Terraform will immediately destroy all the infrastructure

Answer: C

Explanation:

This is what will happen if you run terraform destroy without any flags, as it will attempt to delete all the resources that are associated with your current working directory or workspace. You can use the -target flag to specify a particular resource that you want to destroy.

NEW QUESTION 157

Which of the following is not a benefit of adopting infrastructure as code?

- A. Versioning
- B. A Graphical User Interface
- C. Reusability of code
- D. Automation

Answer: B

Explanation:

Infrastructure as Code (IaC) provides several benefits, including the ability to version control infrastructure, reuse code, and automate infrastructure management. However, IaC is typically associated with declarative configuration files and does not inherently provide a graphical user interface (GUI). A GUI is a feature that may be provided by specific tools or platforms built on top of IaC principles but is not a direct benefit of IaC itself¹.

References = The benefits of IaC can be verified from the official HashiCorp documentation on ??What is Infrastructure as Code with Terraform??? provided by HashiCorp Developer¹.

NEW QUESTION 161

You decide to move a Terraform state file to Amazon S3 from another location. You write the code below into a file called backend.tf.

```
terraform {
  backend "s3" {
    bucket = "my-tf-bucket"
    region = "us-east-1"
  }
}
```

Which command will migrate your current state file to the new S3 remote backend?

- A. terraform state
- B. terraform init
- C. terraform push
- D. terraform refresh

Answer: B

Explanation:

This command will initialize the new backend and prompt you to migrate the existing state file to the new location³. The other commands are not relevant for this task.

NEW QUESTION 166

Which of the following is not true of Terraform providers?

- A. An individual person can write a Terraform Provider
- B. A community of users can maintain a provider
- C. HashiCorp maintains some providers
- D. Cloud providers and infrastructure vendors can write, maintain, or collaborate on Terraform
- E. providers
- F. None of the above

Answer: F

Explanation:

All of the statements are true of Terraform providers. Terraform providers are plugins that enable Terraform to interact with various APIs and services¹. Anyone can write a Terraform provider, either as an individual or as part of a community². HashiCorp maintains some providers, such as the AWS, Azure, and Google Cloud providers³. Cloud providers and infrastructure vendors can also write, maintain, or collaborate on Terraform providers, such as the VMware, Oracle, and Alibaba Cloud providers. References =

- ¹: Providers - Configuration Language | Terraform | HashiCorp Developer
- ²: Plugin Development - How Terraform Works With Plugins | Terraform | HashiCorp Developer
- ³: Terraform Registry
- : Terraform Registry

NEW QUESTION 169

backends support state locking.

- A. All
- B. No
- C. Some
- D. Only local

Answer: C

Explanation:

Some backends support state locking, which prevents other users from modifying the state file while a Terraform operation is in progress. This prevents conflicts and data loss. Not all backends support this feature, and you can check the documentation for each backend type to see if it does.

NEW QUESTION 172

What is terraform refresh-only intended to detect?

- A. Terraform configuration code changes
- B. Corrupt state files
- C. State file drift
- D. Empty state files

Answer: C

Explanation:

The terraform refresh-only command is intended to detect state file drift. This command synchronizes the state file with the actual infrastructure, updating the state to reflect any changes that have occurred outside of Terraform.

NEW QUESTION 176

A Terraform output that sets the "sensitive" argument to true will not store that value in the state file.

- A. True
- B. False

Answer: A

Explanation:

A Terraform output that sets the "sensitive" argument to true will store that value in the state file. The purpose of setting sensitive = true is to prevent the value from being displayed in the CLI output during terraform plan and terraform apply, and to mask it in the Terraform UI. However, it does not affect the storage of the value in the state file. Sensitive outputs are still written to the state file to ensure that Terraform can manage resources correctly during subsequent operations.

References:

? Terraform documentation on sensitive outputs: Terraform Output Values

NEW QUESTION 180

You can access state stored with the local backend by using terraform_remote_state data source.

- A. True
- B. False

Answer: B

Explanation:

You cannot access state stored with the local backend by using the terraform_remote_state data source. The terraform_remote_state data source is used to retrieve the root module output values from some other Terraform configuration using the latest state snapshot from the remote backend. It requires a backend that supports remote state storage, such as S3, Consul, AzureRM, or GCS. The local backend stores the state file locally on the filesystem, which terraform_remote_state cannot access. References:

? Terraform documentation on terraform_remote_state data source: Terraform

Remote State Data Source

? Example usage of remote state: Example Usage (remote Backend)

NEW QUESTION 185

What is one disadvantage of using dynamic blocks in Terraform?

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

Answer: D

Explanation:

This is one disadvantage of using dynamic blocks in Terraform, as they can introduce complexity and reduce readability of the configuration. The other options are either advantages or incorrect statements.

NEW QUESTION 186

Which are examples of infrastructure as code? Choose two correct answers.

- A. Cloned virtual machine images
- B. Versioned configuration files
- C. Change management database records
- D. Doctor files

Answer: B

Explanation:

These are examples of infrastructure as code (IaC), which is a practice of managing and provisioning infrastructure through machine-readable definition files, rather than physical hardware configuration or interactive configuration tools.

NEW QUESTION 190

Which of the following commands would you use to access all of the attributes and details of a resource managed by Terraform?

- A. terraform state list ??provider_type.name??
- B. terraform state show ??provider_type.name??
- C. terraform get ??provider_type.name??
- D. terraform state list

Answer: B

Explanation:

The terraform state show command allows you to access all of the attributes and details of a resource managed by Terraform. You can use the resource address (e.g. provider_type.name) as an argument to show the information about a specific resource. The terraform state list command only shows the list of resources in the state, not their attributes. The terraform get command downloads and installs modules needed for the configuration. It does not show any information about resources. References = [Command: state show] and [Command: state list]

NEW QUESTION 193

Which provider authentication method prevents credentials from being stored in the state file?

- A. Using environment variables
- B. Specifying the login credentials in the provider block
- C. Setting credentials as Terraform variables
- D. None of the above

Answer: D

Explanation:

None of the above methods prevent credentials from being stored in the state file. Terraform stores the provider configuration in the state file, which may include sensitive information such as credentials. This is a potential security risk and should be avoided if possible. To prevent credentials from being stored in the state file, you can use one of the following methods:

? Use environment variables to pass credentials to the provider. This way, the credentials are not part of the provider configuration and are not stored in the state file. However, this method may not work for some providers that require credentials to be set in the provider block.

? Use dynamic credentials to authenticate with your cloud provider. This way,

Terraform Cloud or Enterprise will request temporary credentials from your cloud provider for each run and use them to provision your resources. The credentials are not stored in the state file and are revoked after the run is completed. This method is supported for AWS, Google Cloud Platform, Azure, and

Vault. References = : [Sensitive Values in State] : Authenticate providers with dynamic credentials

NEW QUESTION 197

FILL IN THE BLANK

What is the name of the default file where Terraform stores the state?

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

The name of the default file where Terraform stores the state is terraform.tfstate. This file contains a JSON representation of the current state of the infrastructure managed by Terraform. Terraform uses this file to track the metadata and attributes of the resources, and to plan and apply changes. By default, Terraform stores the state file locally in the same directory as the configuration files, but it can also be configured to store the state remotely in a backend. References = [Terraform State], [State File Format]

NEW QUESTION 198

Which of these statements about Terraform Cloud workspaces is false?

- A. They have role-based access controls
- B. You must use the CLI to switch between workspaces
- C. Plans and applies can be triggered via version control system integrations
- D. They can securely store cloud credentials

Answer: B

Explanation:

The statement that you must use the CLI to switch between workspaces is false. Terraform Cloud workspaces are different from Terraform CLI workspaces. Terraform Cloud workspaces are required and represent all of the collections of infrastructure in an organization. They are also a major component of role-based access in Terraform Cloud. You can grant individual users and user groups permissions for one or more workspaces that dictate whether they can manage variables, perform runs, etc. You can create, view, and switch between Terraform Cloud workspaces using the Terraform Cloud UI, the Workspaces API, or the Terraform Enterprise Provider⁵. Terraform CLI workspaces are optional and allow you to create multiple distinct instances of a single configuration within one working directory. They are useful for creating disposable environments for testing or experimenting without affecting your main or production environment. You can create, view, and switch between Terraform CLI workspaces using the terraform workspace command⁶. The other statements about Terraform Cloud workspaces are true. They have role-based access controls that allow you to assign permissions to users and teams based on their roles and responsibilities. You can create and manage roles using the Teams API or the Terraform Enterprise Provider⁷. Plans and applies can be triggered via version control system integrations that allow you to link your Terraform Cloud workspaces to your VCS repositories. You can configure VCS settings, webhooks, and branch tracking to automate your Terraform Cloud workflow⁸. They can securely store cloud credentials as sensitive variables that are encrypted at rest and only decrypted when needed. You can manage variables using the Terraform Cloud UI, the Variables API, or the Terraform Enterprise Provider⁹. References = [Workspaces]⁵, [Terraform CLI Workspaces]⁶, [Teams and Organizations]⁷, [VCS Integration]⁸, [Variables]⁹

NEW QUESTION 203

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