

HashiCorp

Exam Questions Terraform-Associate-003

HashiCorp Certified: Terraform Associate (003)



NEW QUESTION 1

How would you reference the volume IDs associated with the ebs_block_device blocks in this configuration?

```
resource "aws_instance" "example" {
  ami = "ami-abc123"
  instance_type = "t2.micro"

  ebs_block_device {
    device_name = "sda2"
    volume_size = 16
  }

  ebs_block_device {
    device_name = "sda3"
    volume_size = 20
  }
}
```

- A. aws_instance.example.ebs_block_device[sda2,sda3].volume_id
- B. aws_instance.example.ebs_block_device.[*].volume_id
- C. aws_instance.example.ebs_block_device.volume_ids
- D. aws_instance.example-ebs_block_device.*.volume_id

Answer: D

Explanation:

This is the correct way to reference the volume IDs associated with the ebs_block_device blocks in this configuration, using the splat expression syntax. The other options are either invalid or incomplete.

NEW QUESTION 2

You have to initialize a Terraform backend before it can be configured.

- A. True
- B. False

Answer: B

Explanation:

You can configure a backend in your Terraform code before initializing it. Initializing a backend will store the state file remotely and enable features like locking and workspaces. References = [Terraform Backends]

NEW QUESTION 3

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 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

What does this code do?

```
terraform {
  required_providers {
    aws = "~> 3.0"
  }
}
```

- A. Requires any version of the AWS provider > = 3.0 and <4.0
- B. Requires any version of the AWS provider >= 3.0
- C. Requires any version of the AWS provider > = 3.0 major releas
- D. like 4.1
- E. Requires any version of the AWS provider > 3.0

Answer: A

Explanation:

This is what this code does, by using the pessimistic constraint operator (~>), which specifies an acceptable range of versions for a provider or module.

NEW QUESTION 6

While attempting to deploy resources into your cloud provider using Terraform, you begin to see some odd behavior and experience slow responses. In order to troubleshoot you decide to turn on Terraform debugging. Which environment variables must be configured to make Terraform's logging more verbose?

- A. TF_LOG_PAIRH
- B. TF_LOG
- C. TF_VAR_log_path
- D. TF_VAR_log_level

Answer: B

Explanation:

To make Terraform's logging more verbose for troubleshooting purposes, you must configure the TF_LOG environment variable. This variable controls the level of logging and can be set to TRACE, DEBUG, INFO, WARN, or ERROR, with TRACE providing the most verbose output. References = Detailed debugging instructions and the use of environment variables like TF_LOG for increasing verbosity are part of Terraform's standard debugging practices

NEW QUESTION 7

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 consistent³. 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 8

A developer on your team is going to leaf 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 destory 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 9

In Terraform HCL, an object type of object({name=string, age=number}) would match this value.

A)

```
{
  name = "John"
  age = fifty two
}
```

B)

```
{
  name = "John"
  age = 52
}
```

C)

```
{
  name = John
  age = "52"
}
```

D)

```
{
  name = John
  age = fifty two
}
```

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

Answer: B

NEW QUESTION 10

Which of these are features of Terraform Cloud? Choose two correct answers.

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

Answer: CD

Explanation:

These are features of Terraform Cloud, which is a hosted service that provides a web-based UI, remote state storage, remote operations, collaboration features, and more for managing your Terraform infrastructure.

NEW QUESTION 10

Which command should you run to check if all code in a Terraform configuration that references multiple modules is properly formatted without making changes?

- A. terraform fmt -write=false
- B. terraform fmt -list -recursive

- C. terraform fmt -check -recursive
- D. terraform fmt -check

Answer: C

Explanation:

This command will check if all code in a Terraform configuration that references multiple modules is properly formatted without making changes, and will return a non-zero exit code if any files need formatting. The other commands will either make changes, list the files that need formatting, or not check the modules.

NEW QUESTION 11

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 15

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 18

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 20

What are some benefits of using Sentinel with Terraform Cloud/Terraform Cloud? Choose three correct answers.

- A. You can restrict specific resource configurations, such as disallowing the use of CIDR=0.0.0.0/0.
- B. You can check out and check in cloud access keys
- C. Sentinel Policies can be written in HashiCorp Configuration Language (HCL)
- D. Policy-as-code can enforce security best practices
- E. You can enforce a list of approved AWS AMIs

Answer: ADE

Explanation:

Sentinel is a policy-as-code framework that allows you to define and enforce rules on your Terraform configurations, states, and plans¹. Some of the benefits of using Sentinel with Terraform Cloud/Terraform Enterprise are:

- You can restrict specific resource configurations, such as disallowing the use of CIDR=0.0.0.0/0, which would open up your network to the entire internet. This can help you prevent misconfigurations or security vulnerabilities in your infrastructure².
- Policy-as-code can enforce security best practices, such as requiring encryption, authentication, or compliance standards. This can help you protect your data and meet regulatory requirements³.
- You can enforce a list of approved AWS AMIs, which are pre-configured images that contain the operating system and software you need to run your applications. This can help you ensure consistency, reliability, and performance across your infrastructure⁴. References =
- 1: Terraform and Sentinel | Sentinel | HashiCorp Developer
- 2: Terraform Learning Resources: Getting Started with Sentinel in Terraform Cloud
- 3: Exploring the Power of HashiCorp Terraform, Sentinel, Terraform Cloud ??
- 4: Using New Sentinel Features in Terraform Cloud – Medium

NEW QUESTION 24

You should run terraform fmt to rewrite all Terraform configurations within the current working directory to conform to Terraform-style conventions.

- A. True
- B. False

Answer: A

Explanation:

You should run terraform fmt to rewrite all Terraform configurations within the current working directory to conform to Terraform-style conventions. This command applies a subset of the Terraform language style conventions, along with other minor adjustments for readability. It is recommended to use this command to ensure consistency of style across different Terraform codebases. The command is optional, opinionated, and has no customization options, but it can help you and your team understand the code more quickly and easily. References = : Command: fmt : Using Terraform fmt Command to Format Your Terraform Code

NEW QUESTION 25

Which method for sharing Terraform configurations fulfills the following criteria:

- * 1. Keeps the configurations confidential within your organization
- * 2. Support Terraform??s semantic version constrains
- * 3. Provides a browsable directory

- A. Subfolder within a workspace
- B. Generic git repository
- C. Terraform Cloud private registry
- D. Public Terraform module registry

Answer: C

Explanation:

This is the method for sharing Terraform configurations that fulfills the following criteria:

- ? Keeps the configurations confidential within your organization
- ? Supports Terraform??s semantic version constraints
- ? Provides a browsable directory

The Terraform Cloud private registry is a feature of Terraform Cloud that allows you to host and manage your own modules within your organization, and use them in your Terraform configurations with versioning and access control.

NEW QUESTION 30

What feature stops multiple users from operating on the Terraform state at the same time?

- A. State locking
- B. Version control
- C. Provider constraints
- D. Remote backends

Answer: A

Explanation:

State locking prevents other users from modifying the state file while a Terraform operation is in progress. This prevents conflicts and data loss.

NEW QUESTION 35

If a DevOps team adopts AWS CloudFormation as their standardized method for provisioning public cloud resources, which of the following scenarios poses a challenge for this team?

- A. The team is asked to manage a new application stack built on AWS-native services
- B. The organization decides to expand into Azure wishes to deploy new infrastructure
- C. The team is asked to build a reusable code based that can deploy resources into any AWS region
- D. The DevOps team is tasked with automating a manual, web console-based provisioning.

Answer: B

Explanation:

This is the scenario that poses a challenge for this team, if they adopt AWS CloudFormation as their standardized method for provisioning public cloud resources, as CloudFormation only supports AWS services and resources, and cannot be used to provision infrastructure on other cloud platforms such as Azure.

NEW QUESTION 39

Running terraform fmt without any flags in a directory with Terraform configuration files check the formatting of those files without changing their contents.

- A. True
- B. False

Answer: B

Explanation:

Running terraform fmt without any flags in a directory with Terraform configuration files will not check the formatting of those files without changing their contents, but will actually rewrite them to a canonical format and style. If you want to check the formatting without making changes, you need to use the -check flag.

NEW QUESTION 42

Before you can use a remote backend, you must first execute terra-form init.

- A. True
- B. False

Answer: A

Explanation:

Before using a remote backend in Terraform, it is mandatory to run terraform init. This command initializes a Terraform working directory, which includes configuring the backend. If a remote backend is specified, terraform init will set up the working directory to use it, including copying any existing state to the remote backend if necessary. References = This principle is a fundamental part of working with Terraform and its backends, as outlined in general Terraform documentation and best practices. The specific HashiCorp Terraform Associate (003) study materials in the provided files did not include direct references to this information.

NEW QUESTION 46

What are some benefits of using Sentinel with Terraform Cloud/Terra form Cloud? Choose three correct answers.

- A. You can enforce a list of approved AWS AMIs
- B. Policy-as-code can enforce security best practices
- C. You can check out and check in cloud access keys
- D. You can restrict specific resource configurations, such as disallowing the use of CIDR=0.0.0.0/0.
- E. Sentinel Policies can be written in HashiCorp Configuration Language (HCL)

Answer: ABD

Explanation:

These are some of the benefits of using Sentinel with Terraform Cloud/Terraform Enterprise, as they allow you to implement logic-based policies that can access and evaluate the Terraform plan, state, and configuration. The other options are not true, as Sentinel does not manage cloud access keys, and Sentinel policies are written in Sentinel language, not HCL.

NEW QUESTION 48

You can develop a custom provider to manage its resources using Terraform.

- A. True
- B. False

Answer: A

Explanation:

You can develop a custom provider to manage its resources using Terraform, as Terraform is an extensible tool that allows you to write your own plugins in Go language. You can also publish your custom provider to the Terraform Registry or use it privately.

NEW QUESTION 49

What value does the Terraform Cloud private registry provide over the public Terraform Module Registry?

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

Answer: B

Explanation:

The Terraform Cloud private registry provides the ability to restrict modules to members of Terraform Cloud or Enterprise organizations. This allows you to share modules within your organization without exposing them to the public. The private registry also supports importing modules from your private VCS repositories. The public Terraform Module Registry, on the other hand, publishes modules from public Git repositories and makes them available to any user of Terraform. References = : Private Registry - Terraform Cloud : Terraform Registry - Provider Documentation

NEW QUESTION 52

You want to know from which paths Terraform is loading providers referenced in your Terraform configuration (* files). You need to enable additional logging messages to find this out. Which of the following would achieve this?

- A. Set verbose for each provider in your Terraform configuration
- B. Set the environment variable TF_LOG_TRACE
- C. Set the environment variable TF_LOG_PATH
- D. Set the environment variable TF_log_TRACE

Answer: B

Explanation:

This will enable additional logging messages to find out from which paths Terraform is loading providers referenced in your Terraform configuration files, as it will set the log level to TRACE, which is the most verbose and detailed level.

NEW QUESTION 53

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 58

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 63

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 65

Which of the following methods, used to provision resources into a public cloud, demonstrates the concept of infrastructure as code?

- A. curl commands manually run from a terminal
- B. A sequence of REST requests you pass to a public cloud API endpoint Most Voted
- C. A script that contains a series of public cloud CLI commands
- D. A series of commands you enter into a public cloud console

Answer: C

Explanation:

The concept of infrastructure as code (IaC) is to define and manage infrastructure using code, rather than manual processes or GUI tools. A script that contains a series of public cloud CLI commands is an example of IaC, because it uses code to provision resources into a public cloud. The other options are not examples of IaC, because they involve manual or interactive actions, such as running curl commands, sending REST requests, or entering commands into a console. References = [Introduction to Infrastructure as Code with Terraform] and [Infrastructure as Code]

NEW QUESTION 69

You have deployed a new webapp with a public IP address on a cloud 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. 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
- B. Run terraform state list to find the name of the resource, then terraform state show to find the attributes including public IP address
- C. Run terraform output ip_address to view the result
- D. Run terraform destroy then terraform apply and look for the IP address in stdout

Answer: B

Explanation:

This is a quick way to inspect the state file and find the information you need without modifying anything. The other options are either incorrect or inefficient.

NEW QUESTION 72

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 77

The public Terraform Module Registry is free to use.

- A. True
- B. False

Answer: A

Explanation:

The public Terraform Module Registry is free to use, as it is a public service that hosts thousands of self-contained packages called modules that are used to provision infrastructure. You can browse, use, and publish modules to the registry without any cost.

NEW QUESTION 79

You're building a CI/CD (continuous integration/continuous delivery) pipeline and need to inject sensitive variables into your Terraform run. How can you do this safely?

- A. Copy the sensitive variables into your Terraform code
- B. Store the sensitive variables in a secure_varS.tf file
- C. Store the sensitive variables as plain text in a source code repository
- D. Pass variables to Terraform with a -var flag

Answer: D

Explanation:

This is a secure way to inject sensitive variables into your Terraform run, as they will not be stored in any file or source code repository. You can also use environment variables or variable files with encryption to pass sensitive variables to Terraform.

NEW QUESTION 81

What does state locking accomplish?

- A. Prevent accidental Prevent accident deletion of the state file
- B. Blocks Terraform commands from modifying, the state file
- C. Copies the state file from memory to disk
- D. Encrypts any credentials stored within the state file

Answer: B

Explanation:

This is what state locking accomplishes, by preventing other users from modifying the state file while a Terraform operation is in progress. This prevents conflicts and data loss.

NEW QUESTION 84

What is the workflow for deploying new infrastructure with Terraform?

- A. Write Terraform configuration, run terraform init to initialize the working directory or workspace, and run terraform apply
- B. Write Terraform configuration, run terraform show to view proposed changes, and terraform apply to create new infrastructure
- C. Write Terraform configuration, run terraform apply to create infrastructure, use terraform validate to confirm Terraform deployed resources correctly
- D. Write Terraform configuration, run terraform plan to initialize the working directory or workspace, and terraform apply to create the infrastructure

Answer: A

Explanation:

This is the workflow for deploying new infrastructure with Terraform, as it will create a plan and apply it to the target environment. The other options are either incorrect or incomplete.

NEW QUESTION 85

You have a Terraform configuration that defines a single virtual machine with no references to it, You have run terraform apply to create the resource, and then

removed the resource definition from your Terraform configuration file.
What will happen you run terraform apply in the working directory again?

- A. Terraform will remove the virtual machine from the state file, but the resource will still exist
- B. Nothing
- C. Terraform will error
- D. Terraform will destroy the virtual machine

Answer: D

Explanation:

This is what will happen if you run terraform apply in the working directory again, after removing the resource definition from your Terraform configuration file. Terraform will detect that there is a resource in the state file that is not present in the configuration file, and will assume that you want to delete it.

NEW QUESTION 90

Which of the following is not a valid source path for specifying a module?

- A. source - "github.com/hashicorp/examplePref-ul.0.8M
- B. source = "./module?version=v1.6.0"
- C. source - "hashicorp/consul/aws"
- D. source - "./module"

Answer: B

Explanation:

Terraform modules are referenced by specifying a source location. This location can be a URL or a file path. However, specifying query parameters such as ?version=v1.6.0 directly within the source path is not a valid or supported method for specifying a module version in Terraform. Instead, version constraints are specified using the version argument within the module block, not as part of the source string.

References

= This clarification is based on Terraform's official documentation regarding module usage, which outlines the correct methods for specifying module sources and versions.

NEW QUESTION 92

Which Terraform command checks that your configuration syntax is correct?

- A. terraform validate
- B. terraform init
- C. terraform show
- D. terraform fmt

Answer: A

Explanation:

The terraform validate command is used to check that your Terraform configuration files are syntactically valid and internally consistent. It is a useful command for ensuring your Terraform code is error-free before applying any changes to your infrastructure.

NEW QUESTION 95

The _____ determines how Terraform creates, updates, or delete resources.

- A. Terraform configuration
- B. Terraform provisioner
- C. Terraform provider
- D. Terraform core

Answer: C

Explanation:

This is what determines how Terraform creates, updates, or deletes resources, as it is responsible for understanding API interactions with some service and exposing resources and data sources based on that API.

NEW QUESTION 97

Your security team scanned some Terraform workspaces and found secrets stored in plaintext in state files. How can you protect that data?

- A. Edit your state file to scrub out the sensitive data
- B. Always store your secrets in a secrets.tfvars file
- C. Delete the state file every time you run Terraform
- D. Store the state in an encrypted backend

Answer: D

Explanation:

This is a secure way to protect sensitive data in the state file, as it will be encrypted at rest and in transit. The other options are not recommended, as they could lead to data loss, errors, or security breaches.

NEW QUESTION 102

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 respectively. 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]

NEW QUESTION 104

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 106

Which Terraform collection type should you use to store key/value pairs?

- A. Set
- B. Map
- C. Tuple
- D. list

Answer: B

Explanation:

The Terraform collection type that should be used to store key/value pairs is map. A map is a collection of values that are accessed by arbitrary labels, called keys.

The keys and values can be of any type, but the keys must be unique within a map. For example, var = { key1 = "value1", key2 = "value2" } is a map with two key/value pairs. Maps are useful for grouping related values together, such as configuration options or metadata. References = [Collection Types], [Map Type Constraints]

NEW QUESTION 108

You can configure Terraform to log to a file using the TF_LOG environment variable.

- A. True
- B. False

Answer: A

Explanation:

You can configure Terraform to log to a file using the TF_LOG environment variable. This variable can be set to one of the log levels: TRACE, DEBUG, INFO, WARN or ERROR. You can also use the TF_LOG_PATH environment variable to specify a custom log file location. References = : Debugging Terraform

NEW QUESTION 112

When using Terraform to deploy resources into Azure, which scenarios are true regarding state files? (Choose two.)

- A. When you change a Terraform-managed resource via the Azure Cloud Console, Terraform updates the state file to reflect the change during the next plan or apply
- B. Changing resources via the Azure Cloud Console records the change in the current state file
- C. When you change a resource via the Azure Cloud Console, Terraform records the changes in a new state file
- D. Changing resources via the Azure Cloud Console does not update current state file

Answer: AD

Explanation:

Terraform state is a representation of the infrastructure that Terraform manages. Terraform uses state to track the current status of the resources it creates and to plan future changes. However, Terraform state is not aware of any changes made to the resources outside of Terraform, such as through the Azure Cloud Console, the Azure CLI, or the Azure API. Therefore, changing resources via the Azure Cloud Console does not update the current state file, and it may cause inconsistencies or conflicts with Terraform's desired configuration. To avoid this, it is recommended to manage resources exclusively through Terraform or to use the terraform import command to bring existing resources under Terraform's control.

When you change a Terraform-managed resource via the Azure Cloud Console, Terraform does not immediately update the state file to reflect the change. However, the next time you run terraform plan or terraform apply, Terraform will compare the state file with the actual state of the resources in Azure and detect any drifts or differences. Terraform will then update the state file to match the current state of the resources and show you the proposed changes in the execution plan. Depending on the configuration and the change, Terraform may try to undo the change, modify the resource further, or recreate the resource entirely. To avoid unexpected or destructive changes, it is recommended to review the execution plan carefully before applying it or to use the terraform refresh command to update the state file without applying any changes.
References = Purpose of Terraform State, Terraform State, Managing State, Importing Infrastructure, [Command: plan], [Command: apply], [Command: refresh]

NEW QUESTION 115

How can you trigger a run in a Terraform Cloud workspace that is connected to a Version Control System (VCS) repository?

- A. Only Terraform Cloud organization owners can set workspace variables on VCS connected workspaces
- B. Commit a change to the VCS working directory and branch that the Terraform Cloud workspace is connected to
- C. Only Terraform Cloud organization owners can approve plans in VCS connected workspaces
- D. Only members of a VCS organization can open a pull request against repositories that are connected to Terraform Cloud workspaces

Answer: B

Explanation:

This will trigger a run in the Terraform Cloud workspace, which will perform a plan and apply operation on the infrastructure defined by the Terraform configuration files in the VCS repository.

NEW QUESTION 119

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 correct answers.

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

Answer: BC

Explanation:

To import existing resources into Terraform, you need to do two things1:

? Write a resource configuration block for each resource, matching the type and name used in your state file.

? Run terraform import for each resource, specifying its address and ID. There is no such command as terraform Import-gcp, and provisioning new VMs with the same names will not import them into Terraform.

NEW QUESTION 121

Variables declared within a module are accessible outside of the module.

- A. True
- B. False

Answer: B

Explanation:

Variables declared within a module are only accessible within that module, unless they are explicitly exposed as output values1.

NEW QUESTION 126

Which two steps are required to provision new infrastructure in the Terraform workflow? Choose two correct answers.

- A. Plan
- B. Import
- C. Alidate
- D. Init
- E. apply

Answer: DE

Explanation:

The two steps that are required to provision new infrastructure in the

Terraform workflow are init and apply. The terraform init command initializes a working directory containing Terraform configuration files. It downloads and installs the provider plugins that are needed for the configuration, and prepares the backend for storing the

state. The terraform apply command applies the changes required to reach the desired state of the configuration, as described by the resource definitions in the configuration files. It shows a plan of the proposed changes and asks for confirmation before making any changes to the infrastructure. References = [The Core Terraform Workflow], [Initialize a Terraform working directory with init], [Apply Terraform Configuration with apply]

NEW QUESTION 130

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 135

Where can Terraform not load a provider from?

- A. Plugins directory
- B. Provider plugin cache
- C. Official HashCrop Distribution on releases.hashcrop.com
- D. Source code

Answer: D

Explanation:

This is where Terraform cannot load a provider from, as it requires a compiled binary file that implements the provider protocol. You can load a provider from a plugins directory, a provider plugin cache, or the official HashiCorp distribution on releases.hashicorp.com.

NEW QUESTION 140

Which task does terraform init not perform?

- A. Validates all required variables are present
- B. Sources any modules and copies the configuration locally
- C. Connects to the backend
- D. Sources all providers used in the configuration and downloads them

Answer: A

Explanation:

The terraform init command is used to initialize a working directory containing Terraform configuration files. This command performs several different initialization steps to prepare the current working directory for use with Terraform, which includes initializing the backend, installing provider plugins, and copying any modules referenced in the configuration. However, it does not validate whether all required variables are present; that is a task performed by terraform plan or terraform apply.

References = This information can be verified from the official Terraform documentation on the terraform init command provided by HashiCorp Developer.

NEW QUESTION 144

Which type of block fetches or computes information for use elsewhere in a Terraform configuration?

- A. data
- B. local
- C. resource
- D. provider

Answer: A

Explanation:

In Terraform, a data block is used to fetch or compute information from external sources for use elsewhere in the Terraform configuration. Unlike resource blocks that manage infrastructure, data blocks gather information without directly managing any resources. This can include querying for data from cloud providers, external APIs, or other Terraform states. References = This definition and usage of data blocks are covered in Terraform's official documentation, highlighting their role in fetching external information to inform Terraform configurations.

NEW QUESTION 147

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

- A. The resource block
- B. The data source block
- C. The terraform block
- D. The provider block

Answer: C

Explanation:

In Terraform, the backend configuration, which includes details about where and how state is stored, is specified within the terraform block of your configuration. This block is the correct place to define the backend type and its configuration parameters, such as the location of the state file for a local backend or the bucket details for a remote backend like S3. References = This practice is outlined in Terraform's core documentation, which provides examples and guidelines on how to configure various aspects of Terraform's behavior, including state backends.

NEW QUESTION 150

When should you run terraform init?

- A. Every time you run terraform apply
- B. Before you start coding a new Terraform project
- C. After you run terraform plan for the first time in a new terraform project and before you run terraform apply
- D. After you start coding a new terraform project and before you run terraform plan for the first time.

Answer: D

Explanation:

You should run terraform init after you start coding a new Terraform project and before you run terraform plan for the first time. This command will initialize the working directory by downloading the required providers and modules, creating the initial state file, and performing other necessary tasks. References = : Initialize a Terraform Project

NEW QUESTION 155

Multiple team members are collaborating on infrastructure using Terraform and want to format the* Terraform code following standard Terraform-style convention. How should they ensure the code satisfies conventions?

- A. Terraform automatically formats configuration on terraform apply
- B. Run terraform validate prior to executing terraform plan or terraform apply
- C. Use terraform fmt
- D. Replace all tabs with spaces

Answer: C

Explanation:

The terraform fmt command is used to format Terraform configuration files to a canonical format and style. This ensures that all team members are using a consistent style, making the code easier to read and maintain. It automatically applies Terraform's standard formatting conventions to your configuration files, helping maintain consistency across the team's codebase.

References:

? Terraform documentation on terraform fmt: Terraform Fmt

NEW QUESTION 157

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 158

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 161

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/bPxrF1CYEXAMPLEKEY"
  }

  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 162

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 166

Your risk management organization requires that new AWS S3 buckets must be private and encrypted at rest. How can Terraform Cloud automatically and proactively enforce this security control?

- A. Auditing cloud storage buckets with a vulnerability scanning tool
- B. By adding variables to each Terraform Cloud workspace to ensure these settings are always enabled
- C. With an S3 module with proper settings for buckets
- D. With a Sentinel policy, which runs before every apply

Answer: D

Explanation:

The best way to automatically and proactively enforce the security control that new AWS S3 buckets must be private and encrypted at rest is with a Sentinel policy, which runs before every apply. Sentinel is a policy as code framework that allows you to define and enforce logic-based policies for your infrastructure. Terraform Cloud supports Sentinel policies for all paid tiers, and can run them before any terraform plan or terraform apply operation. You can write a Sentinel policy that checks the configuration of the S3 buckets and ensures that they have the proper settings for privacy and encryption, and then assign the policy to your Terraform Cloud organization or workspace. This way, Terraform Cloud will prevent any changes that violate the policy from being applied. References = [Sentinel Policy Framework], [Manage Policies in Terraform Cloud], [Write and Test Sentinel Policies for Terraform]

NEW QUESTION 171

Which of these commands makes your code more human readable?

- A. Terraform validate
- B. Terraform output
- C. Terraform show
- D. Terraform fmt

Answer: D

Explanation:

The command that makes your code more human readable is terraform fmt. This command is used to rewrite Terraform configuration files to a canonical format and style, following the Terraform language style conventions and other minor adjustments for readability. The command is optional, opinionated, and has no customization options, but it is recommended to ensure consistency of style across different Terraform codebases. Consistency can help your team understand the code more quickly and easily, making the use of terraform fmt very important. You can run this command on your configuration files before committing them to source control or as part of your CI/CD pipeline. References =
: Command: fmt : Using Terraform fmt Command to Format Your Terraform Code

NEW QUESTION 176

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. Lets you version, reuse, and share infrastructure configuration
- B. Provisions the same resources at a lower cost
- C. Secures your credentials
- D. Reduces risk of operator error
- E. Prevents manual modifications to your resources

Answer: AD

Explanation:

? It lets you version, reuse, and share infrastructure configuration as code files, which can be stored in a source control system and integrated with your CI/CD pipeline.
? It reduces risk of operator error by automating repetitive tasks and ensuring consistency across environments. IaC does not necessarily provision resources at a lower cost, secure your credentials, or prevent manual modifications to your resources - these depend on other factors such as your cloud provider, your security practices, and your access policies.

NEW QUESTION 180

As a member of an operations team that uses infrastructure as code (IaC) practices, you are tasked with making a change to an infrastructure stack running in a public cloud. Which pattern would follow IaC best practices for making a change?

- A. Make the change via the public cloud API endpoint
- B. Clone the repository containing your infrastructure code and then run the code
- C. Use the public cloud console to make the change after a database record has been approved
- D. Make the change programmatically via the public cloud CLI
- E. Submit a pull request and wait for an approved merge of the proposed changes

Answer: E

Explanation:

You do not need to use different Terraform commands depending on the cloud provider you use. Terraform commands are consistent across different providers, as they operate on the Terraform configuration files and state files, not on the provider APIs directly.

NEW QUESTION 184

What does Terraform use the .terraform.lock.hcl file for?

- A. There is no such file
- B. Tracking specific provider dependencies
- C. Preventing Terraform runs from occurring
- D. Storing references to workspaces which are locked

Answer: B

Explanation:

The .terraform.lock.hcl file is a new feature in Terraform 0.14 that records the exact versions of each provider used in your configuration. This helps ensure consistent and reproducible behavior across different machines and runs.

NEW QUESTION 186

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 189

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 correct answers.

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

Answer: BC

Explanation:

These are two ways to produce a list of the IDs from a list of objects that have an attribute `id`, using either a `for` expression or a `splat` expression syntax.

NEW QUESTION 193

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

- A. True
- B. False

Answer: A

Explanation:

The remote backend can work with either a single remote Terraform Cloud workspace, or with multiple similarly-named remote workspaces (like `networking-dev` and `networking-prod`). The `workspaces` block of the backend configuration determines which mode it uses. To use a single remote Terraform Cloud workspace, set `workspaces.name` to the remote workspace's full name (like `networking-prod`). To use multiple remote workspaces, set `workspaces.prefix` to a prefix used in all of the desired remote workspace names. For example, set `prefix = "networking-"` to use Terraform cloud workspaces with names like `networking-dev` and `networking-prod`. This is helpful when mapping multiple Terraform CLI workspaces used in a single Terraform configuration to multiple Terraform Cloud workspaces³. However, one remote backend configuration always maps to a single remote workspace, either by name or by prefix. You cannot use both name and prefix in the same backend configuration, or omit both. Doing so will result in a configuration error³. References = [Backend Type: remote]³

NEW QUESTION 198

Which command add existing resources into Terraform state?

- A. `Terraform init`
- B. `Terraform plan`
- C. `Terraform refresh`
- D. `Terraform import`
- E. All of these

Answer: D

Explanation:

This is the command that can add existing resources into Terraform state, by matching them with the corresponding configuration blocks in your files.

NEW QUESTION 200

Any user can publish modules to the public Terraform Module Registry.

- A. True
- B. False

Answer: A

Explanation:

The Terraform Registry allows any user to publish and share modules. Published modules support versioning, automatically generate documentation, allow browsing version histories, show examples and READMEs, and more. Public modules are managed via Git and GitHub, and publishing a module takes only a few minutes. Once a module is published, releasing a new version of a module is as simple as pushing a properly formed Git tag¹.

References = The information can be verified from the Terraform Registry documentation on Publishing Modules provided by HashiCorp Developer¹.

NEW QUESTION 203

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 208

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 213

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 218

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 220

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 223

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