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Day 1: Introduction to Terraform and Terraform Basics

Getting Started with Terraform: An Introduction and Core Concepts

CHANDRESH PATLE · Sep 10, 2023 · 3 min read

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🔶 TerraWeek Day 1

- What is Terraform and how can it help you manage infrastructure as code?
  ✦ Terraform is an open-source infrastructure as code (IaC) tool developed by HashiCorp. It is designed to help automate and manage infrastructure resources efficiently. Terraform allows you to define your infrastructure, including servers, networks, databases, and other cloud resources, as code in a configuration file, typically written in HashiCorp Configuration Language (HCL). The core Terraform workflow has three steps:

  1. **Write** - Author infrastructure as code.
  2. **Plan** - Preview changes before applying.
  3. **Apply** - Provision of reproducible infrastructure.

This guide walks through how each of these three steps plays out in the context of working as an individual practitioner, how they evolve when a team is collaborating on infrastructure, and how Terraform Cloud enables this workflow to run smoothly for entire organizations.

- Why do we need Terraform and how does it simplify infrastructure provisioning?
  ✦ Terraform allows you to build, change, and version your infrastructure using code techniques.
  Terraform simplifies infrastructure provisioning by automating and standardizing the process, making it more reliable, efficient, and consistent. It aligns with modern DevOps practices and supports the dynamic nature of cloud and hybrid cloud environments.

- How can you install Terraform and set up the environment for AWS, Azure, or GCP?
  ✦ By using the below commands:

```
wget -O- https://apt.releases.hashicorp.com/gpg | sudo gpg --dearm
```

- Explain the important terminologies of Terraform with the example at least (5 crucial terminologies).
  ✦ Here are the important terminologies of these Terraform terminologies:

1. **Provider**: Manages resources in a specific cloud or infrastructure platform.

```
provider "aws" {
  region = "us-east-1"
}
```

2. **Resource**: Defines and provisions infrastructure objects within a provider.

```
resource "aws_instance" "example" {
  ami           = "ami-0c55b159cbfafe1f0"
  instance_type = "t2.micro"
}
```

3. **Module**: A reusable component for organizing and provisioning resources.

```
module "vpc" {
  source = "./modules/vpc"
  vpc_name = "my-vpc"
}
```

4. **Variable**: Parameters that make configurations flexible and reusable.

```
variable "instance_count" {
  description = "Number of instances to create"
  type        = number
```

```
  default     = 2
}
```

5. **Output**: Extracts and displays information from your infrastructure after creation.

```
output "instance_public_ip" {
  value = aws_instance.example.public_ip
}
```

Watch this Reference Video

Happy Learning! :)

Stay in the loop with my latest insights and articles on cloud ☁️ and DevOps ♾️ by following me on Hashnode, LinkedIn (https://www.linkedin.com/in/chandreshpatle28/), and GitHub (https://github.com/Chandreshpatle28).

Thank you for reading! Your support means the world to me. Let's keep learning, growing, and making a positive impact in the tech world together.

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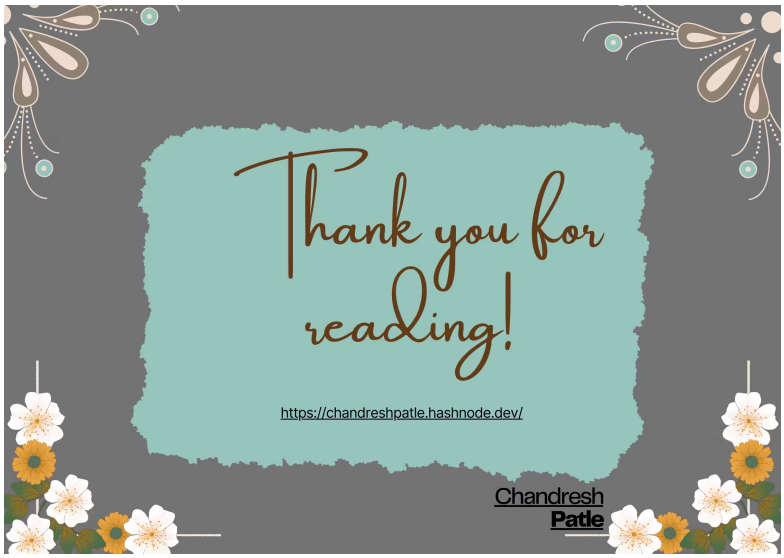

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CHANDRESH PATLE

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Hi, I'm Chandresh Patle, an aspiring DevOps Engineer with a diverse background in field supervision, manufacturing, and service consulting. With a strong foundation in engineering and project management, I bring a unique perspective to my work.

I recently completed a Post Graduate Diploma in Advanced Computing (PG-DAC), where I honed my skills in web development, frontend and backend technologies, databases, and DevOps practices. My proficiency extends to Core Java, Oracle, MySQL, SDLC, AWS, Docker, Kubernetes, Ansible, Linux, GitHub, Terraform, Grafana, Selenium, and Jira.

I am passionate about leveraging technology to drive efficient and reliable software delivery. With a focus on DevOps principles and automation, I strive to optimize workflows and enhance collaboration among teams. I am constantly seeking new opportunities to expand my knowledge and stay up-to-date with the latest industry trends.

If you have any questions, collaboration ideas, or professional opportunities, feel free to reach out to me at patle269@gmail.com. I'm always open to connecting with fellow tech enthusiasts and exploring ways to contribute to the DevOps community.

Let's build a better future through innovation and continuous improvement!

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Day 39 Task: AWS and IAM Basics

🔶 AWS: Amazon Web Services is one of the most popular Cloud Providers that has a free tier for stud...

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Day2: Understand and Practice HCL syntax used in Terraform

🔶 TerraWeek Day 2 HCL or HashiCorp Configuration Language, is a domain-specific language (DSL) deve...