# Mastering Pulumi

### 1. Introduction to Pulumi

1.1. What is Pulumi?

1.2. Benefits of Infrastructure as Code (IaC)

1.3. Pulumi vs. Other IaC Tools (e.g., Terraform, CloudFormation)

1.4. Supported Cloud Providers and Platforms

1.5. Key Features of Pulumi

1.6. Use Cases and Real-World Applications

### 2. Getting Started with Pulumi

2.1. Installing Pulumi

2.2. Setting Up a Pulumi Account

2.3. Configuring Cloud Credentials

2.4. Creating Your First Pulumi Project

2.5. Overview of Pulumi CLI

2.6. Understanding Pulumi Stacks and Projects

### 3. Pulumi Fundamentals

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3.2. Resources and Providers

3.3. Configuration Management

3.4. State Management and Backend Options

3.5. Managing Secrets and Sensitive Data

### 4. Programming with Pulumi

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 4.1.1. Setup and Configuration

 4.1.2. Writing Pulumi Programs

 4.1.3. Common Patterns and Practices

4.2. Python

 4.2.1. Setup and Configuration

 4.2.2. Writing Pulumi Programs

 4.2.3. Common Patterns and Practices

4.3. Go

 4.3.1. Setup and Configuration

 4.3.2. Writing Pulumi Programs

 4.3.3. Common Patterns and Practices

4.4. C#

 4.4.1. Setup and Configuration

 4.4.2. Writing Pulumi Programs

 4.4.3. Common Patterns and Practices

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 5.1.1. Setting Up the AWS Provider

 5.1.2. Managing AWS Resources

 5.1.3. Best Practices for AWS with Pulumi

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 5.2.1. Setting Up the Azure Provider

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 5.2.3. Best Practices for Azure with Pulumi

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 5.4.3. Pulumi Crosswalk for Kubernetes

5.5. Other Providers and Integrations

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6.2. Using Pulumi Components

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6.4. Custom Resources and Providers

6.5. Pulumi Automation API

6.6. Multi-Cloud Deployments

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7.3. Pulumi Service Backend

7.4. Managing and Locking State Files

7.5. State Migration Strategies

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8.4. Environment Variables and Contextual Configuration

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#software/frameworks/iac/pulumi