Terraform Module: EC2 Launch Template

This module creates a versionable EC2 Launch Template on AWS. It is designed to define the configuration for instances that will be launched by an Auto Scaling Group, promoting immutable infrastructure.

Key features include: * Automatic lookup of the latest Amazon Linux 2023 AMI, or use of a custom AMI. * **Support for an EC2 Key Pair to enable secure SSH access.** * **Ability to associate a public IP address to make instances reachable from the internet.** * Conditional creation of an IAM Role and Instance Profile for AWS Systems Manager (SSM), if needed. * Configuration of network interfaces, block devices (with encryption by default), and detailed monitoring.

Usage

```
module "ec2_launch_template" {
  source = "./modules/ec2_launch_template"

  terraform_project_name    = "my-app"
  ec2_template_prefix       = "my-app-dev"
  key_name                  = "my-app-dev-key"
  associate_public_ip_address = true
  user_data                 = file("user_data.sh")
  vpc_security_group_ids     = ["sg-0123456789abcdef0"]
  enable_detailed_monitoring = true

  tags = {
    Application = "backend-api"
  }
}
```

Requirements

Name	Version
terraform	>= 1.0
aws	~> 6.0

Providers

Name	Version
aws	~> 6.0

Inputs

Name	Description	Type	Default	Required
ec2_template_prefix	A unique prefix for the EC2 Launch Template and related resources.	string	n/a	yes
terraform_project_name	The name of the Terraform project to be used as a common tag.	string	n/a	yes
key_name	The name of the EC2 Key Pair to associate with instances for SSH access.	string	null	no
image_id	The ID of the AMI to use. If blank, defaults to the latest Amazon Linux 2023 AMI.	string	""	no
instance_type	The instance type to use (e.g., t3.micro).	string	"t3.micro"	no
create_ssm_instance_profile	If true, the module creates an IAM role and instance profile for SSM Session Manager.	bool	false	no
iam_instance_profile_arn	The ARN of an existing IAM instance profile. Ignored if `create_ssm_instance_profile` is true.	string	""	no
vpc_security_group_ids	A list of security group IDs to associate with the instances. **SECURITY NOTE:** Ensure these groups follow the principle of least privilege.	list(string)	[]	no
user_data	User data to provide at launch. **SECURITY NOTE:** Avoid including secrets. Use SSM Parameter Store or Secrets Manager.	string	""	no

Name	Description	Type	Default	Required
associate_public_ip_address	Whether to associate a public IP address. **Required for direct SSH access from the internet.**	bool	false	no
enable_detailed_monitoring	Enable detailed (1-minute) CloudWatch monitoring.	bool	false	no
root_volume_size	The size of the root EBS volume in GiB.	number	30	no
root_volume_type	The type of the root EBS volume.	string	"gp3"	no
tags	A map of additional tags to assign to resources.	map(string)	{}	no

Outputs

Name	Description
launch_template_id	The ID of the created EC2 Launch Template.
launch_template_arn	The ARN of the created EC2 Launch Template.
launch_template_latest_version	The latest version number of the EC2 Launch Template.
used_ami_id	The AMI ID actually used for the EC2 Launch Template.
ssm_iam_role_arn	The ARN of the created IAM role for SSM, if created.
ssm_instance_profile_arn	The ARN of the created IAM instance profile for SSM, if created.