

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 and secure instance management.

Key features include: * Automatic lookup of the latest Amazon Linux 2023 AMI, or use of a custom AMI. * Conditional creation of an IAM Role and Instance Profile with the necessary permissions for AWS Systems Manager (SSM) Session Manager, eliminating the need for SSH keys. * Configuration of network interfaces, block devices (with encryption by default), and detailed monitoring. * Systematic storage of the launch template's ID, ARN, and version in AWS SSM Parameter Store for easy consumption by other modules (like an ASG). * Removal of SSH key pair management in favor of secure access via SSM.

Usage

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

  terraform_project_name      = "my-app"
  ec2_template_prefix         = "my-app-dev"
  create_ssm_instance_profile = 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
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, this 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
<code>associate_public_ip_address</code>	Whether to associate a public IP address. Defaults to false for security.	<code>bool</code>	<code>false</code>	no
<code>enable_detailed_monitoring</code>	Whether to enable (1-minute) CloudWatch monitoring.	<code>bool</code>	<code>false</code>	no
<code>root_volume_size</code>	The size of the root EBS volume in GiB.	<code>number</code>	<code>30</code>	no
<code>root_volume_type</code>	The type of the root EBS volume.	<code>string</code>	<code>"gp3"</code>	no
<code>tags</code>	A map of additional tags to assign to resources.	<code>map(string)</code>	<code>{} (empty)</code>	no

Outputs

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