

Infrastructure as Code (IaC) AWS Private VPC with integration to a Transit Gateway Setup

This repository contains Terraform code to create a private Virtual Private Clouds (VPC) in AWS. The setup includes subnets, route tables, security groups, and other necessary components to establish a secure and isolated network environment.

Below is the Terraform visualization of the infrastructure that's created:

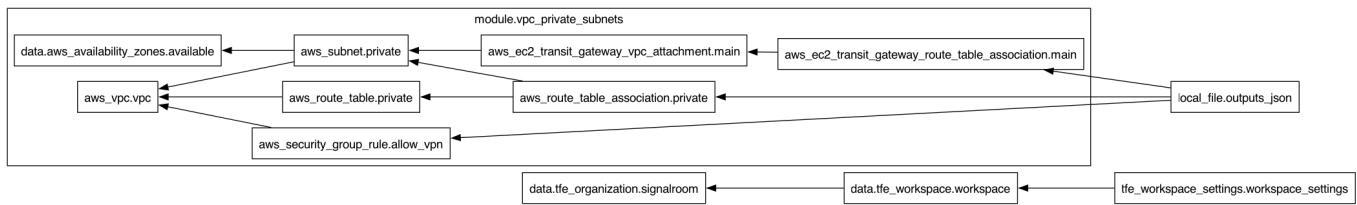


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1.0 Getting Started

1. Install the following on your local machine:

- [AWS CLI version 2](#)
- [Terraform CLI version 1.14.3 or higher](#)

2. Clone the repo:

```
git clone https://github.com/j3-signalroom/iac-aws-private-vpc.git
```

3. Update the cloned Terraform module's [main.tf](#) by following these steps:

- a. Locate the `terraform.cloud` block and replace `signalroom` with your [Terraform Cloud Organization Name](#).
- b. In the `terraform.cloud.workspaces` block, replace `iac-aws-private-vpc` with your Terraform Cloud Organization's [Workspaces Name](#).

4. To run repo's [Terraform configuration](#) locally, follow these steps:

- a. Navigate to the root folder of the `iac-aws-private-vpc/` repository that you cloned.
- b. Open a terminal in that directory.
- c. Execute the following [bash script](#) to deploy the project's Terraform configuration locally. This command sets up one or more AWS VPCs, including subnets, route tables, security groups, and other

necessary components, to establish a secure and isolated network environment:

Note: The script and this project, in general, assume your hyperscaler is **AWS**. Additionally, it is expected that the AWS account is configured with SSO (Single Sign-On) support.

```
./deploy.sh create --profile=<SSO_PROFILE_NAME> \
--tfe-token=<TFE_TOKEN> \
--vpc-prefix-name=<VPC_PREFIX_NAME> \
--vpc-cidrs=<VPC_CIDRS> \
[--subnet-prefix=<SUBNET_PREFIX>] \
[--subnet-count=<SUBNET_COUNT>] \
[--environment-name=<ENVIRONMENT_NAME>]
```

deploy.sh Arguments:

- **--profile** requires you to specify the AWS SSO profile name of where your AWS infrastructue will be hosted at.
- **--tfe-token** requires you to specify the Terraform Cloud API Token used to authenticate to your hosted Terraform environment in the Cloud.
- **--vpc-prefix-name** requires you to specify the initial name you will use to identify the VPCs to be created (e.g., **privatelink-sample**).
- **--vpc-cidrs** requires you to list a comma-delimited CIDRs for each of the VPCs that will be created (e.g., **10.0.0.0/20,10.1.0.0/20**).
- **--subnet-prefix** optional (default is **24**) the target prefix length for each of the VPC's subnets you want to use after subdividing your VPC CIDR block.

For example:

VPC Prefix	subnet_prefix	newbits	Resulting Subnets	IPs per Subnet
/16	/20	4	16 subnets	4,096
/16	/24	8	256 subnets	256
/16	/28	12	4,096 subnets	16
/20	/24	4	16 subnets	256
/20	/28	8	256 subnets	16
/24	/28	4	16 subnets	16

Note:

- The **newbits** determines how many additional bits to add to the network prefix for subnettings.
- The **VPC Prefix** is the number after the slash in your VPC's CIDR block. It indicates **how many bits define the network portion** of the IP address range.

- `--subnet-count` optional (default is 3) the number of subnets created for each of the VPCs created.
- `--environment-name` optional (default is dev) the name of the environment that will be appended to the name of the VPC.

2.0 Resources

- [CIDR to IPv4 Conversion](#)