Get started

Build your first Elestio Terraform project

This exemple shows the setup for a Terraform project containing a single PostgreSQL service, and shows off some useful commands to stand up (and destroy) your Elestio infrastructure.

You can check this repository elestio-terraform-scratch that contain the final code of this guide.

Prepare the dependencies

- Sign up for Elestio if you haven't already
- Get your API token in the security settings page of your account
- Download and install Terraform

  You need a Terraform CLI version equal or higher than v0.14.0.
  To ensure you're using the acceptable version of Terraform you may run the following command:

  ```
  terraform -v
  ```

  Your output should resemble:

  ```
  Terraform v0.14.0 # any version >= v0.14.0 is OK
  ...
  ```

Configure your project and services

Terraform files are used to define the structure and configuration of your infrastructure. It is generally a good idea to keep these definitions in **separate files** rather than combining them all in one file.

This section will explain how to organize a basic Terraform project :

1. **Create and move to an empty folder**

Here is an overview of the files we will create together :

```
|- outputs.tf  # Defines the outputs you want terraform extract
|- postgres.tf  # Defines the PostgreSQL service
|- project.tf  # Defines the Elestio project that will contain the PostgreSQL service
|- provider.tf  # Defines the Elestio provider for Terraform
|- secret.tfvars # Defines the sensitive variables values
|- variables.tf  # Defines the variables required in other .tf files
```

2. **Create a file `provider.tf` and declare the provider adding the following lines :**

```
# provider.tf

terraform {
  required_providers {
    elestio = {
      source  = "elestio/elestio"
      version = "0.3.0" # check out the latest version available
    }
  }
}

# Configure the Elestio Provider
provider "elestio" {
  email     = var.elestio_email
  api_token = var.elestio_api_token
}
```

As you can see, the email and API token are assigned to variables.
You should never put sensitive information directly in `.tf` files.

3. **Create a file `variables.tf` and declare variables adding the following lines :**

```
# variables.tf

variable "elestio_email" {
  description = "Elestio Email"
  type        = string
```

```
}

variable "elestio_api_token" {
  description = "Elestio API Token"
  type        = string
  sensitive   = true
}
```

This file does not contain the values of these variables. We will have to declare them in another file.

4. **Create a file `secret.tfvars` and fill it with your values :**

```
# secret.tfvars

elestio_email      = "YOUR-EMAIL"
elestio_api_token  = "YOUR-API-TOKEN"
```

Do not commit with Git this file ! Sensitive information such as an API token should never be pushed.

For more information on how to securely authenticate, please read the authentication documentation.

5. **Create a file `project.tf` and add the following lines :**

```
# project.tf

# Create a Project
resource "elestio_project" "pg_project" {
  name             = "PostgreSQL Project"
  description      = "Contains a postgres database"
  technical_emails = var.elestio_email
}
```

To contain our PostgreSQL service, we will have to create a new project on Elestio. Instead of using the web interface, we can also declare it via terraform.

6. **Create a file `postgres.tf` and add the following lines :**

```
# postgres.tf

# Create a PostgreSQL Service
resource "elestio_postgresql" "pg_service" {
  project_id    = elestio_project.pg_project.id
  server_name   = "pg-service"
  server_type   = "SMALL-1C-2G"
  provider_name = "hetzner"
  datacenter    = "fsn1"
  support_level = "level1"
  admin_email   = var.elestio_email
}
```

Terraform takes care of managing the dependencies and creating the different resources in the right order. As you can see, `project_id` will be filled with the value of the Project Resource that will be created with the previously `project.tf` file.

7. **Create a file `outputs.tf` and add the following lines :**

```
# outputs.tf

output "pg_service_psql_command" {
  value       = elestio_postgresql.pg_service.database_admin.command
  description = "The PSQL command to connect to the database."
  sensitive   = true
}
```

Apply the Terraform configuration

1. **Download and install the Elestio provider defined in the configuration :**

```
terraform init
```

2. **Ensure the configuration is syntactically valid and internally consistent:**

```
terraform validate
```

3. **Apply the configuration :**

```
terraform apply -var-file="secret.tfvars"
```

Deployment time varies by service, provider, datacenter and server type.

4. **Voila, you have created a Project and PostgreSQL Service using Terraform !**
   You can visit the Elestio web dashboard to see these ressources.

(Optional) Access to the database

Let's try to connect to the database to see if everything worked well

First, you need to install psql.

After that, run this command :

```
eval "$(terraform output -raw pg_service_psql_command)"
```

Note: The command to leave psql terminal is `\q`

Clean up

Run the following command to destroy all the resources you created:

```
terraform destroy -var-file="secret.tfvars"
```

This command destroys all the resources specified in your Terraform state. `terraform destroy` doesn't destroy resources running elsewhere that aren't managed by the current Terraform project.

Now you've created and destroyed an entire Elestio deployment!

Visit the Elestio Dashboard to verify the resources have been destroyed to avoid unexpected charges.

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