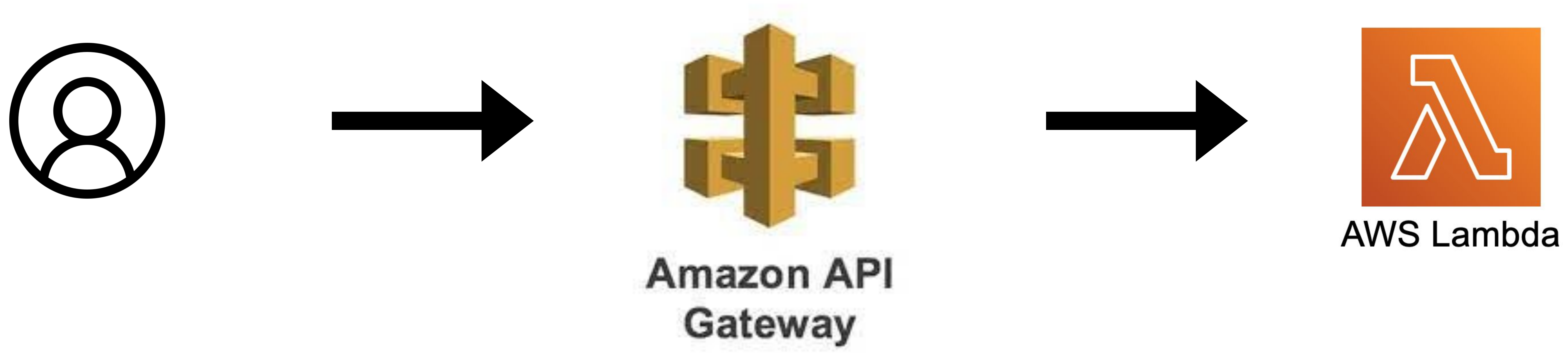
Walk through Lambda deployment with Terraform

Ease lambda deployment replicate with terraform module

Voathnak Lim on Oct 16, 2022

Demonstration

Demonstrate a Hello World Lambda with Terraform



How to get started

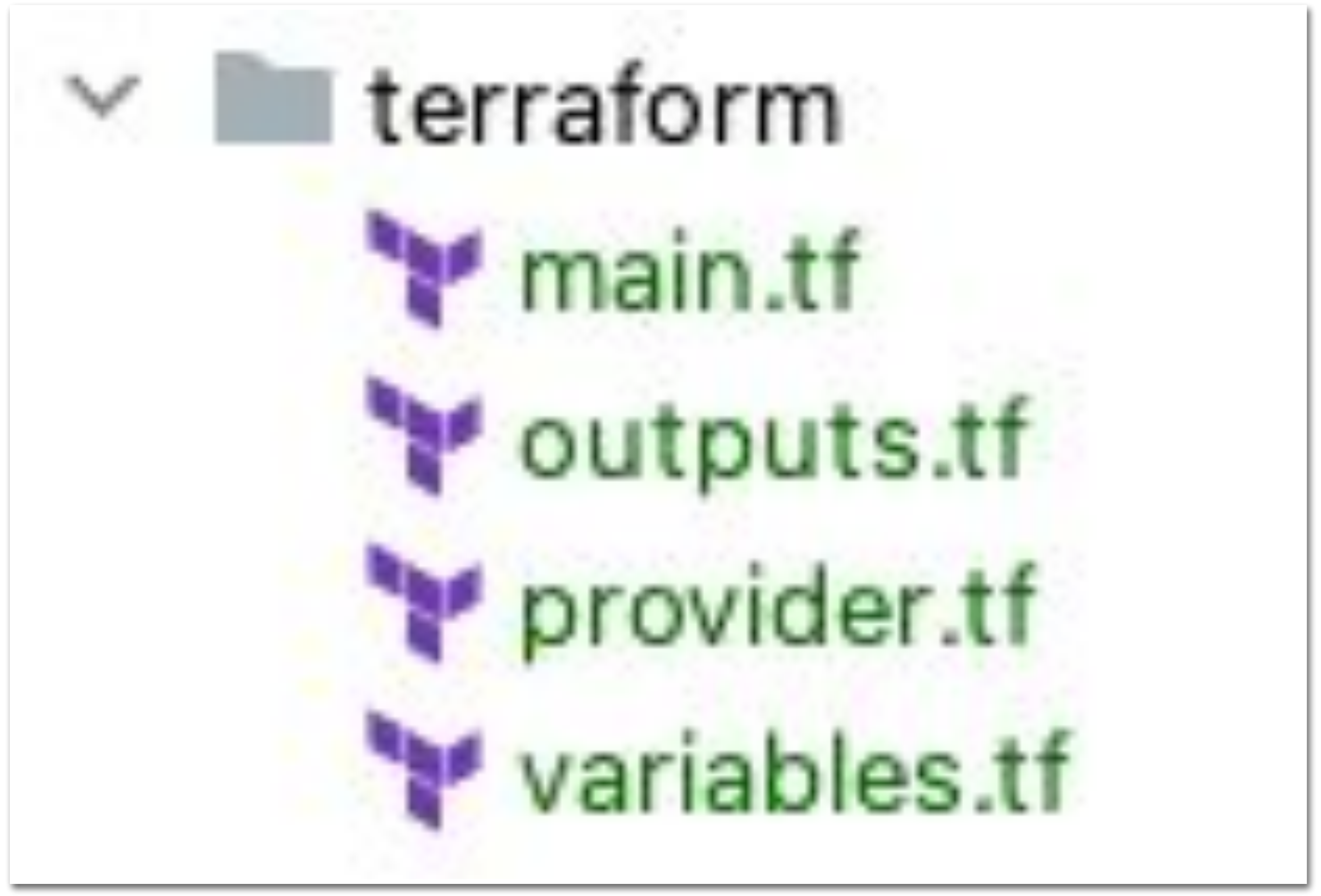
What you need

- Terraform cli installed in your environment
    - *https://www.terraform.io/downloads*
- AWS account
    - *https://aws.amazon.com/resources/create-account/*

How to prepare your directory structure

Setting up project directory structure

1. Create a project directory
2. Create a "terraform" directory inside project dir
3. Create terraform config file(s) such as:
   - provider resource (AWS)
   - api-gateway resource
   - Lambda function resources
4. Add a lambda function code

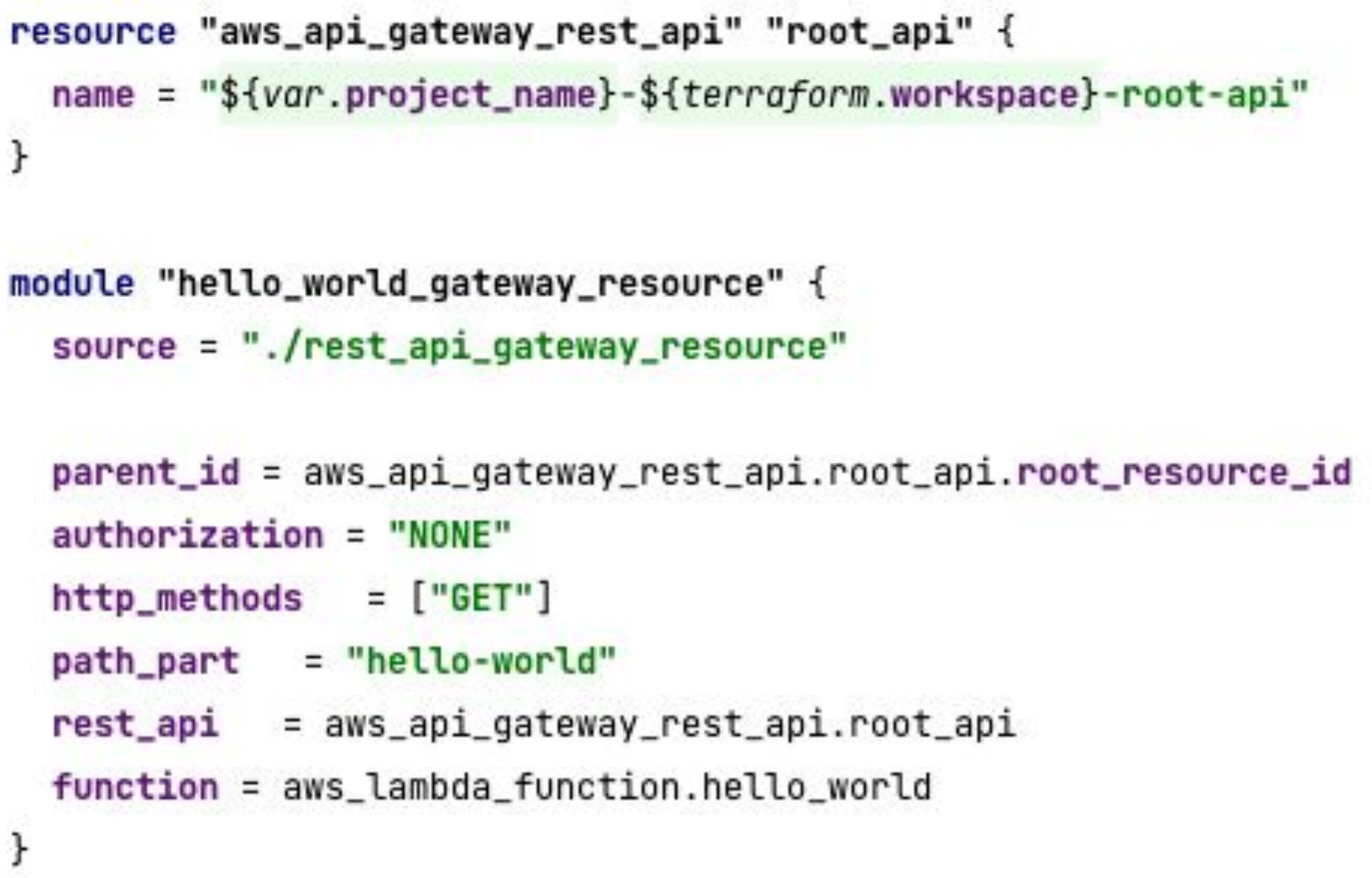


```
terraform
    main.tf
    outputs.tf
    provider.tf
    variables.tf
```

How Terraform script look like

api gateway resources

This is how you create necessary resources to connect api-gateway with lambda



```
resource "aws_api_gateway_rest_api" "root_api" {
  name = "${var.project_name}-${terraform.workspace}-root-api"
}

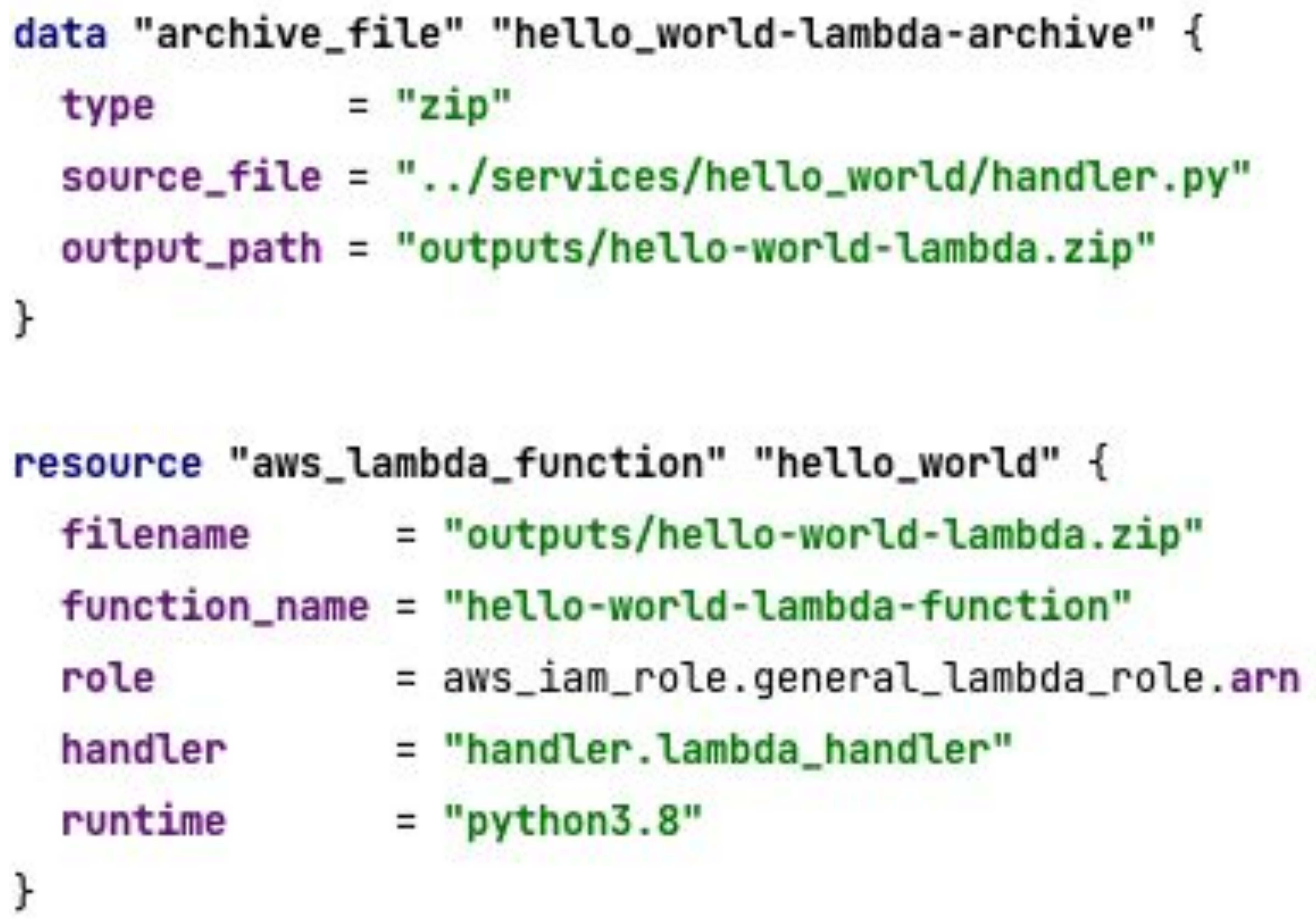
module "hello_world_gateway_resource" {
  source = "./rest_api_gateway_resource"

  parent_id = aws_api_gateway_rest_api.root_api.root_resource_id
  authorization = "NONE"
  http_methods    = ["GET"]
  path_part    = "hello-world"
  rest_api    = aws_api_gateway_rest_api.root_api
  function = aws_lambda_function.hello_world
}
```

How Terraform script look like

Lambda function resources

This is how you create a lambda function resource in Terraform



```
data "archive_file" "hello_world-lambda-archive" {
  type        = "zip"
  source_file = "../services/hello_world/handler.py"
  output_path = "outputs/hello-world-lambda.zip"
}

resource "aws_lambda_function" "hello_world" {
  filename      = "outputs/hello-world-lambda.zip"
  function_name = "hello-world-lambda-function"
  role          = aws_iam_role.general_lambda_role.arn
  handler       = "handler.lambda_handler"
  runtime       = "python3.8"
}
```

How to deploy with Terraform

```
$ terraform init
```

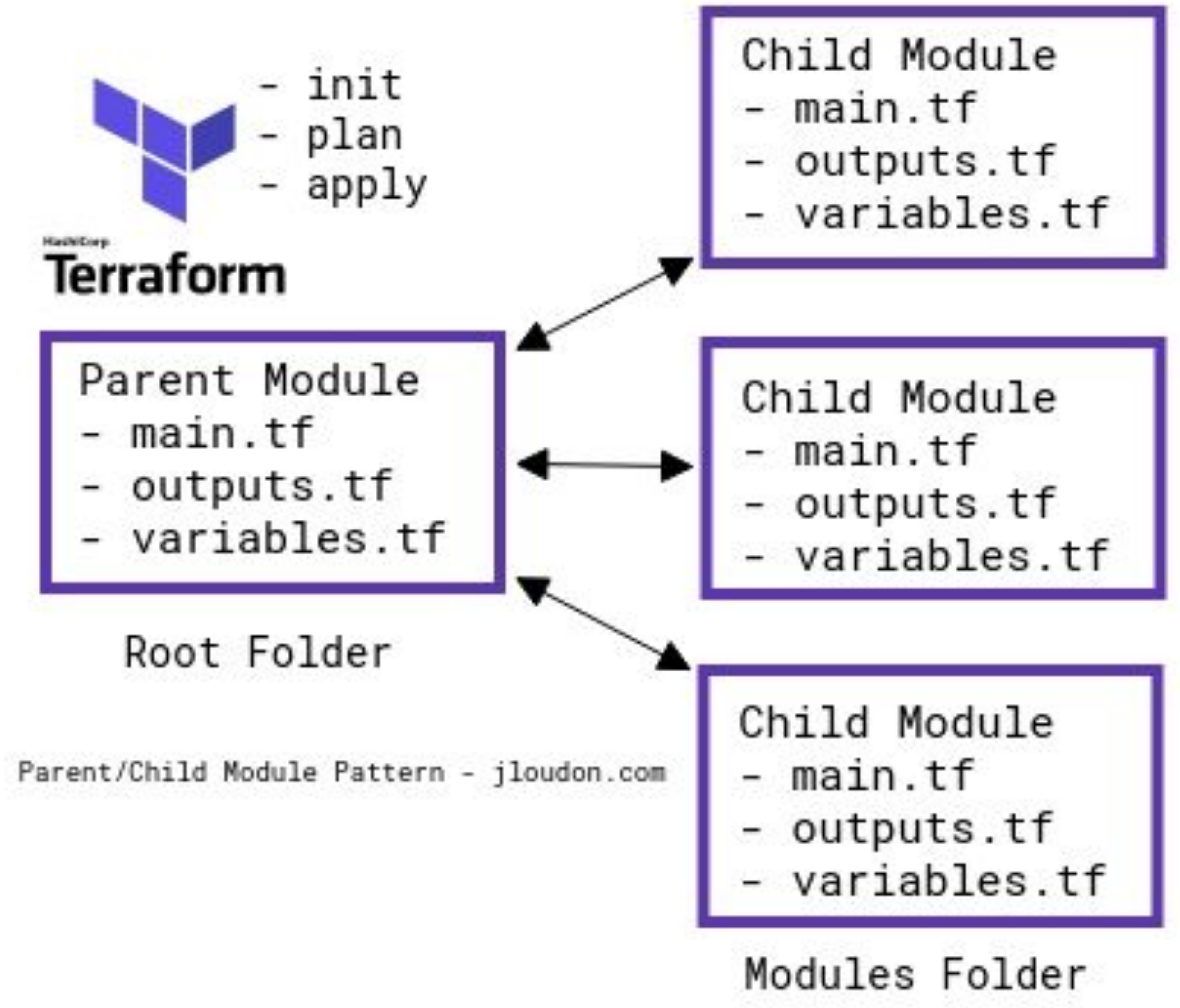
```
$ terraform plan
```

```
$ terraform apply
```

That all it takes!!

Ease your deployment configuration with module

This is how Terraform module look like in directory structure



How Terraform script look like

api gateway resources

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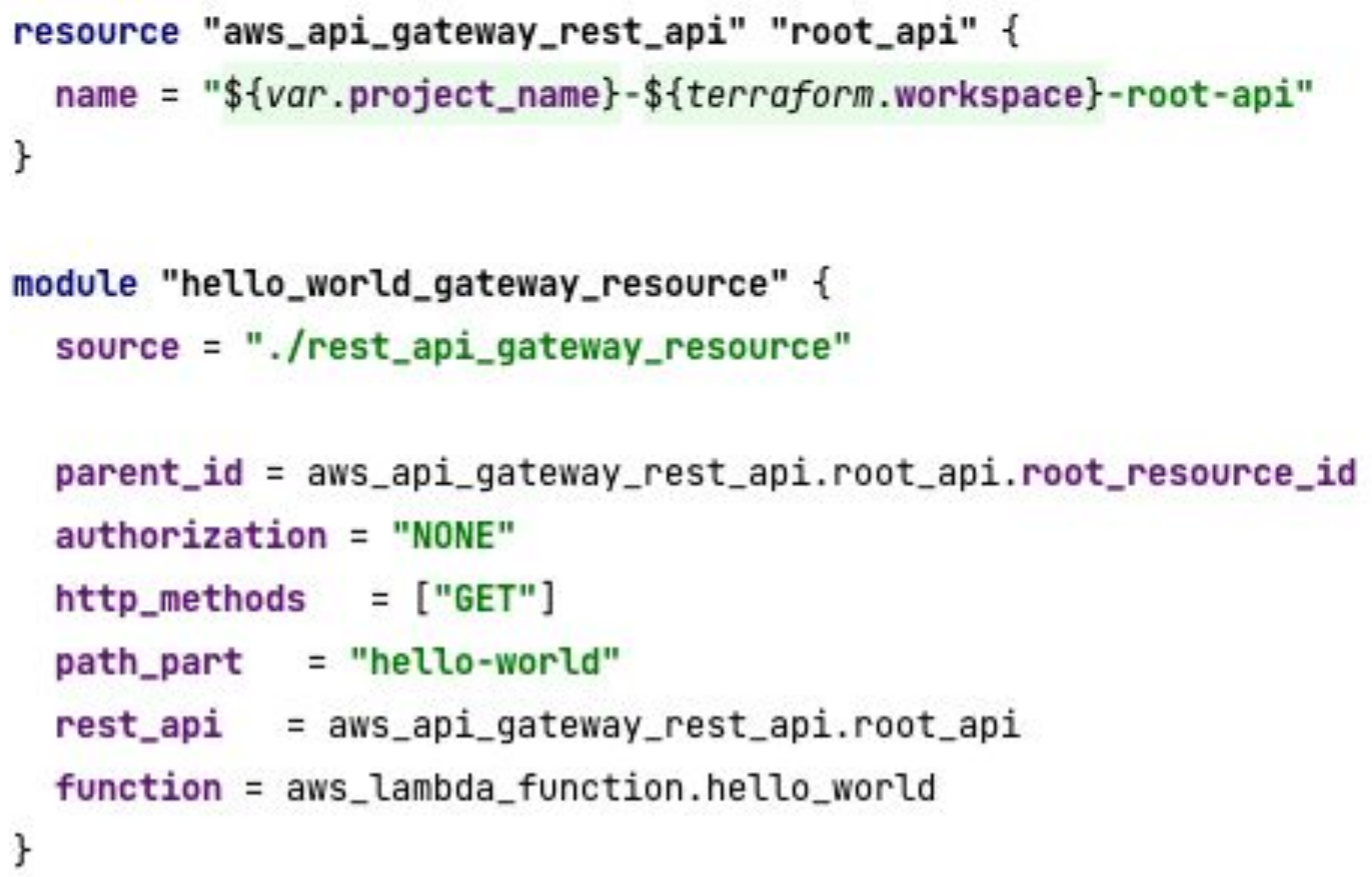

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  http_methods    = ["GET"]
  path_part    = "hello-world"
  rest_api    = aws_api_gateway_rest_api.root_api
  function = aws_lambda_function.hello_world
}
```

What have Terraform module help you

Benefits

For Developers

- Help to reduce the time taking on daily deployment tasks
- Building this is similar to building their own serverless framework
- One block of code could meant a lot more (Code reusability)

For the Business

- Because of this the development time and cost can be reduced
- The developers would love this

What have Terraform module help you

This is why

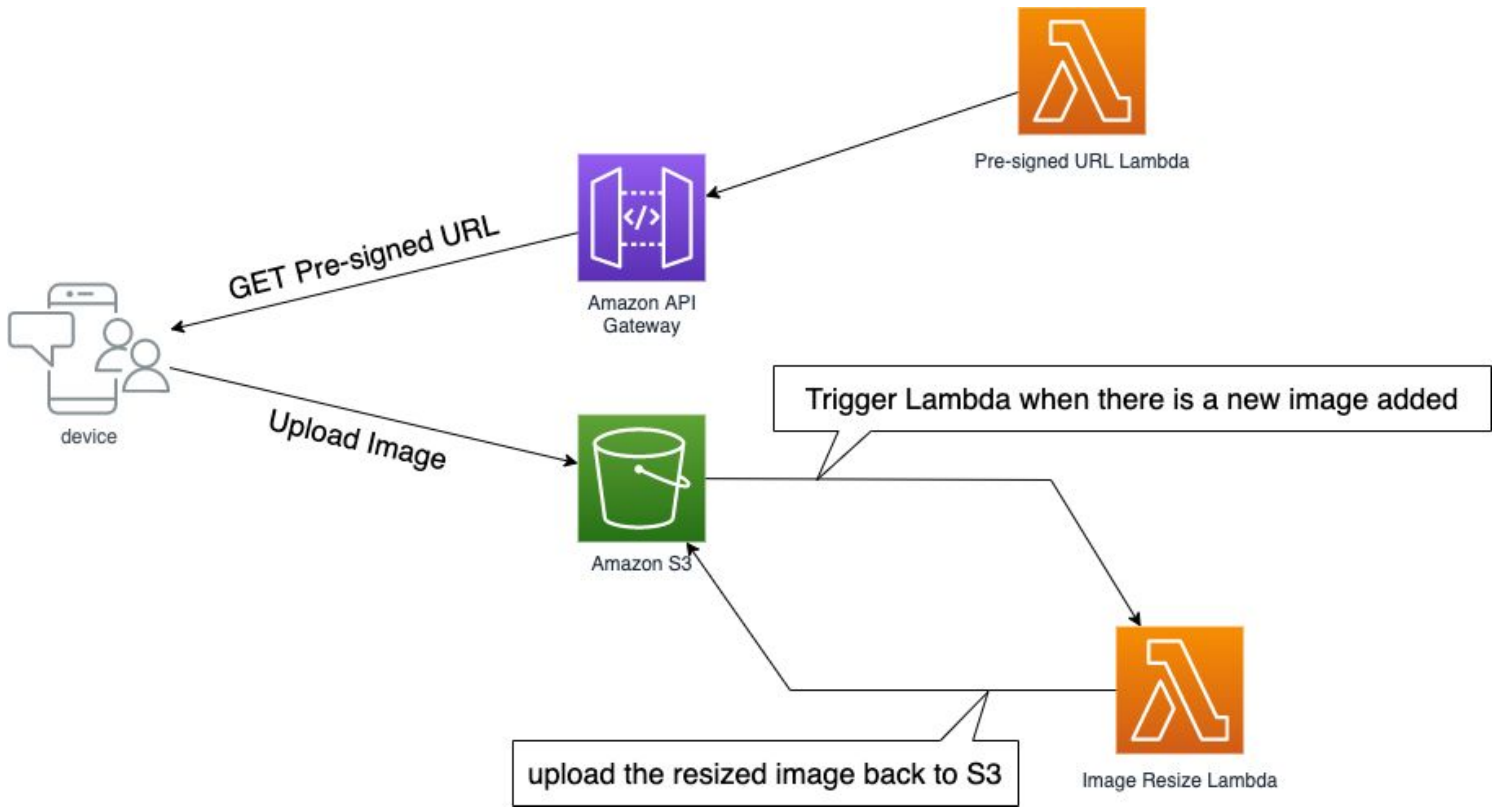
These are the resources that require to create a path of endpoint

- aws_api_gateway_resource
- aws_api_gateway_integration
- aws_api_gateway_integration_response
- aws_api_gateway_method
- aws_api_gateway_method_response
- aws_lambda_permission
- aws_api_gateway_integration_response

aws_api_gateway_integration_response
aws_api_gateway_integration_response
aws_api_gateway_integration
aws_api_gateway_method
aws_api_gateway_method_response
aws_api_gateway_resource
aws_lambda_permis

One block of code could meant a lot more

Just another example



Thank you.