



Terraform - Startup factory for your ideas

David Mončka @ Tieto

\$ whoami

- Software architect in Tieto DevOps Space
- Java developer – microservice 14 years
 - 2 years – ITIL
 - 12 years – telco
- DevOps – 7 years
- AWS – 3 years

Objective

Serverless startup example with everything in code (infra, app) to integrate app with external public API.

Few steps how to provision your fresh new AWS account using terraform.

Terminology #1

- Terraform - Infra as a code tool
- Serverless
 - Martin Fowler - Serverless architectures are application designs that incorporate third-party *“Backend as a Service”* (BaaS) services.
 - AWS - Serverless is the native architecture of the cloud that enables you to shift more of your operational responsibilities to AWS, *increasing your agility and innovation*. Serverless allows you to build and run applications and services without *thinking about servers*.
 - Colleague's definition – Serverless architecture is finally something *we don't need to pay for* :)

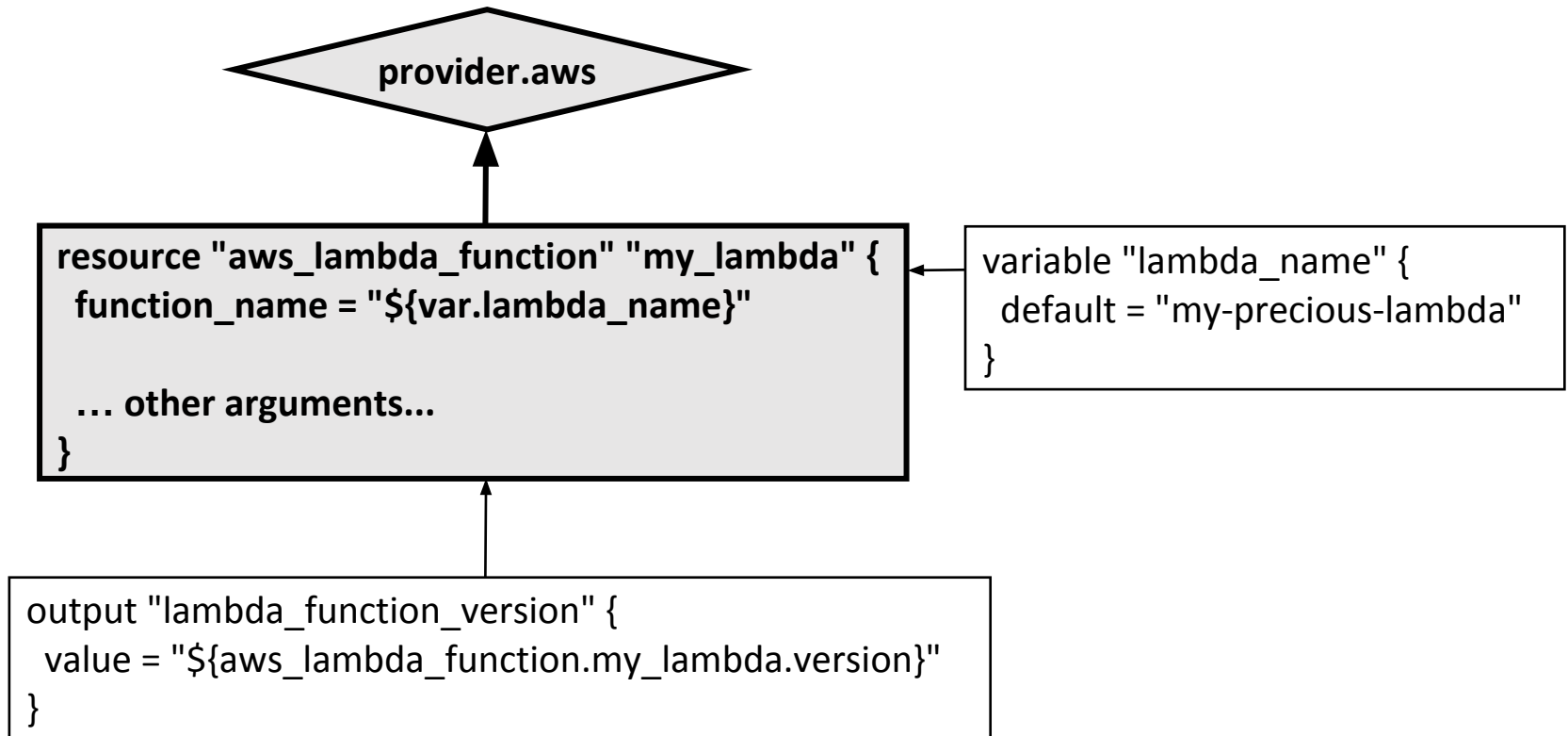
Terminology #2

- AWS account – Free tier services/resources
 - <https://aws.amazon.com/free/>
 - Lambda - 1M
- AWS IAM – terraform system user
- External API

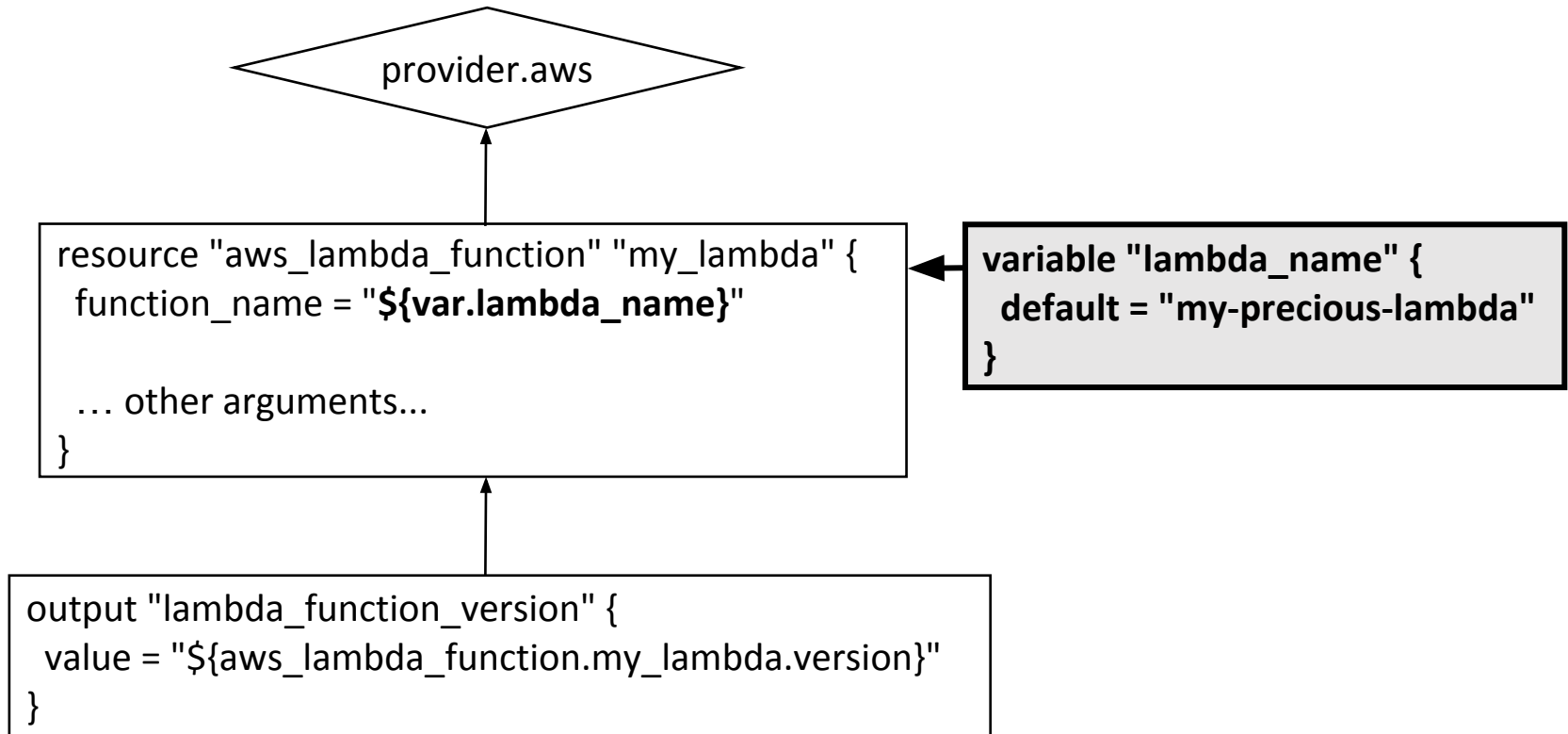
Terraform.io

- Terraform CLI v0.12.9
- Provider AWS - credentials
- CLI Commands
 - init (working directory of .terraform config files)
 - plan (show changes of resources)
 - apply
 - (destroy)

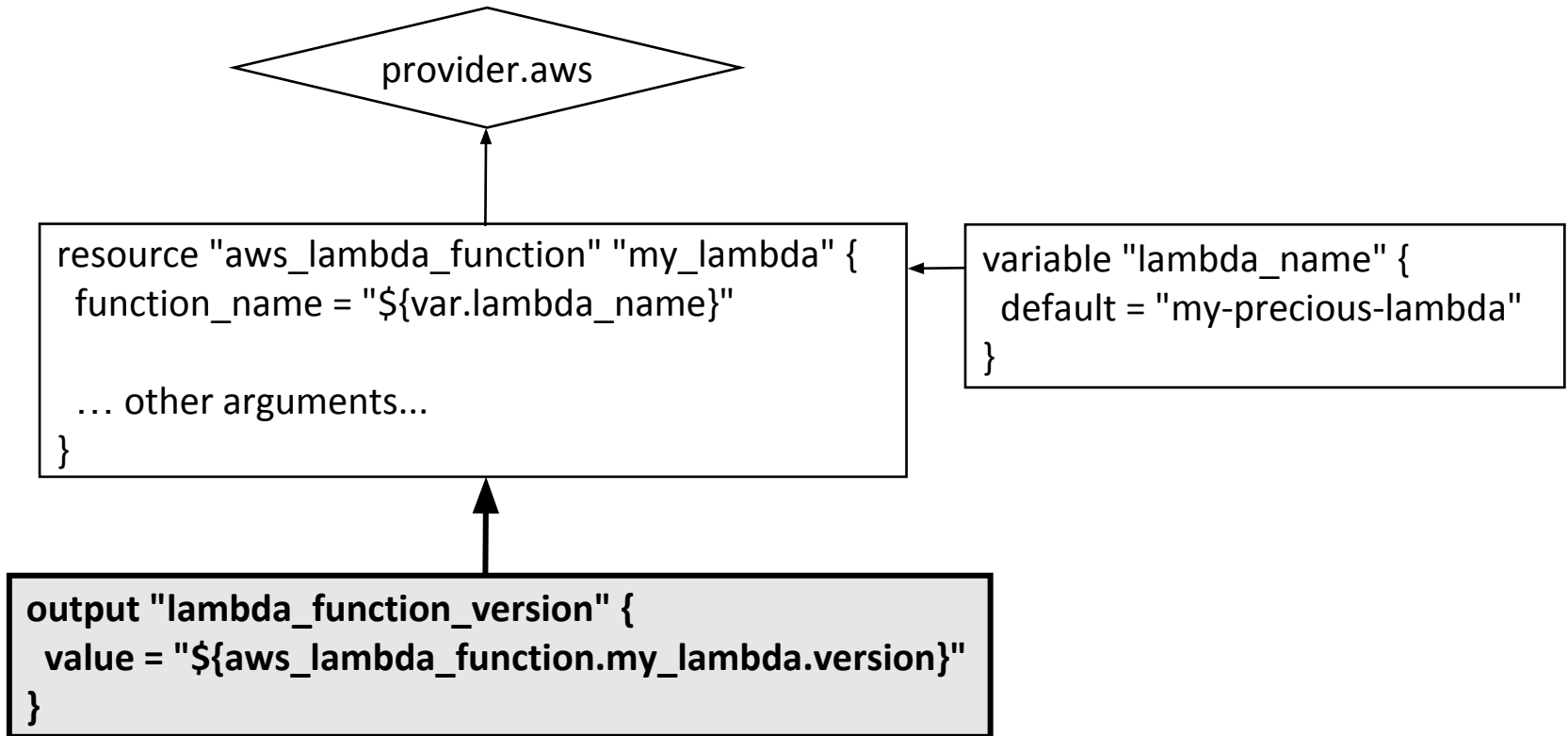
Terraform - building blocks #1



Terraform - building blocks #2



Terraform - building blocks #3



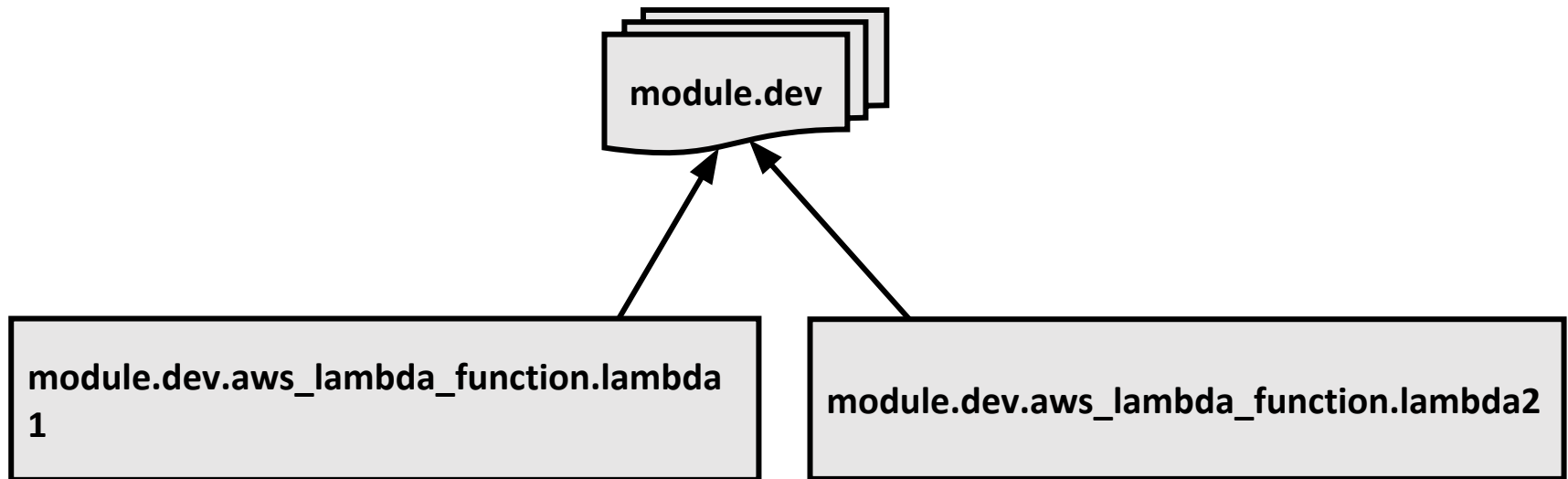
Terraform - building blocks #4

```
resource "aws_iam_role_policy" "policy" {  
  policy = "${data.aws_iam_policy_document.policy.json}"  
}
```



```
data "aws_iam_policy_document" "policy" {  
  statement { ... }  
}
```

Terraform - building blocks #5

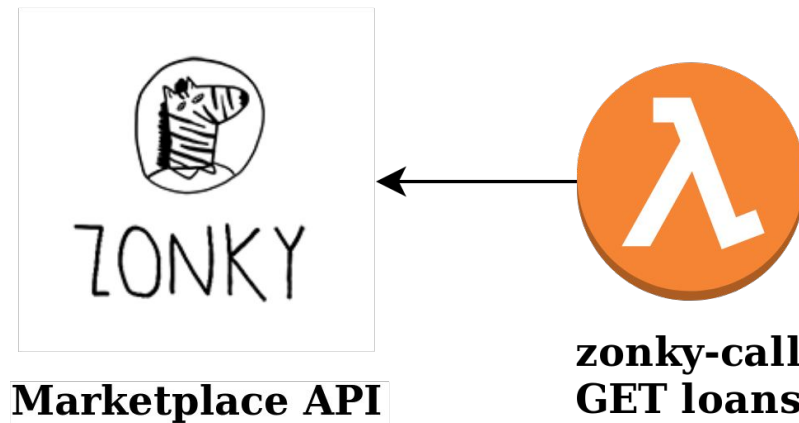


Coding #1

- AWS IAM
- provider.tf - credentials
- variables.tf
- main.tf - dev module

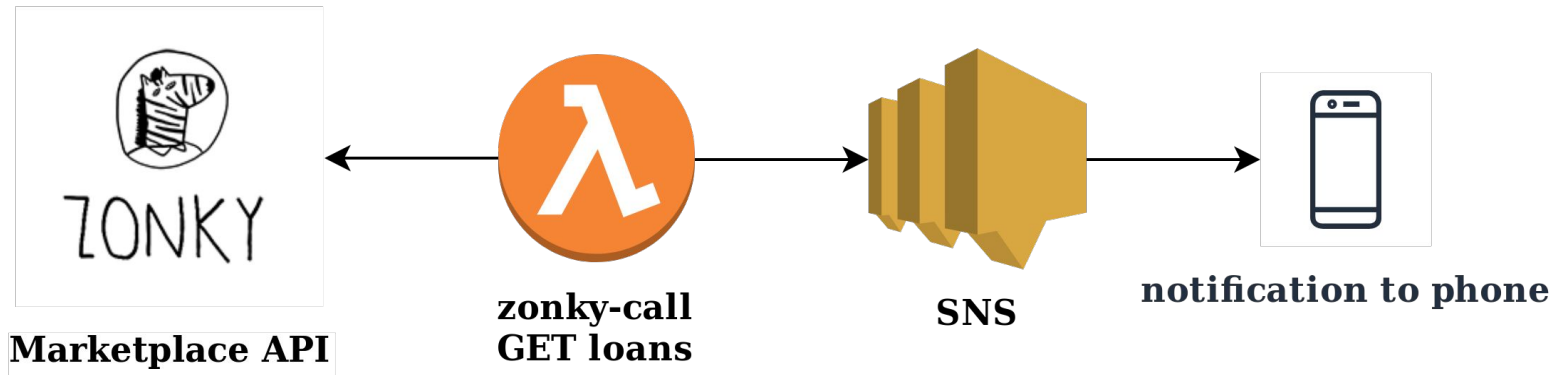
Coding #2

- external API – <https://zonky.docs.apiary.io/>
- zonky-call.js
- zonky-lambda.tf



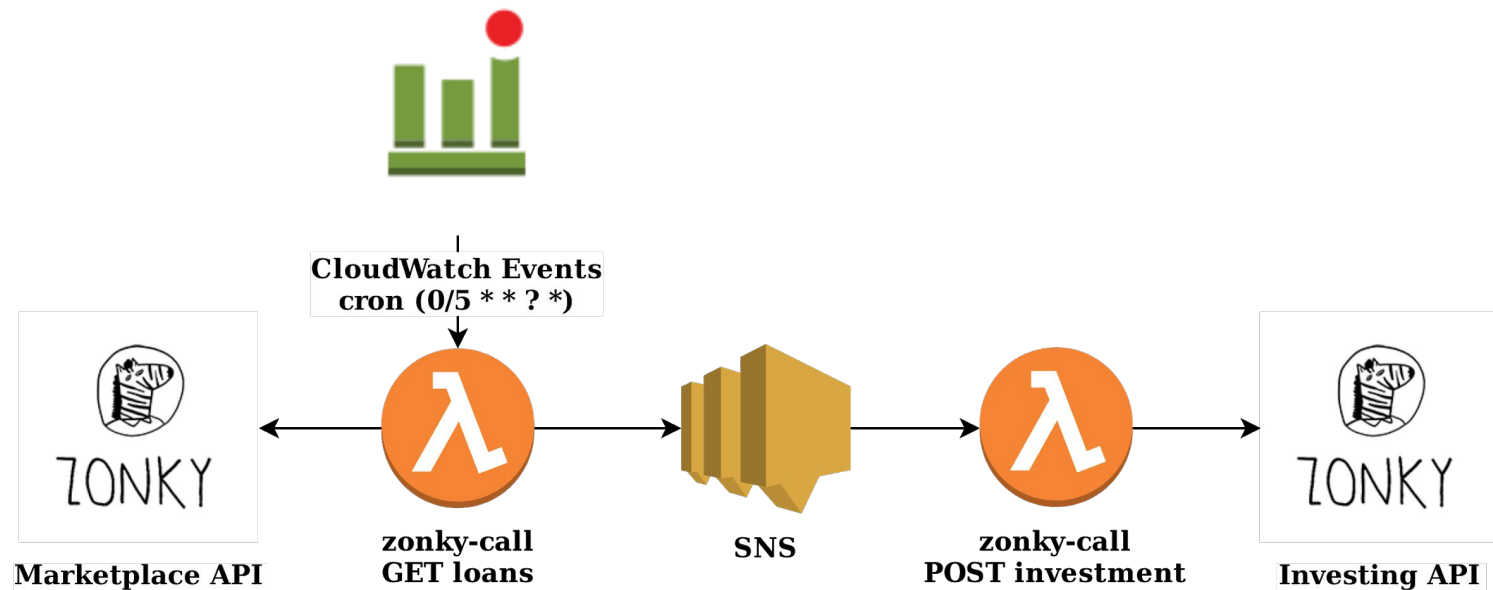
Future #1

- Notification about interesting loans



Future #2

- Autoinvestment – can you invest 5760 times?



References

- <https://console.aws.amazon.com/>
- <https://www.terraform.io/>
- <https://zonky.docs.apiary.io/>
- <https://github.com/monckdav/terraform-startup-factory>