

# Infrastructure as Code with Terraform

Setting up a simple website in AWS with S3

Nora Schöner



NAVIGATE

 **Intro: Hi I'm Nora**

 **Intro: The Story behind**

 **Infrastructure as Code**

 **Terraform**

 **Live Coding**

 **Let's sum it up!**



## 🔑 Aim & Takeaways

Understand Infrastructure as Code

Know benefits and challenges

Insights into Terraform

# Hi, I'm Nora

Senior Software Developer @ CodeCamp:N



current project



meine-vorsorgedokumente.de



codecamp<sup>N</sup>

Come by and say Hi 🙋



@wolkencode



@norchen

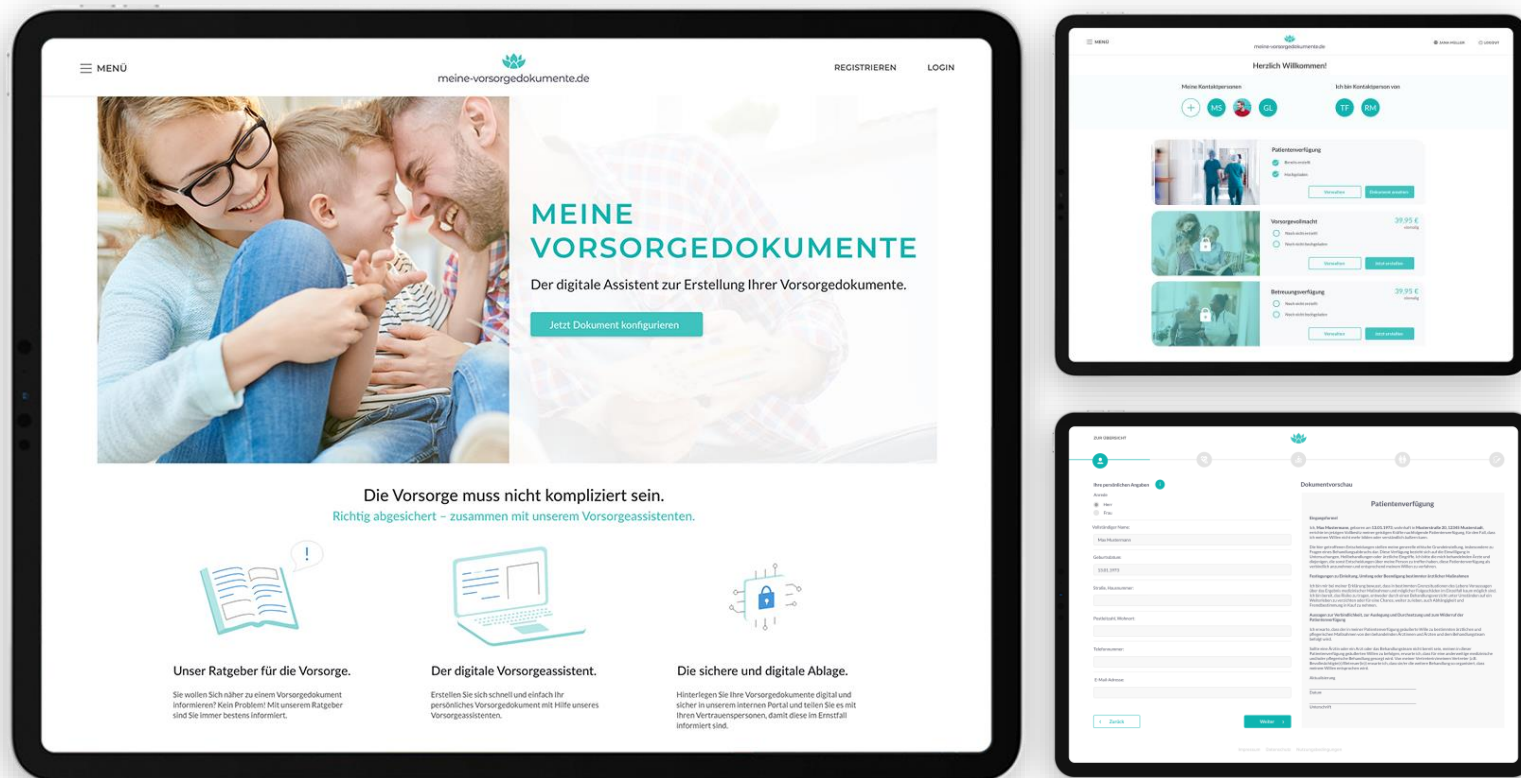


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**It's just a  
click in the  
console...**

A new  
cooperation is  
coming.

We need the new  
test set-up  
by next week...

Yeah, let me  
just click  
through the  
console...

Argh!  
**WHICH CONFIG**  
did I used last  
time?

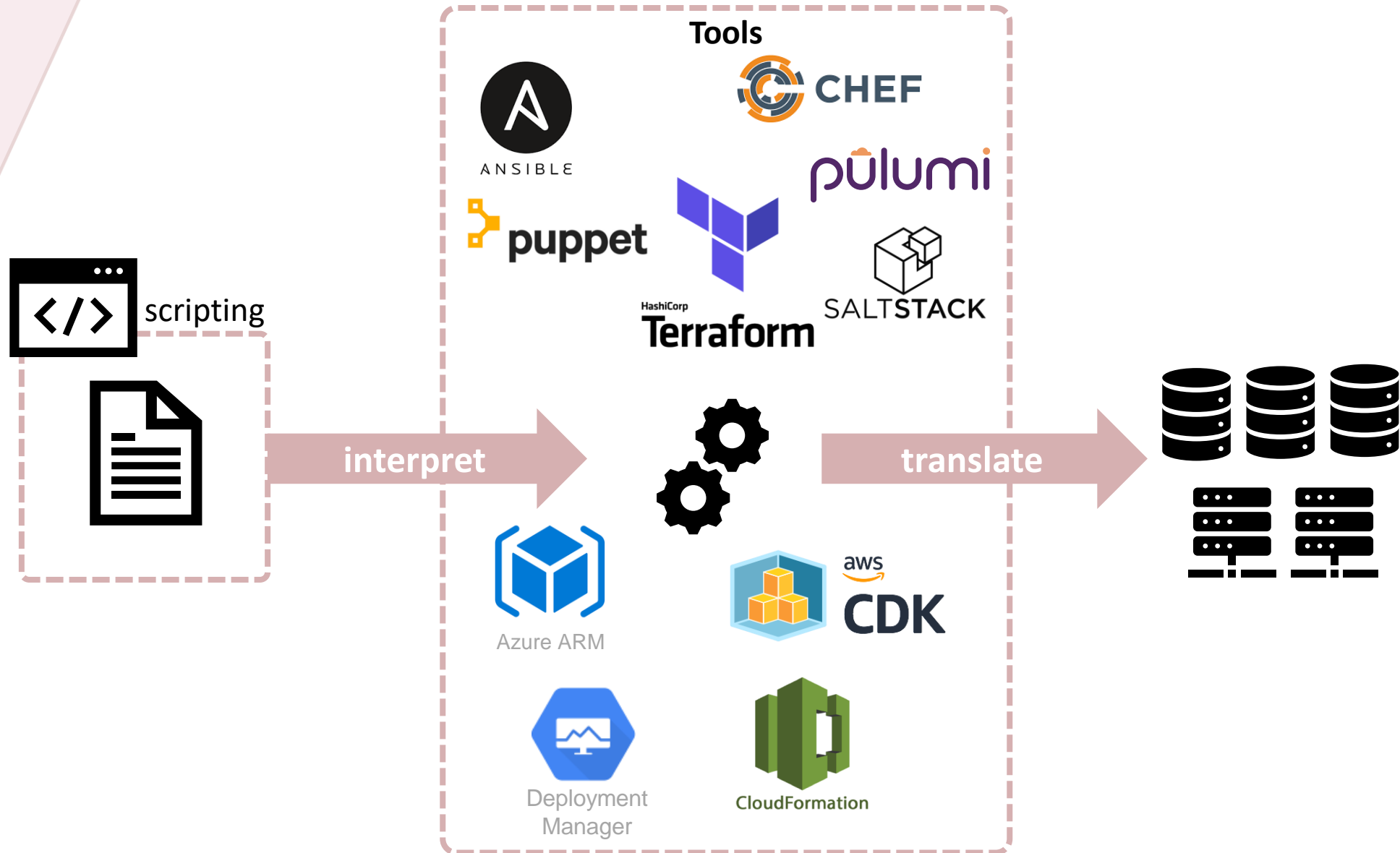
And **WHICH  
RESOURCES ?**  
I can't remember  
...

This should  
be working  
**AUTOMATICALLY**  
...

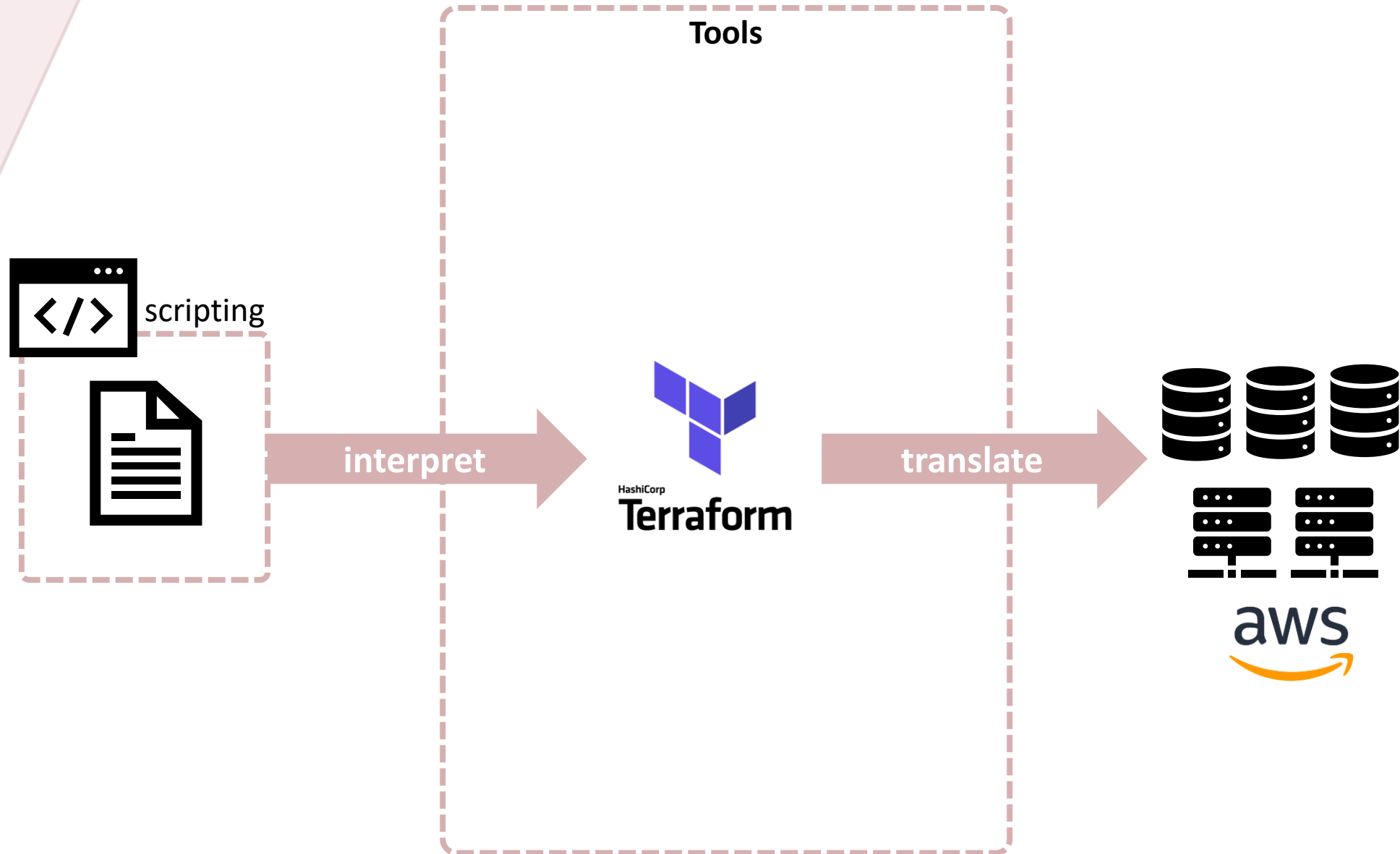


photo by CodeCamp:N GmbH

## Infrastructure as Code



## Infrastructure as Code

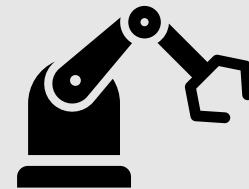
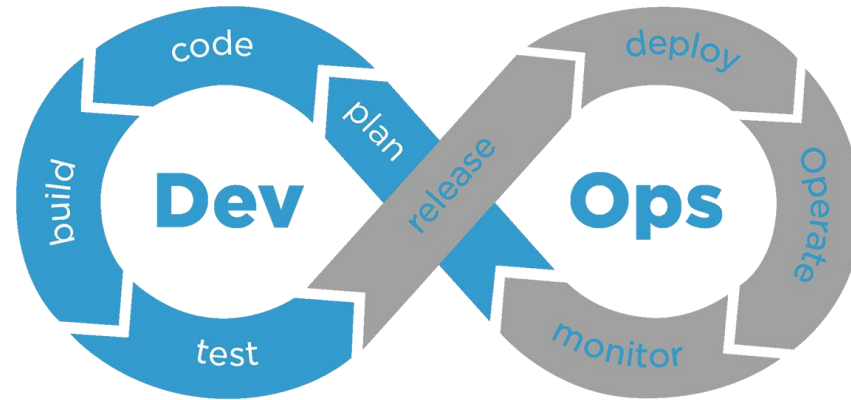




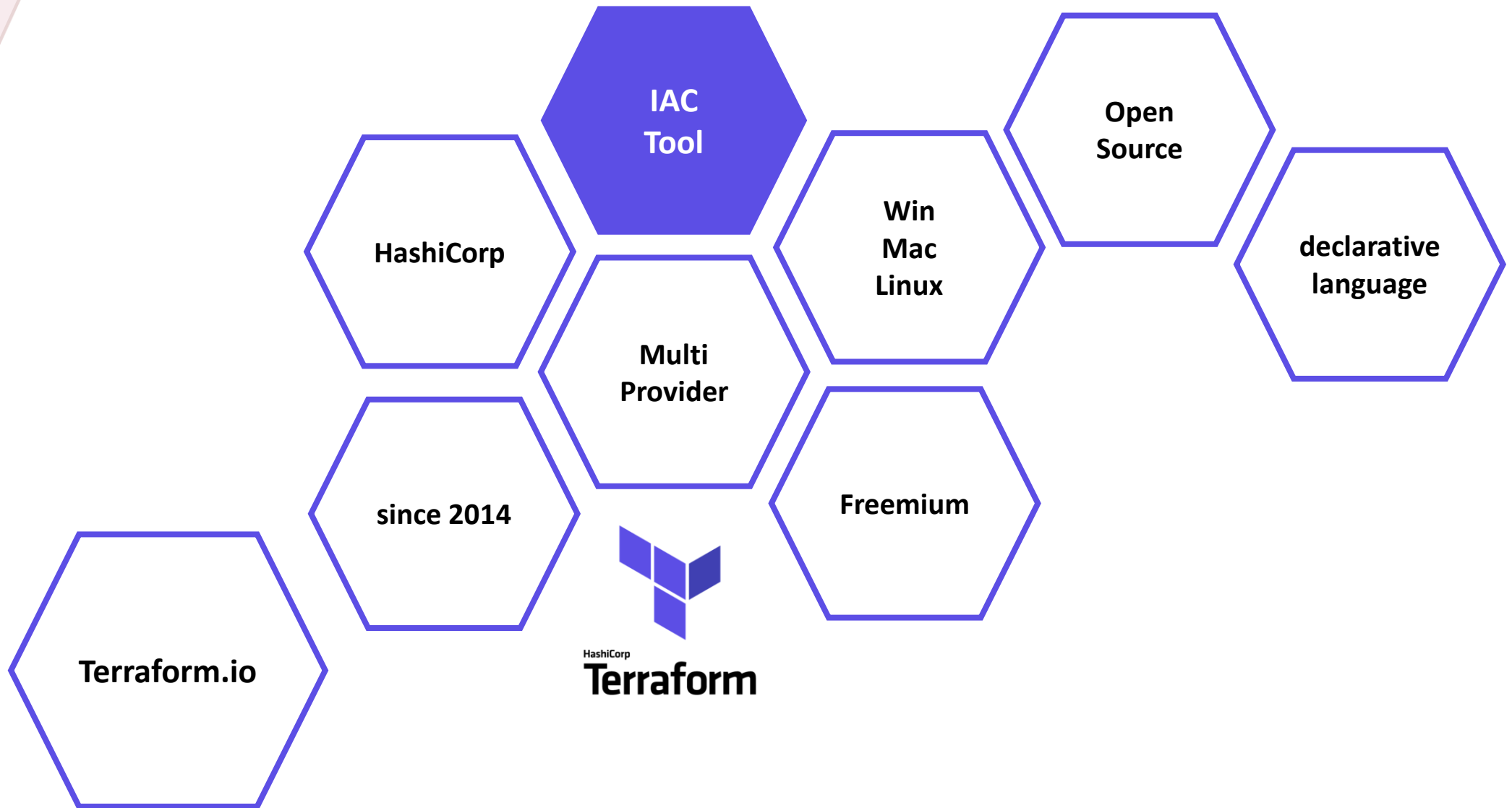
**The workload  
will benefit  
from it**



**The workload  
will benefit  
from it**



**Terraform is  
a great tool**



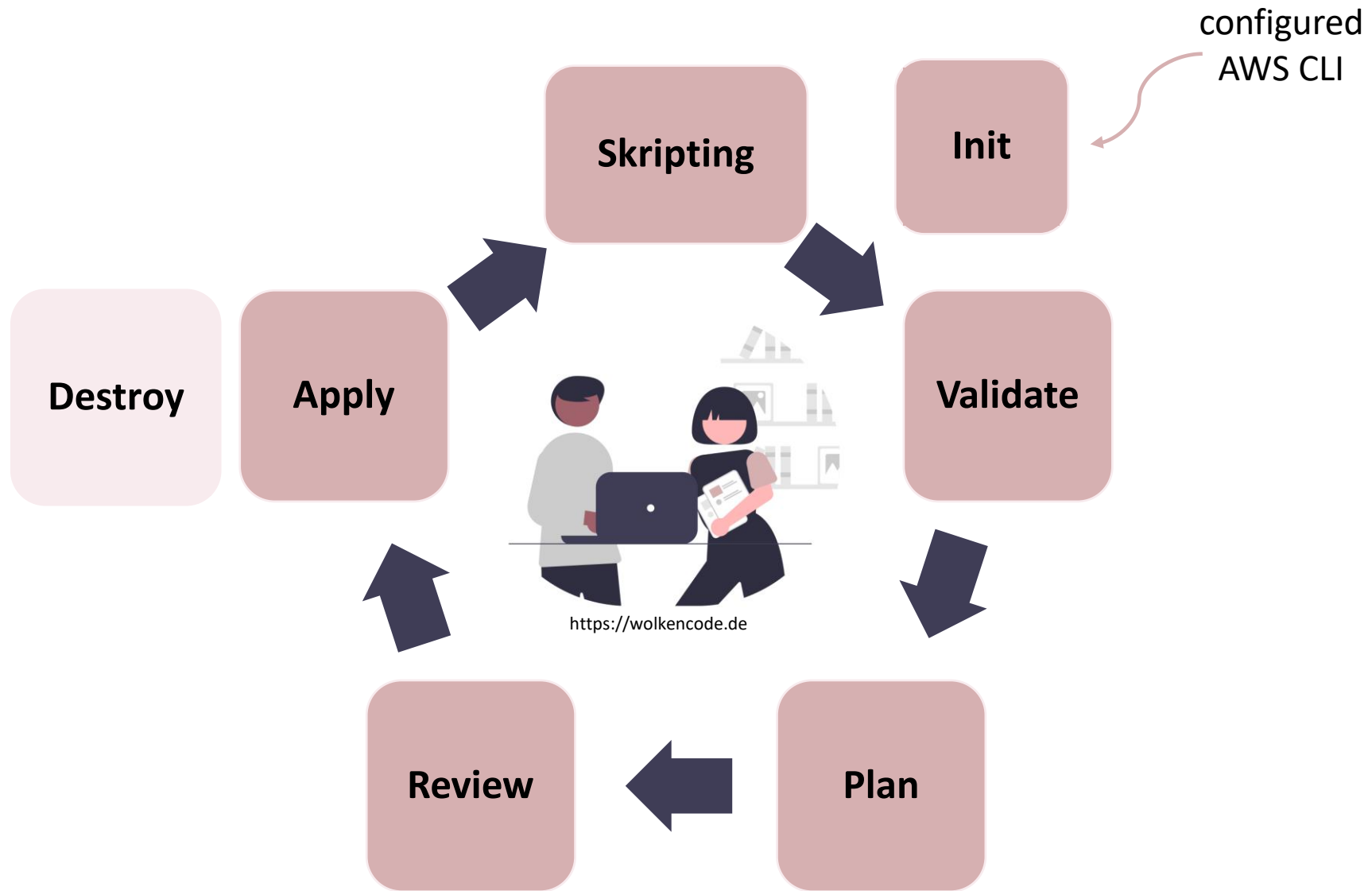
## Installation is easy & simple

```
1  # install terraform
2  # switch to temporary directory
3  cd tmp
4  # get latest terraform binaries for your system https://www.terraform.io/downloads.html
5  wget https://releases.hashicorp.com/terraform/0.14.4/terraform\_0.14.4\_linux\_amd64.zip
6  unzip terraform_0.14.4_linux_amd64.zip
7  # move terraform to an existing dir included in PATH
8  # (or add current dir to PATH)
9  mv terraform /usr/local/bin/
```

👉 <https://www.terraform.io/downloads.html>

📖 <https://learn.hashicorp.com/tutorials/terraform/install-cli>

## Basic Workflow

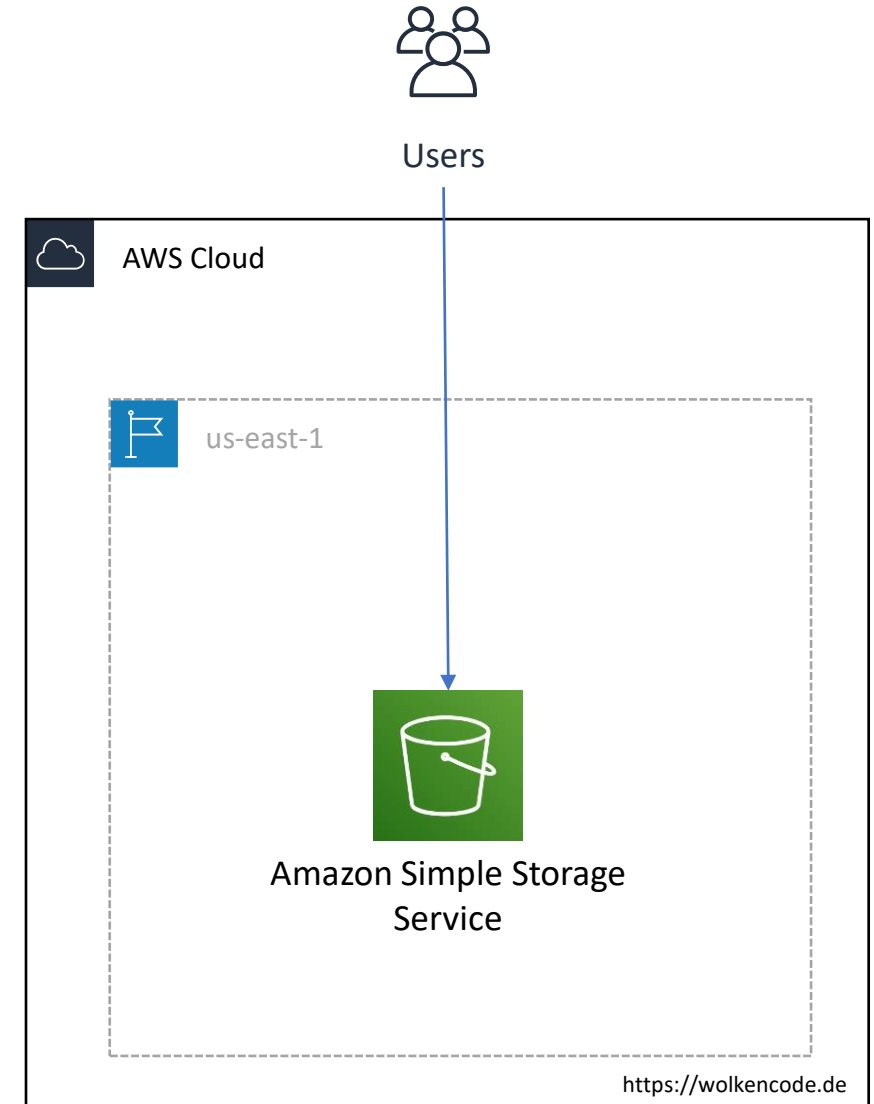


## States



## Demo Session

```
1  #set provider
2  ∨ provider "aws" {
3    profile = "cyberland-s3-bucket-test"
4    region  = "us-east-1"
5  }
6
7  #set variables
8  ∨ variable "s3_bucket_name" {
9    description = "the bucket name for our website bucket"
10    type        = string
11  }
12
13  #set resources
14  # s3 bucket
15  ∨ resource "aws_s3_bucket" "website" {
16    bucket = var.s3_bucket_name
17    acl    = "public-read"
18    policy = <<POLICY
19  ∨ {
20    "Version": "2012-10-17",
21    "Statement": [
22    ∨ {
23      "Sid": "PublicReadGetObject",
24      "Effect": "Allow",
25      "Principal": "*",
26    ∨ {
27      "Action": [
28        "s3:GetObject"
29      ],
30      "Resource": [
31        "arn:aws:s3:::${var.s3_bucket_name}/*"
32      ]
33    }
34  }
35  ∨ POLICY
```



## Terraform Advantages



easy and fast to learn



good documentation with a lots of examples



planning with state management



open-source & community-driven



## Terraform Challenges



complex conditions are not trivial to implement



unique resource set per provider

**Your  
set up is  
reviewable**



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**Wir suchen dich!**

Java-Entwickler\*in

FE/BE/Fullstack-Entwickler\*in

Testmanagement  
uvm.

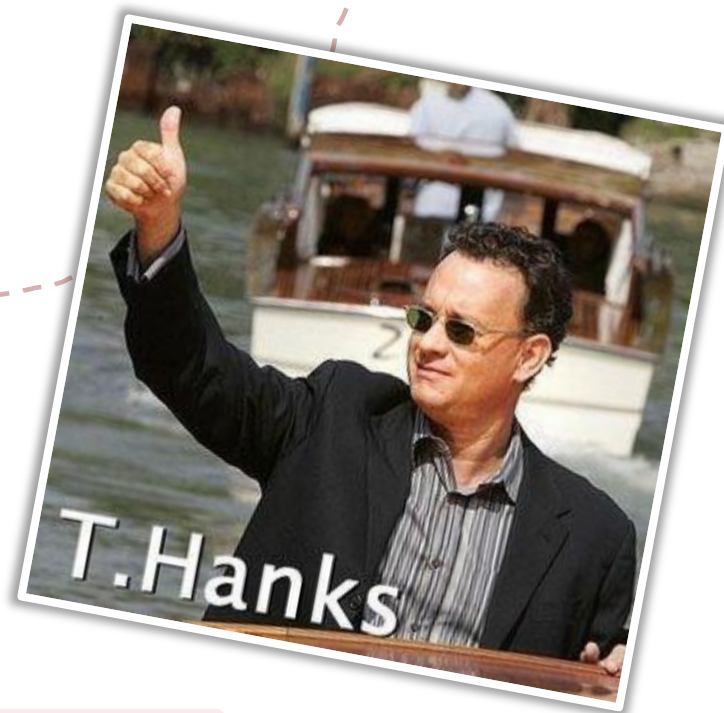
<https://codecampn-jobs.personio.de/>

oder meld dich  
[nora.schoener@codecamp-n.com](mailto:nora.schoener@codecamp-n.com)

Wir stellen  
ein trotz  
Corona!

**Thank you!**

Senior Software Developer @ CodeCamp:N



**Come by and say Hi 🙋**



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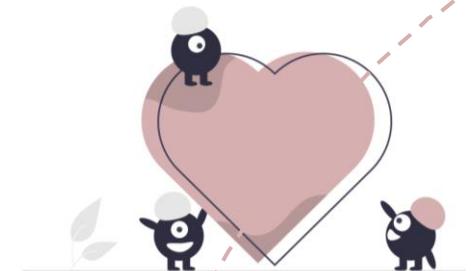




<https://wolkencode.de/posts/terraform-101/>



<https://wolkencode.de/en/posts/terraform-101/>





## photos



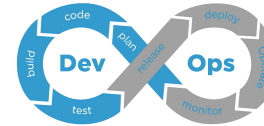
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<https://unsplash.com/photos/5fd2jdyGo-8>  
Madison Kaminski | Unsplash



<https://unsplash.com/photos/knYnEO5aoq4>  
Bill Aboudi | Unsplash



<https://aqua-cloud.io/blog/agiles-testmanagement-trifft-auf-devops>

logos taken from respective provider

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