5 millions de messages Discord envoyés chaque seconde.

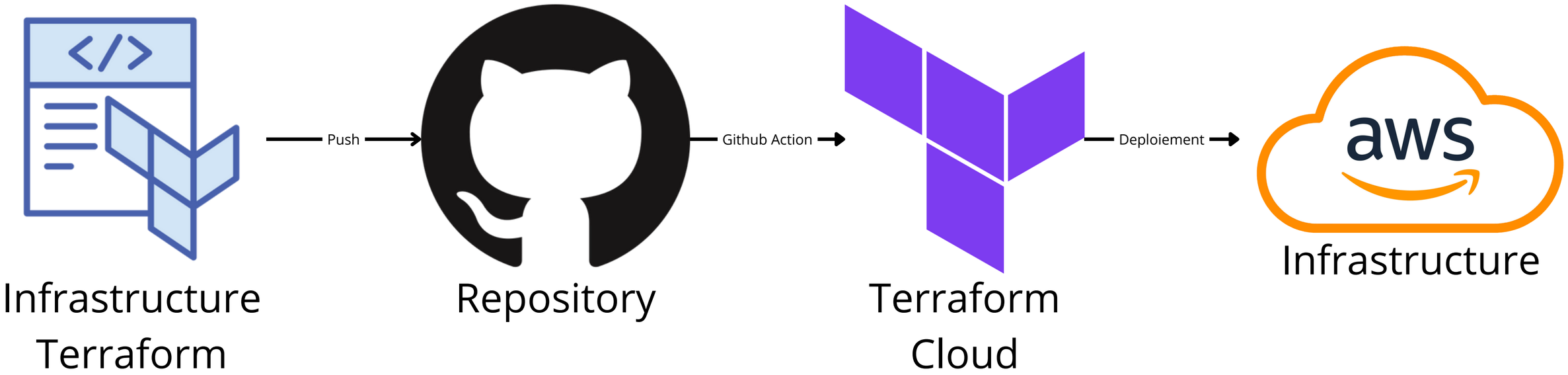
Une présentation de Thomas, Dylan et Sylvain

Environnement de travail

GitHub

HashiCorp
Terraform

Déploiement automatique



Github Action

Lors d’un push sur la branche main

```yaml
name: "Terraform"

on:
  push:
    branches:
      - main
```

Github Action

Récupération du code

&

Connexion a Terraform Cloud

```yaml
- name: Checkout
  uses: actions/checkout@v3

- name: Setup Terraform
  uses: hashicorp/setup-terraform@v1
  with:
    cli_config_credentials_token: ${{ secrets.TF_API_TOKEN }}
```

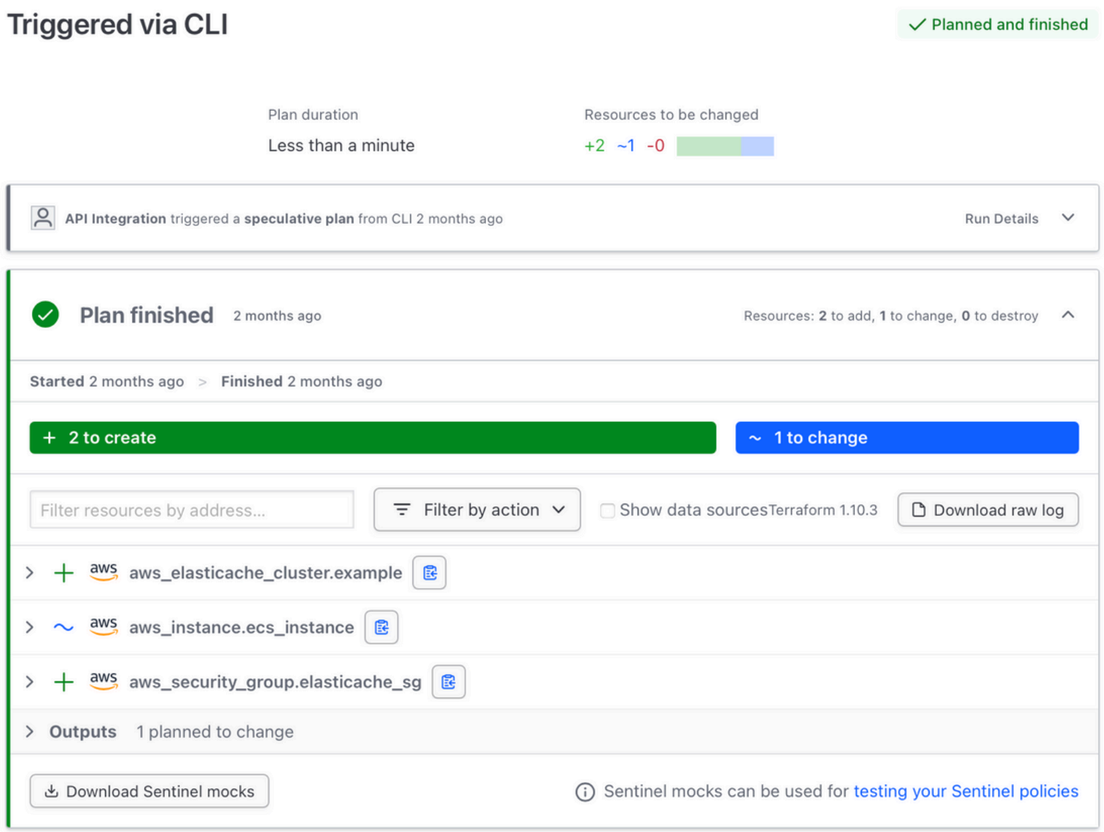
Github Action

Déploiement de l’infrastructure

```yaml
- name: Terraform Apply
  if: github.ref == 'refs/heads/main' && github.event_name == 'push'
  run: terraform apply -auto-approve -input=false
  working-directory: ${{ env.TERRAFORM_DIR }}
```

Terraform Cloud

Déploiement de l’infrastructure

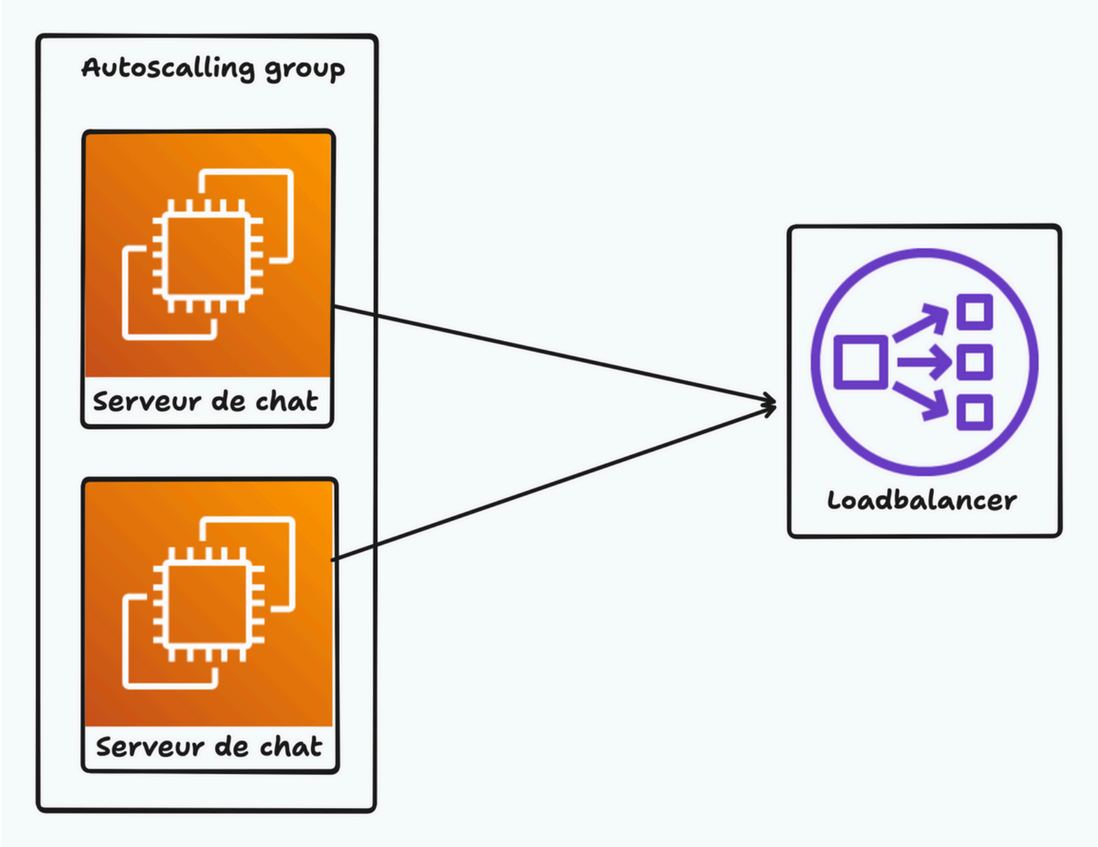


1ère itération

Système simple

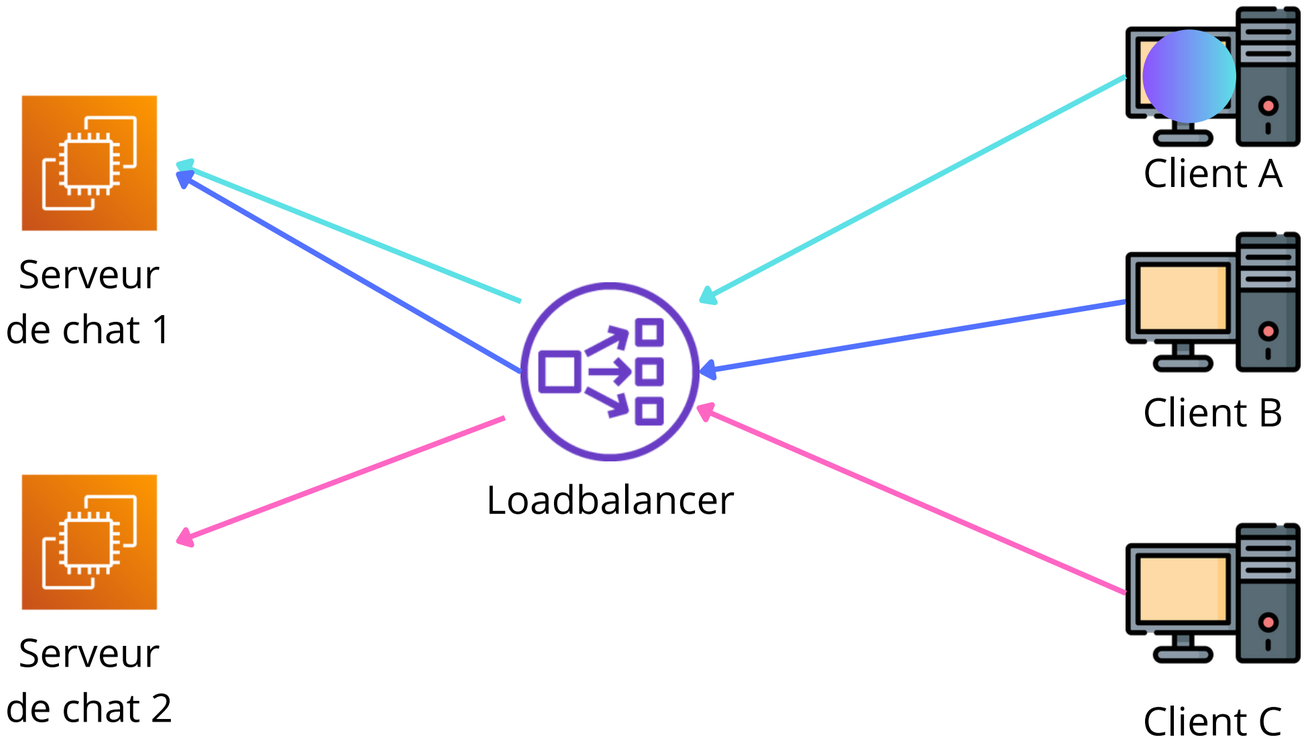
2ème itération

Autoscaling + Loadbalancer



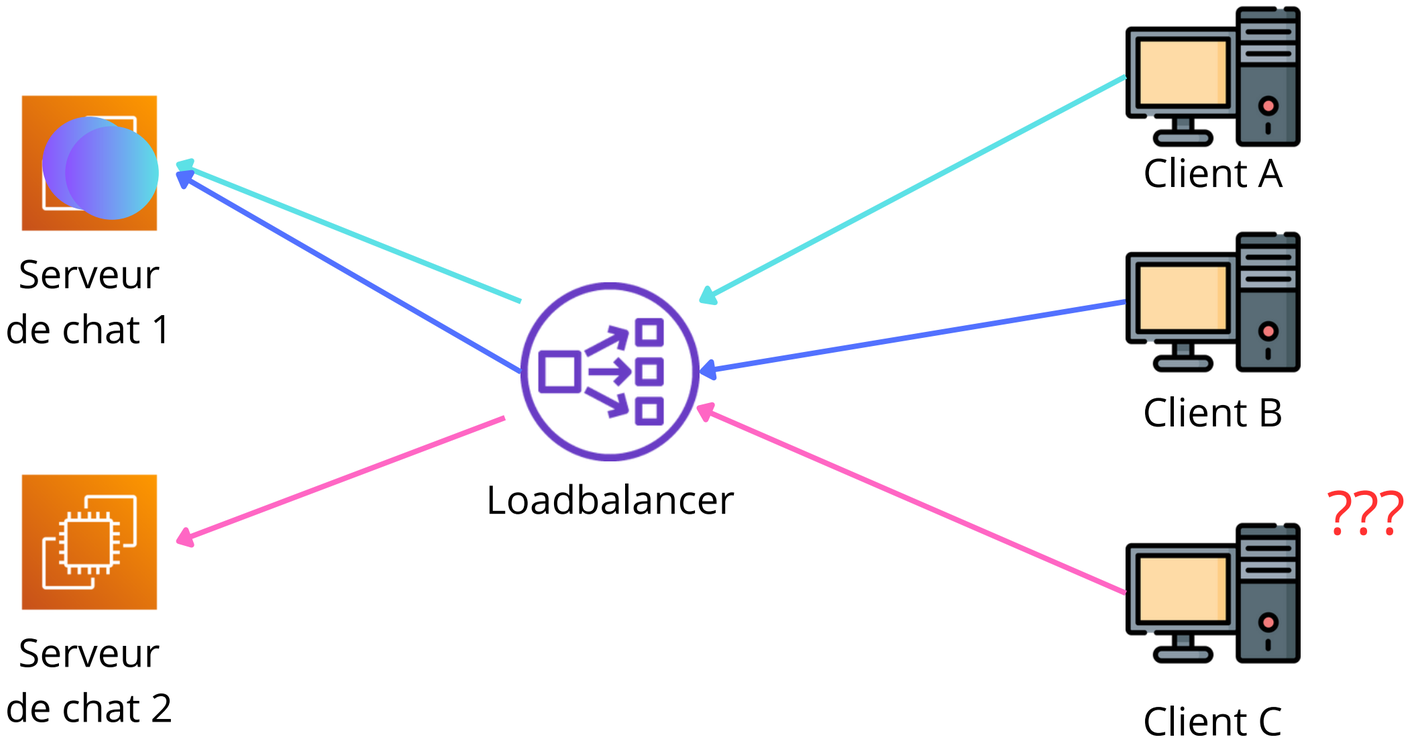
2ème itération

Problématique



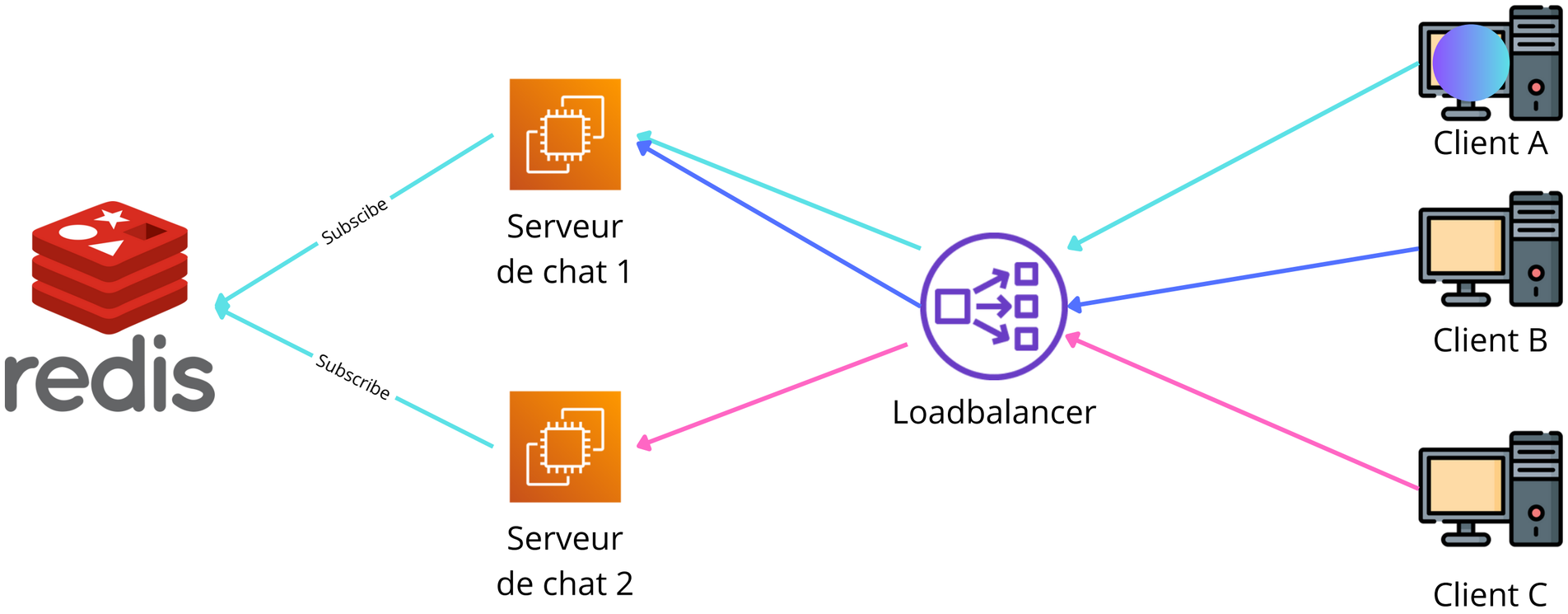
2ème itération

Problématique



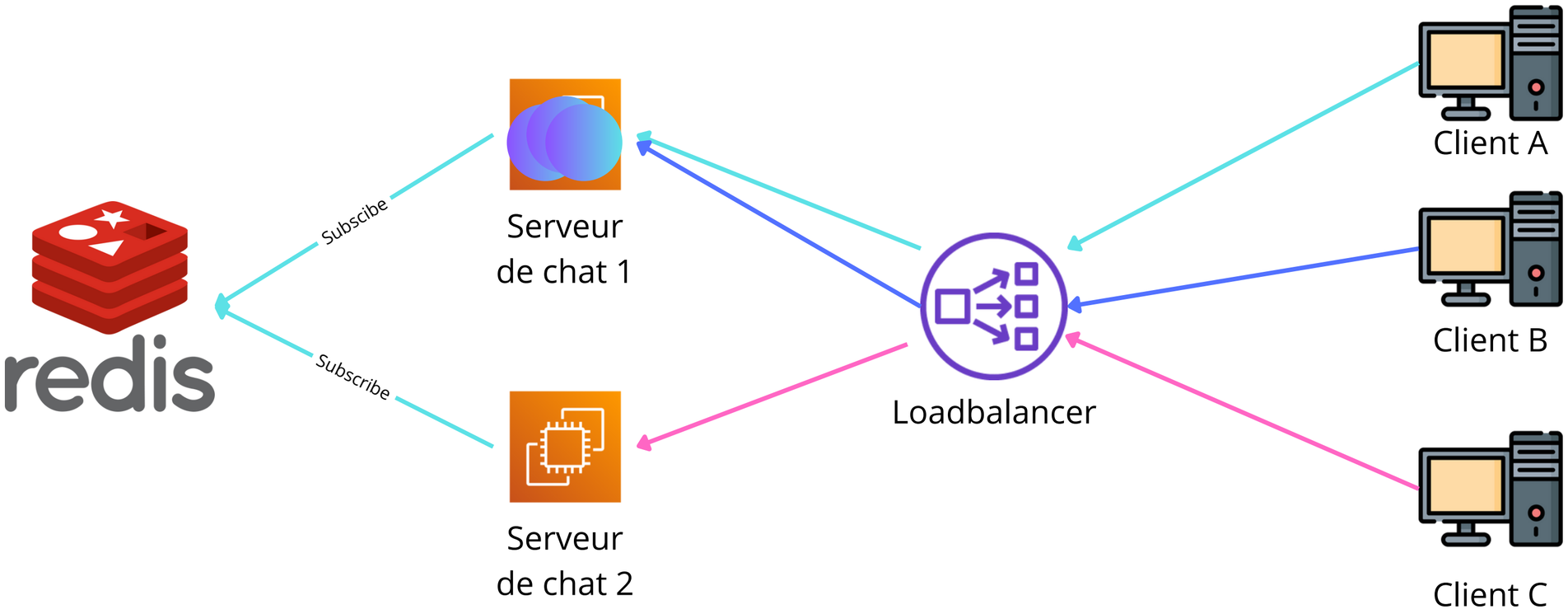
2ème itération

Problématique



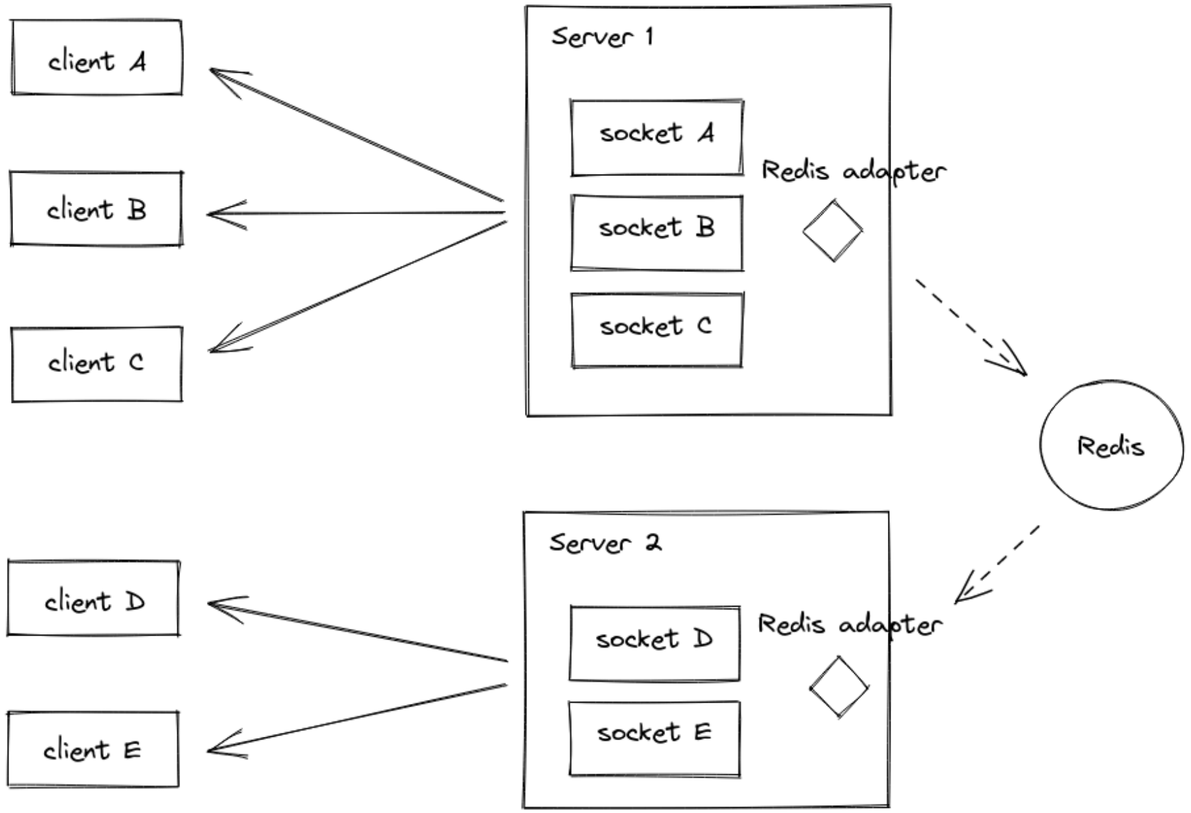
2ème itération

Problématique



2ème itération

Solution : Redis Pub Sub



3ème itération

Elastic Container Service

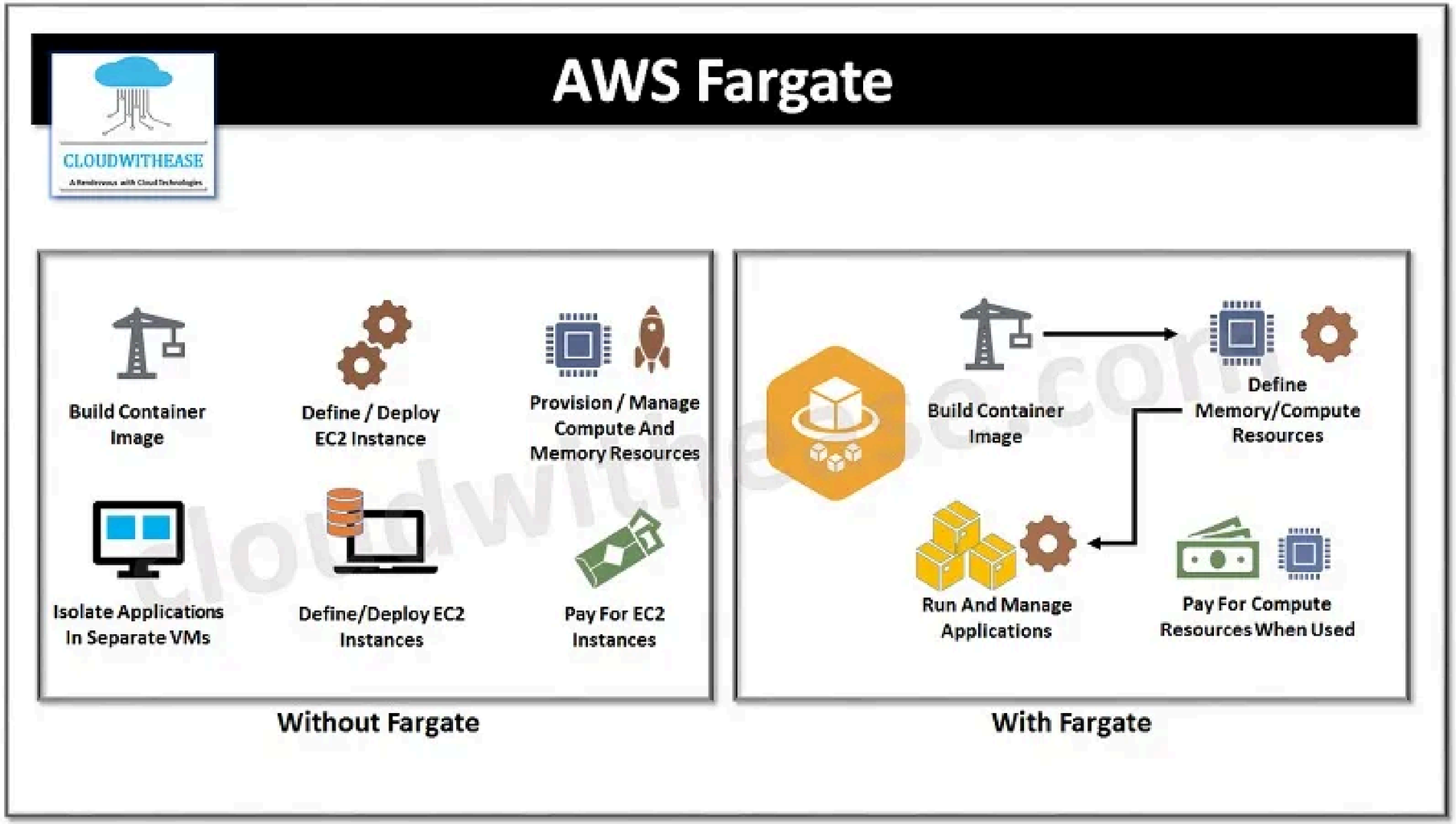
Comment fonctionne ECS ?

3ème itération

ECS

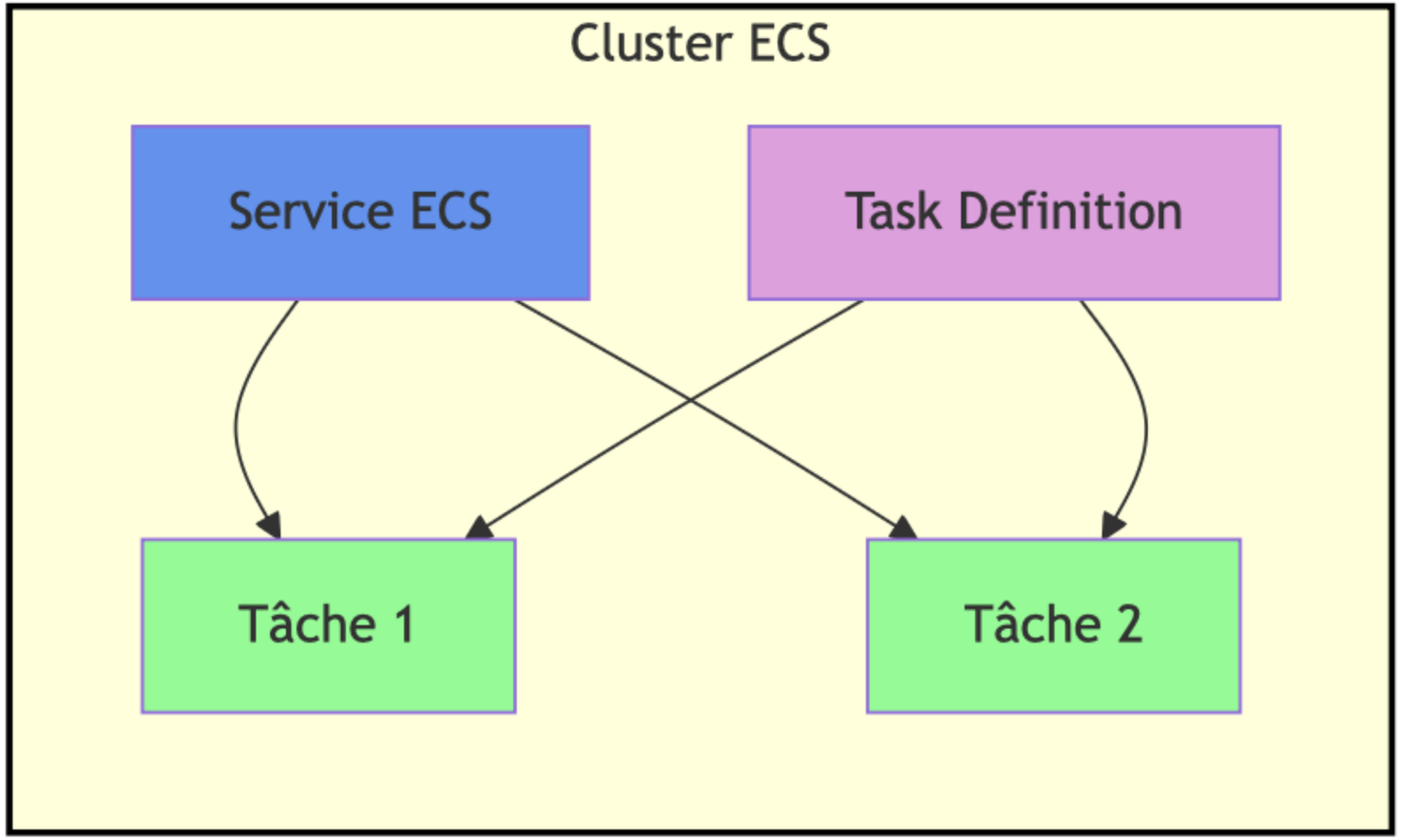
- Orchestration de conteneurs
- Gestion simplifiée de l'infrastructure
- Scalabilité
- Sécurité
- Déploiement via des Task Definitions
- Intégration CI/CD

3ème itération



3ème itération

ECS



Task definition

```
resource "aws_ecs_task_definition" "std-ecs-task" {
  family                   = "std-ecs-task"
  requires_compatibilities = ["FARGATE"]
  network_mode             = "awsvpc"
  cpu                      = 1024
  memory                   = 2048

  task_role_arn      = aws_iam_role.ecs_task_role_chat.arn
  execution_role_arn = aws_iam_role.ecs_execution_role_chat.arn

  container_definitions = jsonencode([
    {
      name   = "std-ecs-chat"
      image  = "ghcr.io/thfx31/std/chat-server:latest"
      cpu    = 1024
      memory = 2048
      portMappings = [
        {
          containerPort = 3000
          hostPort      = 3000
        }
      ]

      environment = [
        {
          name  = "ELASTICACHE_ENDPOINT"
          value = var.elasticache_endpoint
        }
      ]
    }
  ])

}
```

3ème itération

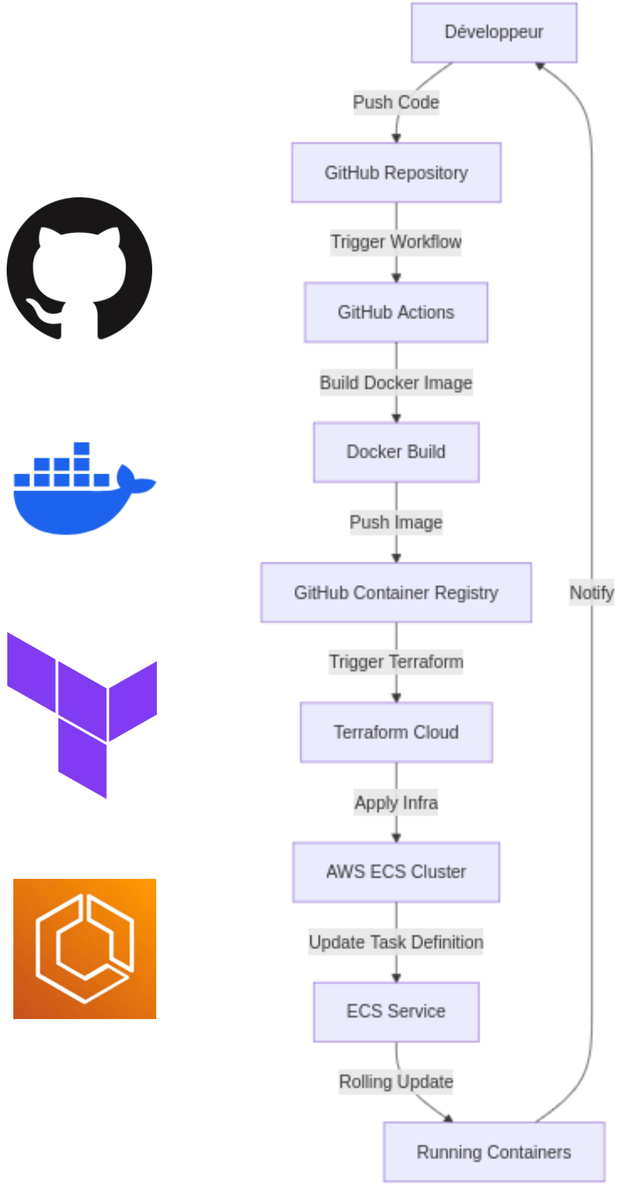
Démo du déploiement

- Ajout d’une instance
- Changement du background

ECS Service

```
resource "aws_ecs_service" "std-ecs-service" {
  name            = "std-ecs-service"
  cluster         = aws_ecs_cluster.std-ecs-cluster.id
  task_definition = aws_ecs_task_definition.std-ecs-task.arn
  desired_count   = 2

  deployment_minimum_healthy_percent = 50
  deployment_maximum_percent         = 200


  enable_execute_command = true
  launch_type            = "FARGATE"

  load_balancer {
    target_group_arn = var.target_group_arn
    container_name   = "std-ecs-chat"
    container_port   = 3000
  }

  network_configuration {
    subnets          = var.public_subnets
    security_groups  = [aws_security_group.chat.id]
    assign_public_ip = true
  }
}
```

Workflow CI/CD



Demo

- Déploiement sur GitHub Actions
- Déploiement sur ECS