

Задача 1

```
provider.tf
1 # Объявление провайдера
2 terraform {
3   required_providers {
4     yandex = {
5       source = "yandex-cloud/yandex"
6     }
7   }
8   required_version = ">= 1.0.0"
9 }
10
11 provider "yandex" {
12   zone = "ru-central1-a"
13   folder_id = "b1g7s2dabdfmgbf4h02c"
14   token = "t1.9euelZr0y4udisJHloyPzpSezpuTmu3rnpWakJuxL4-Li2SRJ3XNn"
15 }
16
main.tf
1 resource "yandex_iam_service_account_static_access_key" "this" {
2   # Создание VPC и подсети
3   resource "yandex_vpc_network" "this" {
4     name = "private"
5   }
6   resource "yandex_vpc_subnet" "private" {
7     name = "private"
8     zone = "ru-central1-a"
9     v4_cidr_blocks = ["192.168.10.0/24"]
10    network_id = yandex_vpc_network.this.id
11  }
12  # Создание диска и виртуальной машины
13  resource "yandex_compute_disk" "boot_disk" {
14    name = "boot-disk"
15    zone = "ru-central1-a"
16    image_id = "fd8ba9d5mfvlncknt2kd" # Ubuntu 22.04 LTS
17    size = 15
18  }
19  resource "yandex_compute_instance" "this" {
20    name = "linux-vm"
21    allow_stopping_for_update = true
22    platform_id = "standard-v3"
23    zone = "ru-central1-a"
24
25    resources {
26      cores = "2"
27      memory = "4"
28    }
29  }
30 }
31
terminal
(base) vlad@Vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAO/Cloud/terraform_hw/infra_stage$ terraform apply
Plan: 1 to add, 0 to change, 0 to destroy.
Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.
Enter a value: yes
yandex_storage_bucket.this: Creating...
yandex_storage_bucket.this: Still creating... [00m10s elapsed]
yandex_storage_bucket.this: Creation complete after 13s [id=test-s3-bucket-fm3oijfw3joro23dffoi32-fix]
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
(base) vlad@Vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAO/Cloud/terraform_hw/infra_stage$
```

Задача 2

```
provider.tf
1 # Объявление провайдера
2 terraform {
3   required_providers {
4     yandex = {
5       source = "yandex-cloud/yandex"
6     }
7   }
8   random = {
9     source = "hashicorp/random"
10   }
11   required_version = ">= 1.0.0"
12 }
13
14 provider "yandex" {
15   zone = "ru-central1-a"
16   folder_id = "b1g7s2dabdfmgbf4h02c"
17   token = "t1.9euelZr0y4udisJHloyPzpSezpuTmu3rnpWakJuxL4-Li2SRJ3XNn"
18 }
19
20 provider "random" {
21 }
22
main.tf
1 resource "yandex_storage_bucket" "this" {
2   # Создание статического ключа доступа
3   resource "yandex_iam_service_account_static_access_key" "this" {
4     service_account_id = yandex_iam_service_account_bucket.id
5     description = "static access key for object storage"
6   }
7   # Создание GCS-а
8   resource "yandex_storage_bucket" "this" {
9     bucket = "terraform-bucket-${random_string.bucket_name.result}"
10    access_key = yandex_iam_service_account_static_access_key.this.access_key
11    secret_key = yandex_iam_service_account_static_access_key.this.secret_key
12    depends_on = [yandex_resource_manager_folder_iam_member.storage_editor]
13  }
14  resource "random_string" "bucket_name" {
15    length = 8
16    special = false
17    upper = false
18  }
19 }
20
terminal
(base) vlad@Vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAO/Cloud/terraform_hw/infra_stage$ terraform apply
random_string.bucket_name: Creating...
random_string.bucket_name: Creation complete after 0s [id=3jilcfq7]
yandex_storage_bucket.this: Creating...
yandex_compute_instance.this: Still modifying... [id=fhmv12debqj7t2c6su, 00m20s elapsed]
yandex_storage_bucket.this: Still creating... [00m10s elapsed]
yandex_storage_bucket.this: Creation complete after 12s [id=terraform-bucket-3jilcfq7]
yandex_compute_instance.this: Still modifying... [id=fhmv12debqj7t2c6su, 00m30s elapsed]
yandex_compute_instance.this: Still modifying... [id=fhmv12debqj7t2c6su, 00m40s elapsed]
yandex_compute_instance.this: Still modifying... [id=fhmv12debqj7t2c6su, 00m50s elapsed]
yandex_compute_instance.this: Modifications complete after 52s [id=fhmv12debqj7t2c6su]
Apply complete! Resources: 2 added, 1 changed, 1 destroyed.
(base) vlad@Vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAO/Cloud/terraform_hw/infra_stage$ yc storage bucket list
+-----+-----+-----+-----+-----+
| NAME | FOLDER ID | MAX SIZE | DEFAULT STORAGE CLASS | CREATED AT |
+-----+-----+-----+-----+-----+
| terraform-bucket-3jilcfq7 | b1g7s2dabdfmgbf4h02c | 0 | STANDARD | 2025-10-24 06:59:31 |
+-----+-----+-----+-----+-----+
(base) vlad@Vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAO/Cloud/terraform_hw/infra_stage$
```

Задача 3

```
Visual Studio Code
File Edit Selection View Go Run Terminal Help
infra_stage

terraform.tfvars
1 folder_id = "big7s2dabdfmgbf4h02c"
2 name_prefix = "project-dev"
3 subnets = {
4   "project-dev-subnet" = ["192.168.11.0/24"]
5 }
6 instance_resources = {
7   cores = 2
8   memory = 2
9 }
10

main.tf
11 resource "yandex_resource_manager_folder_iam_member" "storage_editor"
12
13 resource "yandex_compute_instance" "this" {
14
15   # Создание VPC и подсети
16   resource "yandex_vpc_network" "this" {
17     name = "${var.name_prefix}-private"
18   }
19
20   resource "yandex_vpc_subnet" "private" {
21     name       = keys(var.subnets)[0]
22     zone       = var.zone
23     v4_cidr_blocks = var.subnets[keys(var.subnets)[0]]
24     network_id = yandex_vpc_network.this.id
25   }
26
27   # Создание Yandex Managed Service for YDB
28   resource "yandex_ydb_database_serverless" "this" {
29     name       = "${var.name_prefix}-ydb-serverless"
30     location_id = "ru-central1"
31   }
32 }

variables.tf
1 variable "name_prefix" {
2   description = "(Optional) - Name prefix for project."
3   type        = string
4   default     = "project"
5 }
6
7 variable "folder_id" {
8   description = "(Optional) - Yandex Cloud Folder ID where resources will be created."
9   type        = string
10 }
11
12 variable "zone" {
13   description = "(Optional) - Yandex Cloud Zone for provisioned resources."
14   type        = string
15   default     = "ru-central1-a"
16 }
17
18 variable "image_id" {
19   description = "(Optional) - Boot disk image id. If not provided, it defaults to Ubuntu 20.04 LTS."
20   type        = string
21   default     = "fd8ba9d5mfvlncnt2kd"
22 }
23
24 variable "instance_resources" {
25   description = "(Optional) Specifies the resources allocated to an instance."
26   type        = object({
27     platform_id = string,
28     cores       = number,
29     memory      = number,
30     disk         = object({
31       type = string,
32       size = number,
33     })
34   })
35   default     = {}
36 }

(bash) vlad@vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAD/Cloud/terraform_hw/infra_stage$ terraform apply -var-file=terraform.tfvars
yandex_compute_disk.boot disk: Creating...
yandex_vpc_network.this: Modifications complete after 0s [id=enpsc67kaer7k9kfss8]
yandex_vpc_subnet.private: Modifications... [id=e9b9dctgessdr8hn0jin]
yandex_vpc_subnet.private: Modifications complete after 2s [id=e9b9dctgessdr8hn0jin]
yandex_compute_disk.boot disk: Creation complete after 7s [id=fhm0o1o689gdc7eh6dv7]
yandex_compute_instance.this: Creating...
yandex_compute_instance.this: Still creating... [00m10s elapsed]
yandex_compute_instance.this: Still creating... [00m20s elapsed]
yandex_compute_instance.this: Creation complete after 23s [id=fhmvinb769l322bnnijq]

Apply complete! Resources: 3 added, 4 changed, 3 destroyed.
(base) vlad@vlad-IdeaPad-5-Pro-16ACH6:~/Sasha/MOAD/Cloud/terraform_hw/infra_stage$
```