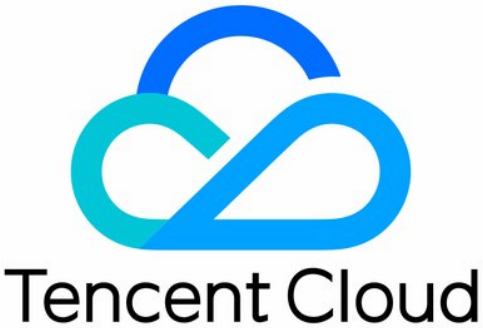
Tencent Cloud Infrastructure as Code

Getting Started

Product Documentation



Getting Started

Last updated：2020-08-13 09:31:37

To quickly familiarize you with Tencent Cloud Infrastructure as Code (TIC), this document describes the basic features of TIC:

- Authorizing TIC: you can authorize TIC to orchestrate cloud resources such as CVM, COS, and MySQL.
- Creating a Stack: you can compile stack code and perform operations such as plan and apply to create cloud resources and build the cloud infrastructure.
- Querying Cloud Resources: you can query cloud resources created using TIC.
- Destroying Cloud Resources: you can release cloud resources to return to the initial status.

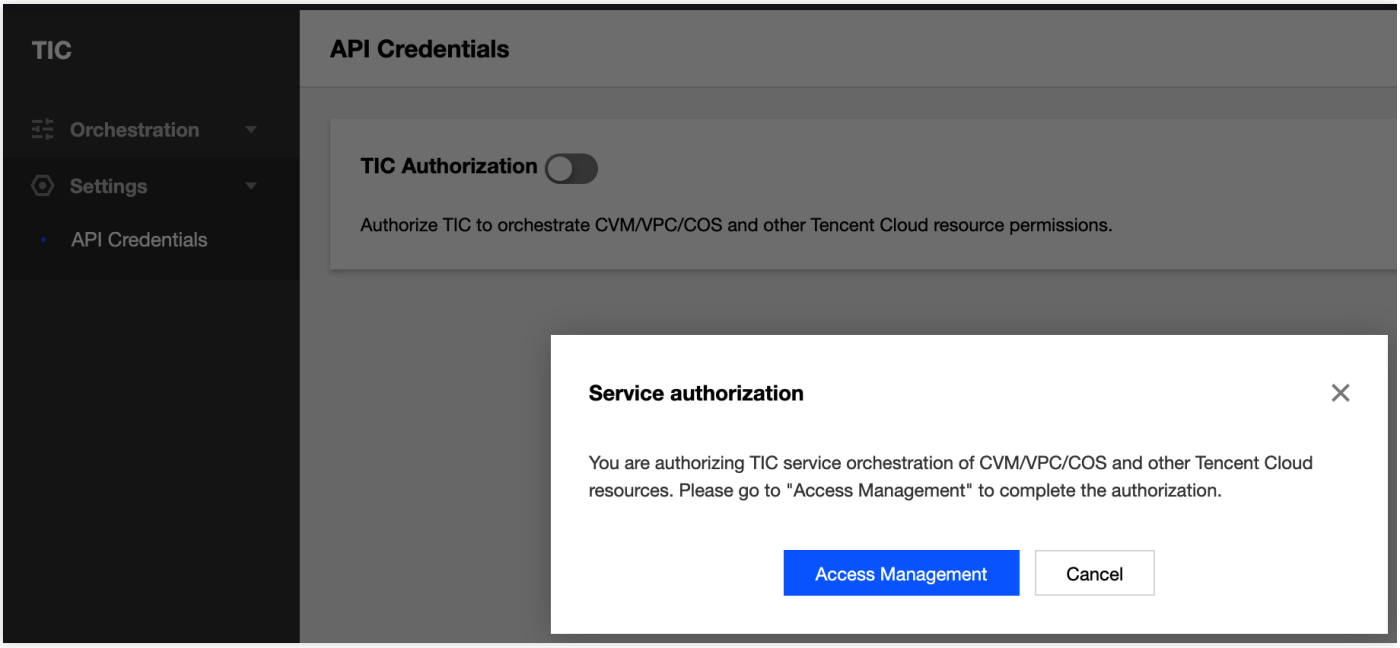
> ⚠ **Note：**
>
> TIC is free of charge and you will only be billed for cloud resources (such as CVM and MySQL) created using TIC. You can modify the configuration file based on business requirements to avoid unexpected costs.

Authorizing TIC

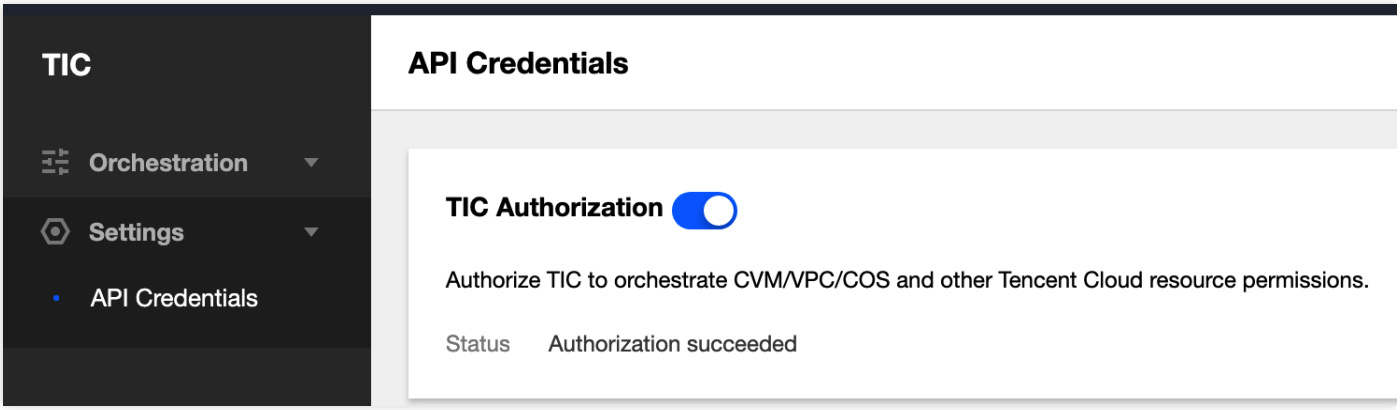
When using TIC for the first time, you must authorize the service to orchestrate cloud resources under your Tencent Cloud account. Otherwise, the operations cannot be performed.

1. Log in to the TIC console.
2. In the left sidebar, choose **Settings** -> **API Credentials** to go to the **API Credentials** page.

3. Click the **TIC Authorization** switch. In the pop-up dialog box, click **Access Management** to go to the CAM page.



4. On the CAM page, click **Grant** to complete the authorization.
5. Go back to the **API Credentials** page. TIC authorization has now been enabled.

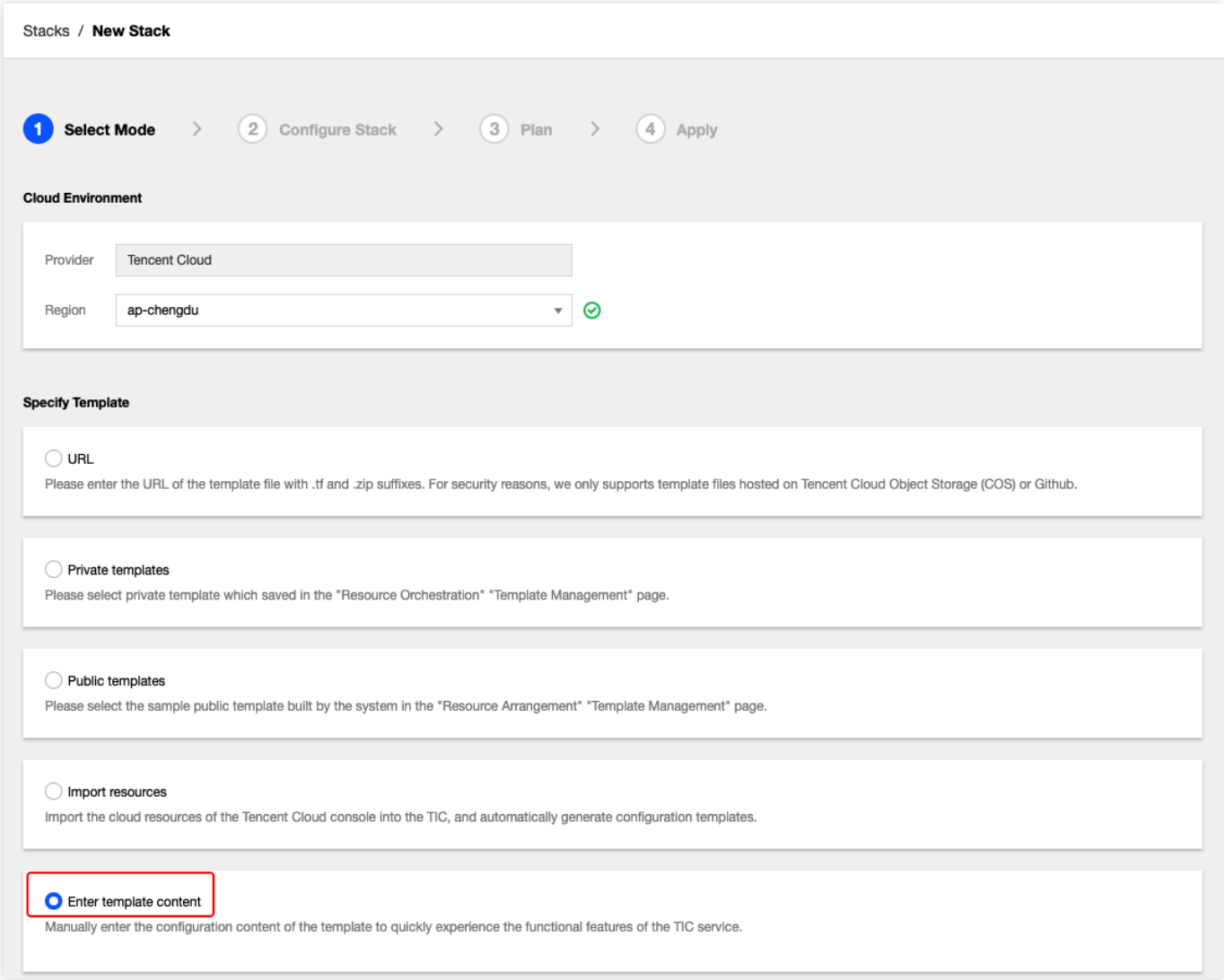


Creating a Stack

Step 1: Select Mode

1. In the left sidebar, choose **Orchestration** -> **Stacks** to go to the **Stacks** page.
2. Click **New stack**. On the **New Stack** page, configure parameters as follows:
   - **Provider**: the default value is **Tencent Cloud**. Currently, only **Tencent Cloud** is supported.
   - **Region**: select a region where all resources in the stack will reside. To facilitate testing, select **Chengdu**. You can also select another region for testing.

3. In **Specify Template**, specify how you want to create the stack.
   - **URL**: only Tencent Cloud COS and GitHub are supported. Only one file can be obtained at a time.
   - **Private templates**: select a private template. For more information, see Template Management
   - **Public templates**: select a public template. For more information, see Template Management.
   - **Enter template content**: enter the infrastructure code. Multi-file compiling is supported.
     In this example, **Enter template content** is selected to configure a new stack from scratch.



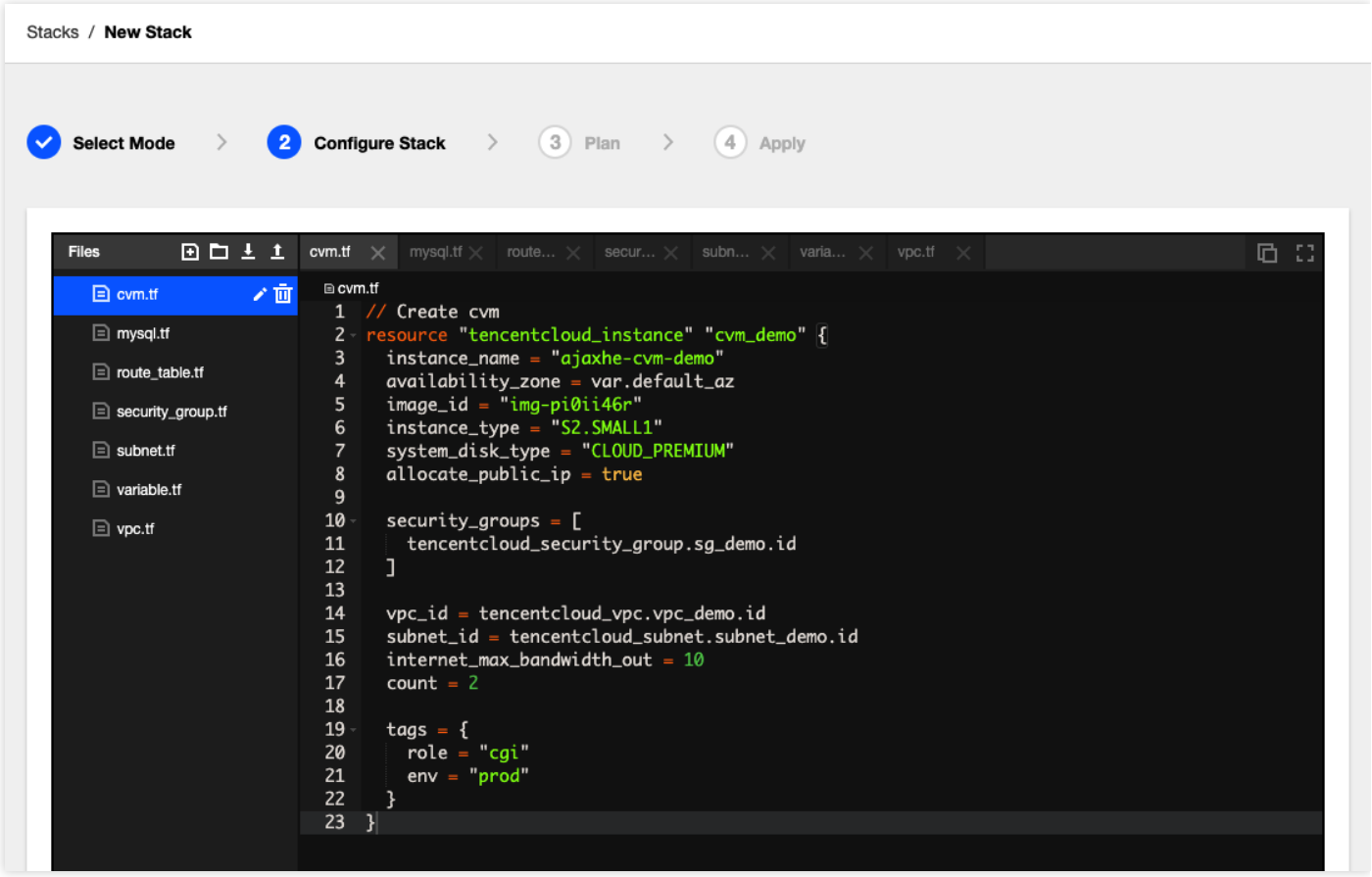
4. Click **Next** to go to Step 2.

Step 2: Configure Stack

TIC parameter configuration is compatible with Terraform's HCL syntax. For more information about HCL syntax, see Terraform Configuration Language.

1. Create resource parameter configuration files. To be consistent with the current network environment, we created two CVMs, one VPC, one subnet, one route table, one security group, and one TencentDB for MySQL instance.

The corresponding configuration files are `cvm.tf`, `vpc.tf`, `subnet.tf`, `route_table.tf`, `security_group.tf`, and `mysql.tf`. The file structure is as follows:



2. For the template to be used universally, we created `variable.tf` that defines two variables: the default region `ap-chengdu` and the default availability zone `ap-chengdu-1`. Note that the region name must be the same as that selected in Step 1.

```
// variable.tf
variable "default_region" {
type = string
default = "ap-chengdu"
}
variable "default_az" {
type = string
default = "ap-chengdu-1"
}
```

3. The variables defined in `variable.tf` will be referenced by other `.tf` files. The `cvm.tf` file is used as an example to describe the syntax. To obtain the complete content of the `.tf` configuration file, download tic-

demo-config.zip.

```
// Create cvm
resource "tencentcloud_instance" "cvm_demo" {
instance_name = "ajaxhe-cvm-demo"
availability_zone = var.default_az
image_id = "img-pi0ii46r"
instance_type = "S2.SMALL1"
system_disk_type = "CLOUD_PREMIUM"
allocate_public_ip = true

security_groups = [
tencentcloud_security_group.sg_demo.id
]

vpc_id = tencentcloud_vpc.vpc_demo.id
subnet_id = tencentcloud_subnet.subnet_demo.id
count = 2

tags = {
role = "cgi"
env = "prod"
}
}
```

resource "tencentcloud_instance": cloud resources currently created are CVM instances. For more information about cloud resources, see Resource Types.
- cvm_demo: local resource name, which is used for cross-cloud referencing.
- instance_name: name of the CVM instance.
- availability_zone: availability zone of the CVM instance. The `default_az` variable defined in the `variable.tf` file is referenced.
- image_id: ID of the CVM image. The value "img-pi0ii46r" indicates Ubuntu Server 18.04.1 LTS (64-bit). You can obtain the image ID from the Image page in the Tencent Cloud Console.
- instance_type: instance type.

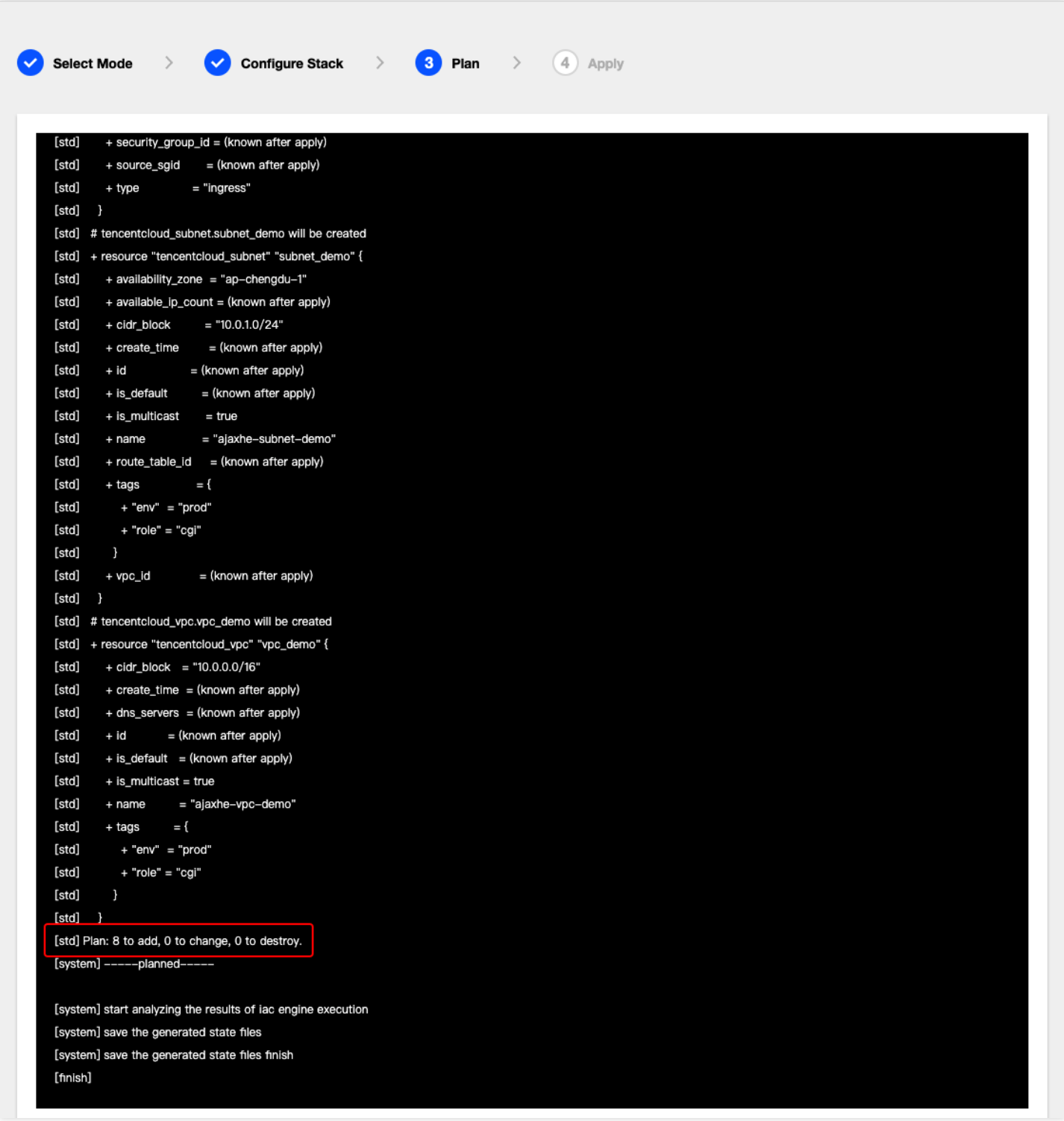
system_disk_type: system disk type. `CLOUD_PREMIUM` indicates premium cloud storage. For more information, see the DiskType description in CreateDisks.
- allocate_public_ip: whether to configure a public IP address. To configure a public IP address, configure the value to true.
- security_groups: list of security groups associated with the CVM instance. The `tencentcloud_security_group.sg_demo.id` indicates that the CVM instance is associated with the security group defined in `security_group.tf` .

- vpc_id: VPC associated with the CVM instance. The `tencentcloud_vpc.vpc_demo.id` indicates that the CVM is associated with the VPC defined in `vpc.tf` .
- count: reserved field. The value 2 indicates two CVM instances with above configurations will be created.
- tags: used to classify CVM instances.

Step 3: Plan

After compiling configuration files, click **Next** to go to the **Plan** step. In this step, TIC verifies the configuration syntax and preprocesses resource change operations.
According to the result of the plan operation as shown in the following figure, 8 cloud resources will be created, and no

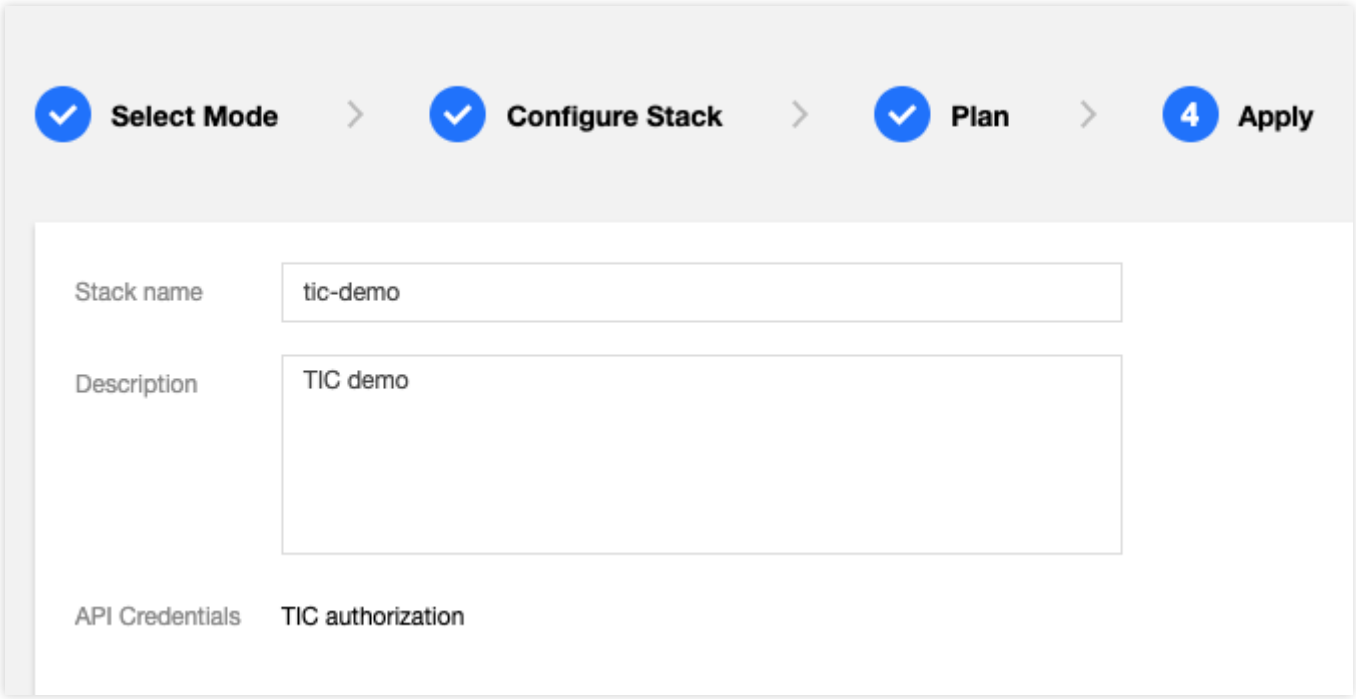
resource will be changed or destroyed.



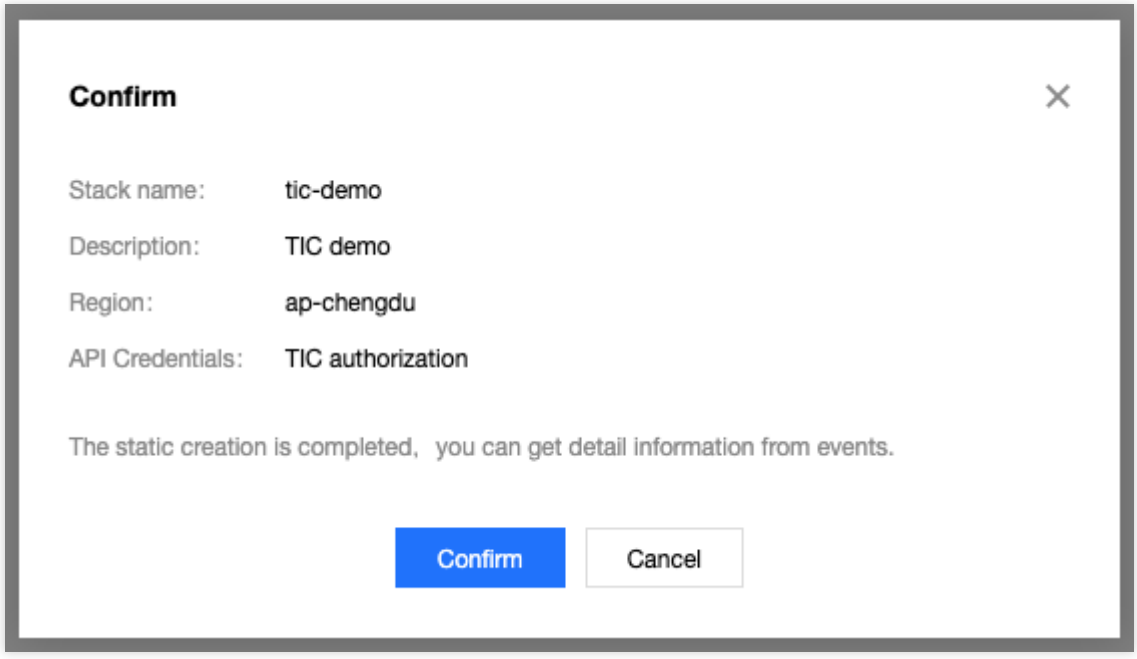
Step 4: Apply

If the result meets your requirements, perform the following operations:

1. Click **Next**, enter the stack name and description, and click **Confirm**.

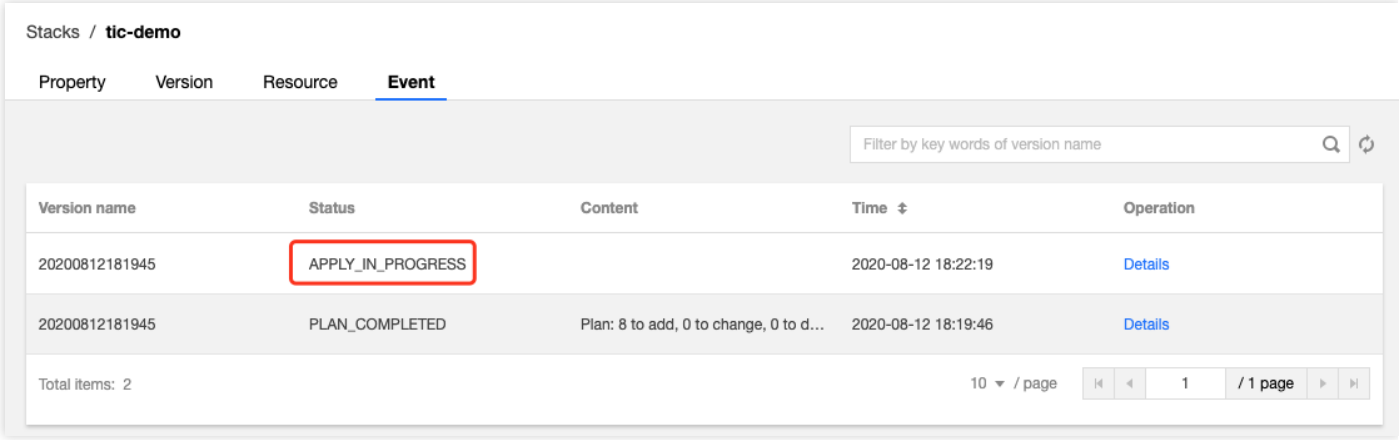


2. In the pop-up confirmation box, click **Confirm**.

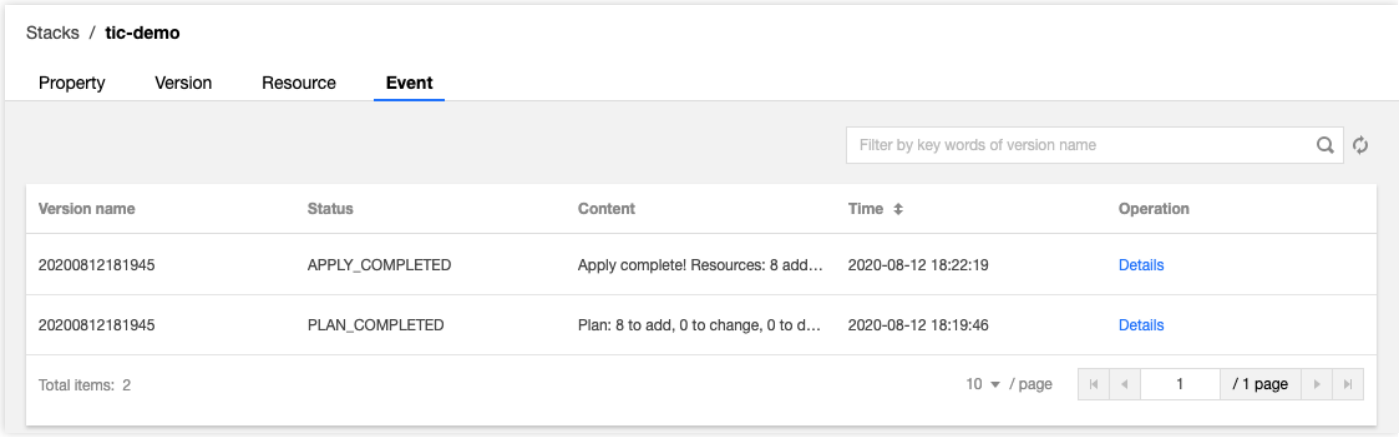


3. TIC will perform the apply operation to create cloud resources. You will be redirected to the **Stacks** -> **Event** page. The **APPLY_IN_PROGRESS** status indicates cloud resources are being created. The creation process takes

several minutes.



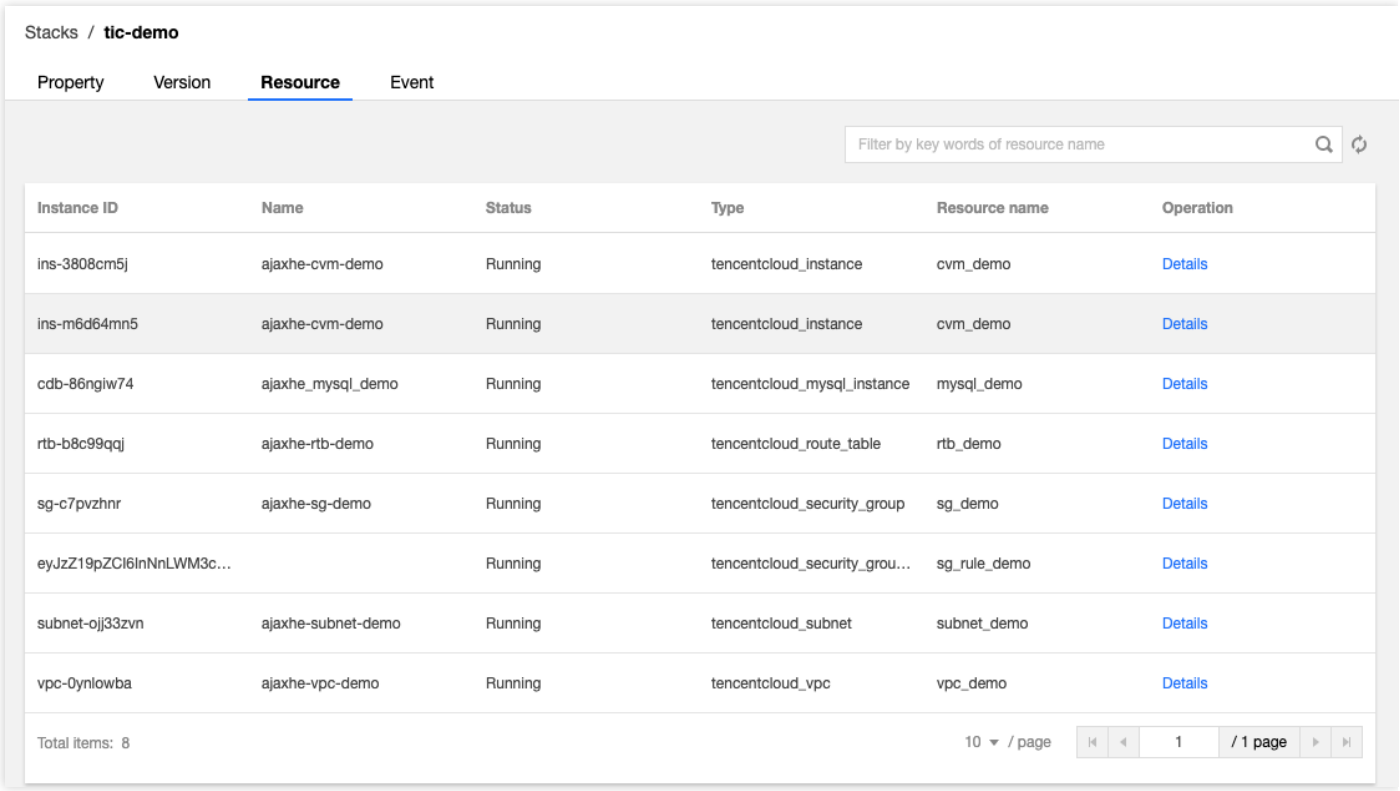
4. Click the refresh icon in the upper-right corner of the **Event** page. When the status becomes **APPLY_COMPLETED**, cloud resources are created successfully.



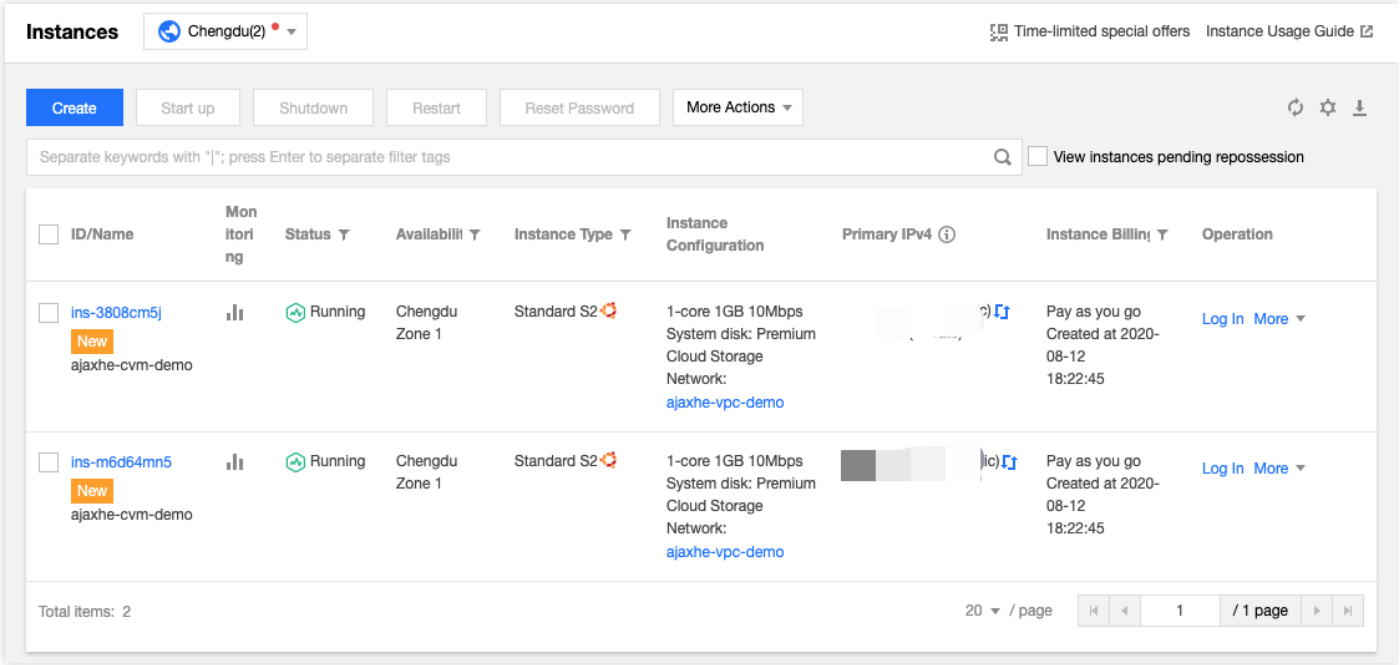
Viewing Cloud Resources

1. On the **Stacks** page, locate the newly created stack and click on its *ID/Name* to go to the details page.

2. Click the **Resource** tab to view cloud resources managed by TIC.



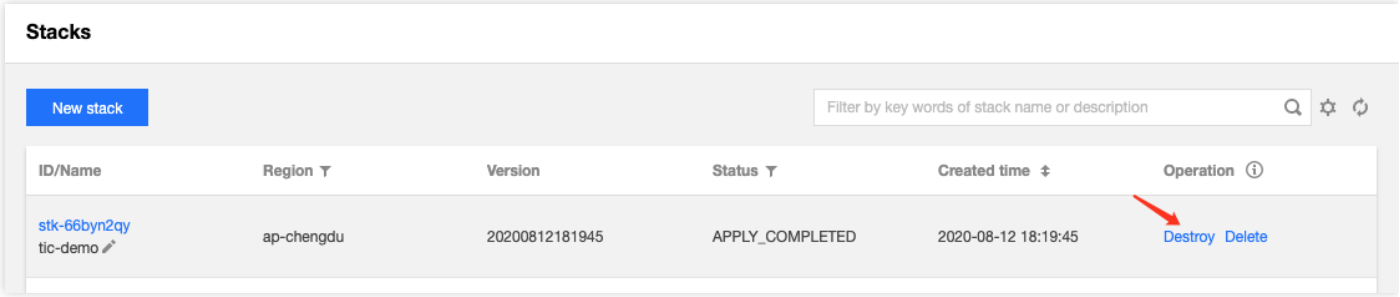
3. The **Resource** page only displays key fields of cloud resources. To query resource details, go to the corresponding Tencent Cloud service console. For example, you can log in to the CVM console to view the two CVM instances created using TIC.



Destroying Cloud Resources

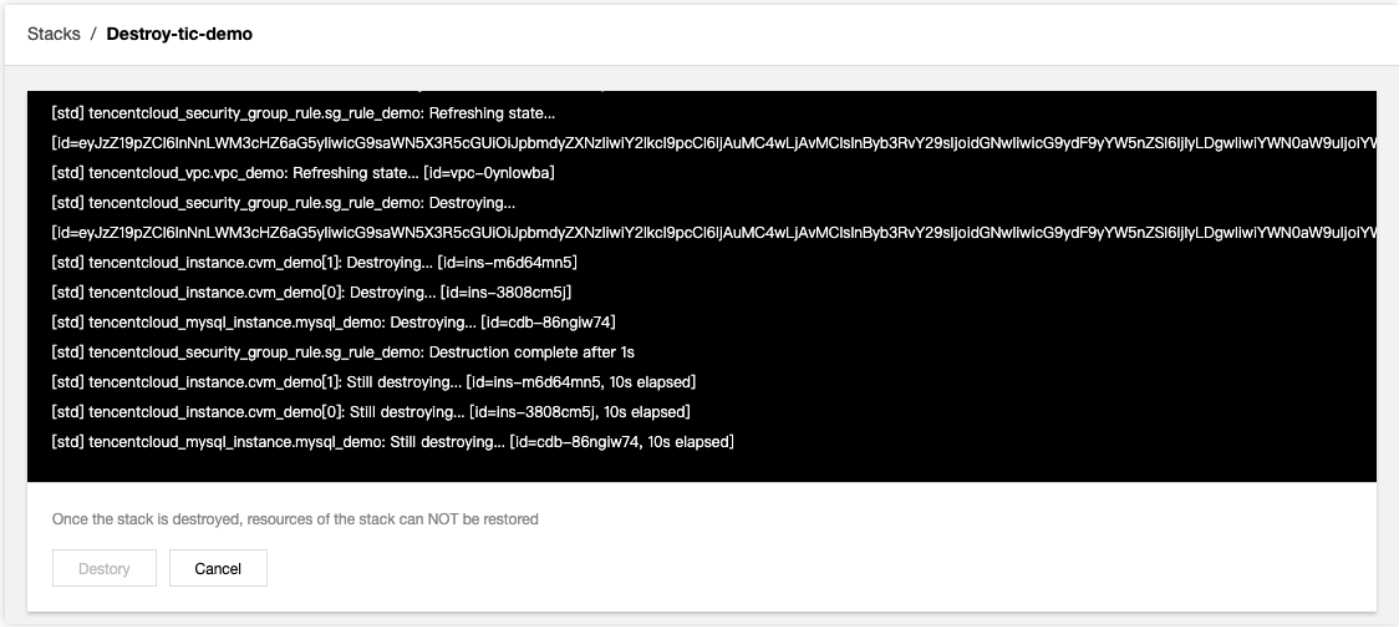
TIC is free of charge but you will be billed for cloud resources created using TIC. To avoid costs incurred by idle resources, promptly destroy resources used only for testing purposes.

1. Go to the **Stacks** page, locate the stack to be destroyed and click **Destroy**.

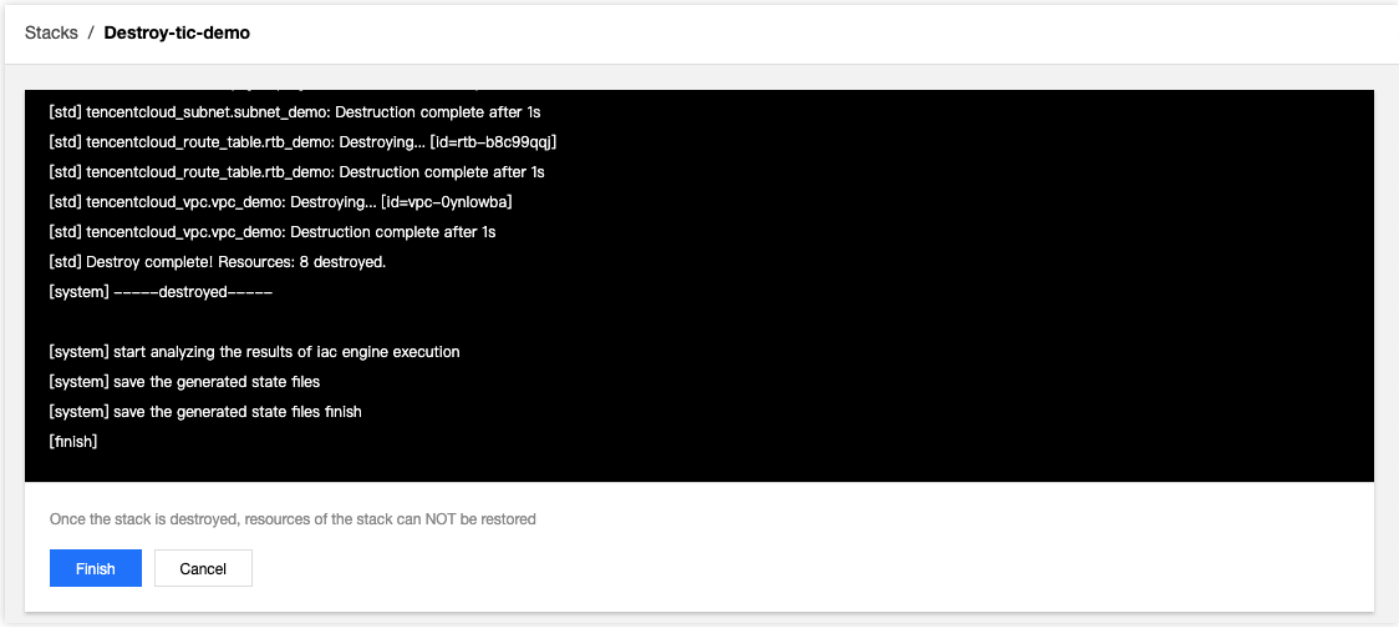


2. Before the stack is destroyed, information about cloud resources to be destroyed is displayed. Once the stack is destroyed, cloud resources in the stack cannot be recovered.

3. Click **Destroy**. In the pop-up confirmation box, click **Confirm**. TIC will then destroy cloud resources. The process is as shown in the following figure:



4. Wait several minutes until all cloud resources are destroyed.



5. Click **Finish** to return to the stack list page. The status of the stack has become **DESTROY_COMPLETED**.