



Yandex Cloud hostprovider

The Yandex Cloud hostprovider is one of the available [hostproviders](#) for [Arenadata Cluster Manager \(ADCM\)](#). This hostprovider allows you to create and manage virtual machines (VM) in the [Yandex Cloud](#).

Version **3.7** Language: **EN**



Contents

1. [Planning guide](#)

2. [Installation](#)

3. [How to](#)

- [Manage a hostprovider](#)

- [Create hosts](#)

- [Manage hosts](#)

4. [Release notes](#)

[To Table of Contents](#)

Before adding the Yandex Cloud hostprovider, ensure the following requirements are met:

- The [Folder](#) exists in the Yandex Cloud.
- The subnet is created in the Yandex Cloud.
- ADCM can establish the connection to the specified subnet in the Yandex Cloud.
- The user that creates the virtual machine has all necessary rights.

NOTE

The Yandex Cloud hostprovider does not allow you to perform all the actions available in the Yandex Cloud console. Currently, DDoS protection is not supported.



Contents

To Table of Contents

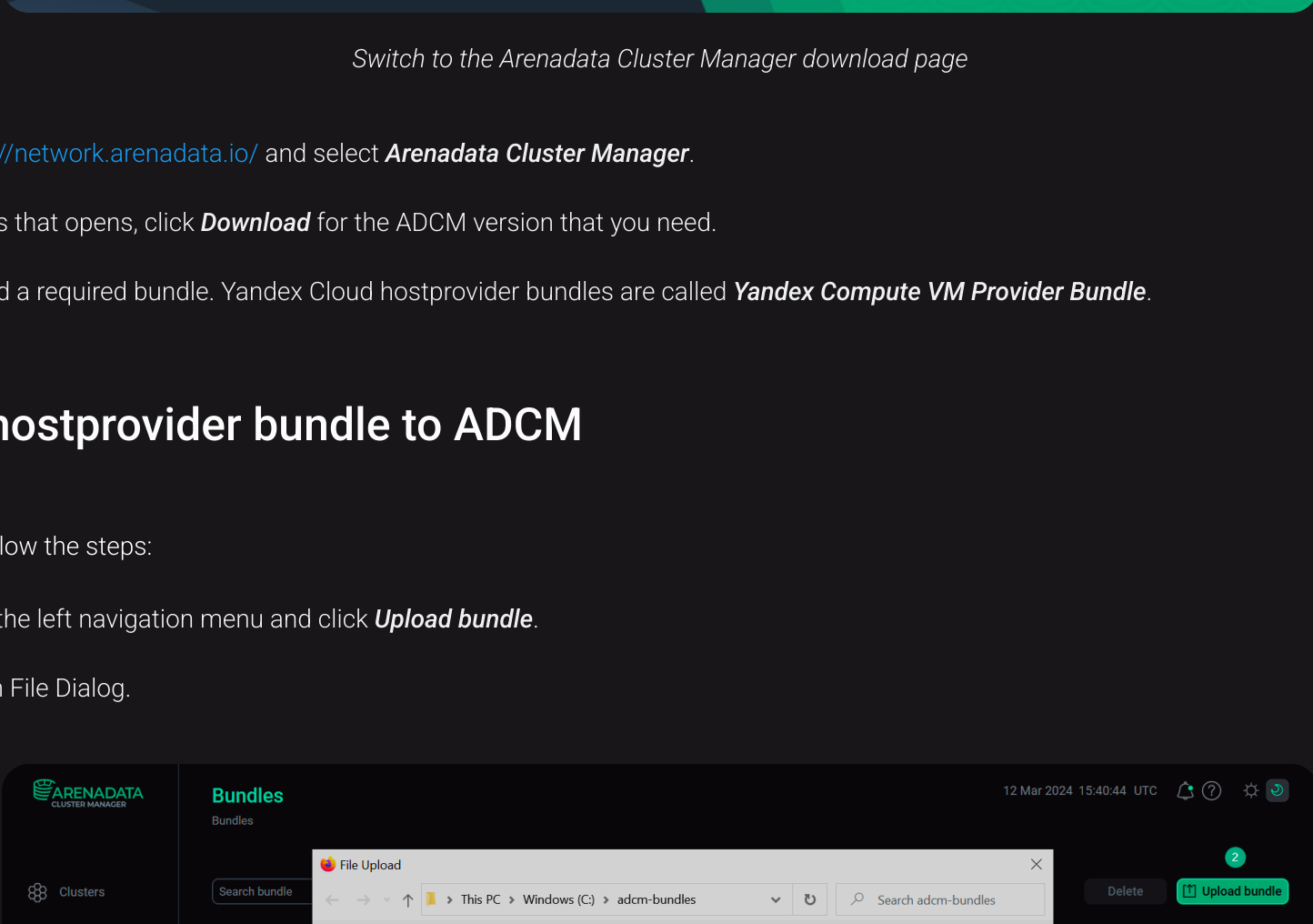
- Step 1. Download a hostprovider bundle
- Step 2. Upload a hostprovider bundle to ADCM
- Step 3. Create a hostprovider based on the uploaded bundle
- Step 4. Configure a hostprovider

Step 1. Download a hostprovider bundle

Hostprovider distributions for ADCM come in **bundles**. Regarding the Yandex Cloud hostprovider, a bundle is a regular archive that includes a description and logic to interact with the Yandex Cloud.

The steps for downloading a bundle are given below:

- 1. Go to the **Arenadata Cluster Manager** product website and click **Download**.



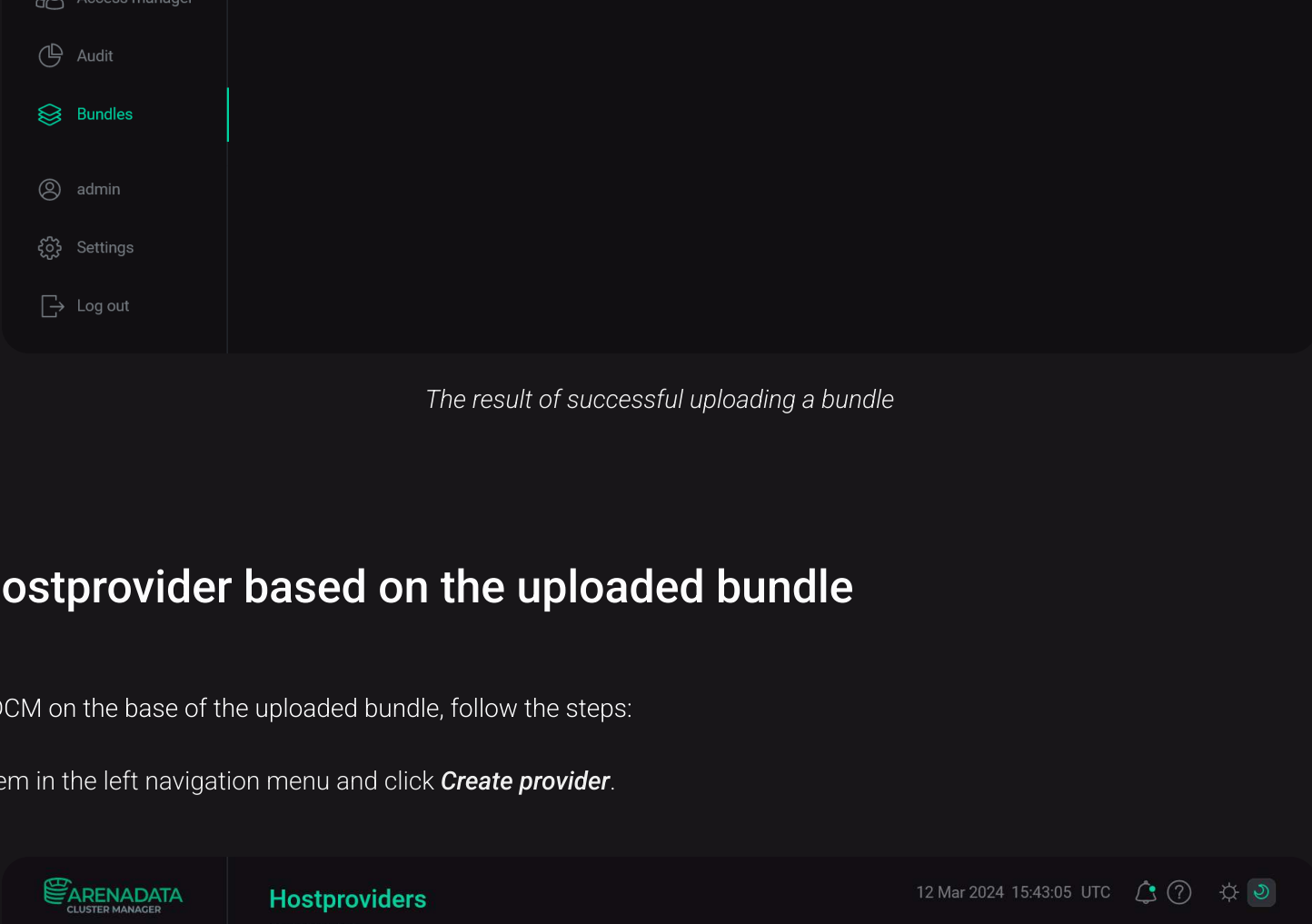
Switch to the Arenadata Cluster Manager download page

- Another way — go to <https://network.arenadata.io/> and select **Arenadata Cluster Manager**.
- 2. In the list of ADCM releases that opens, click **Download** for the ADCM version that you need.
- 3. On the next page, download a required bundle. Yandex Cloud hostprovider bundles are called **Yandex Compute VM Provider Bundle**.

Step 2. Upload a hostprovider bundle to ADCM

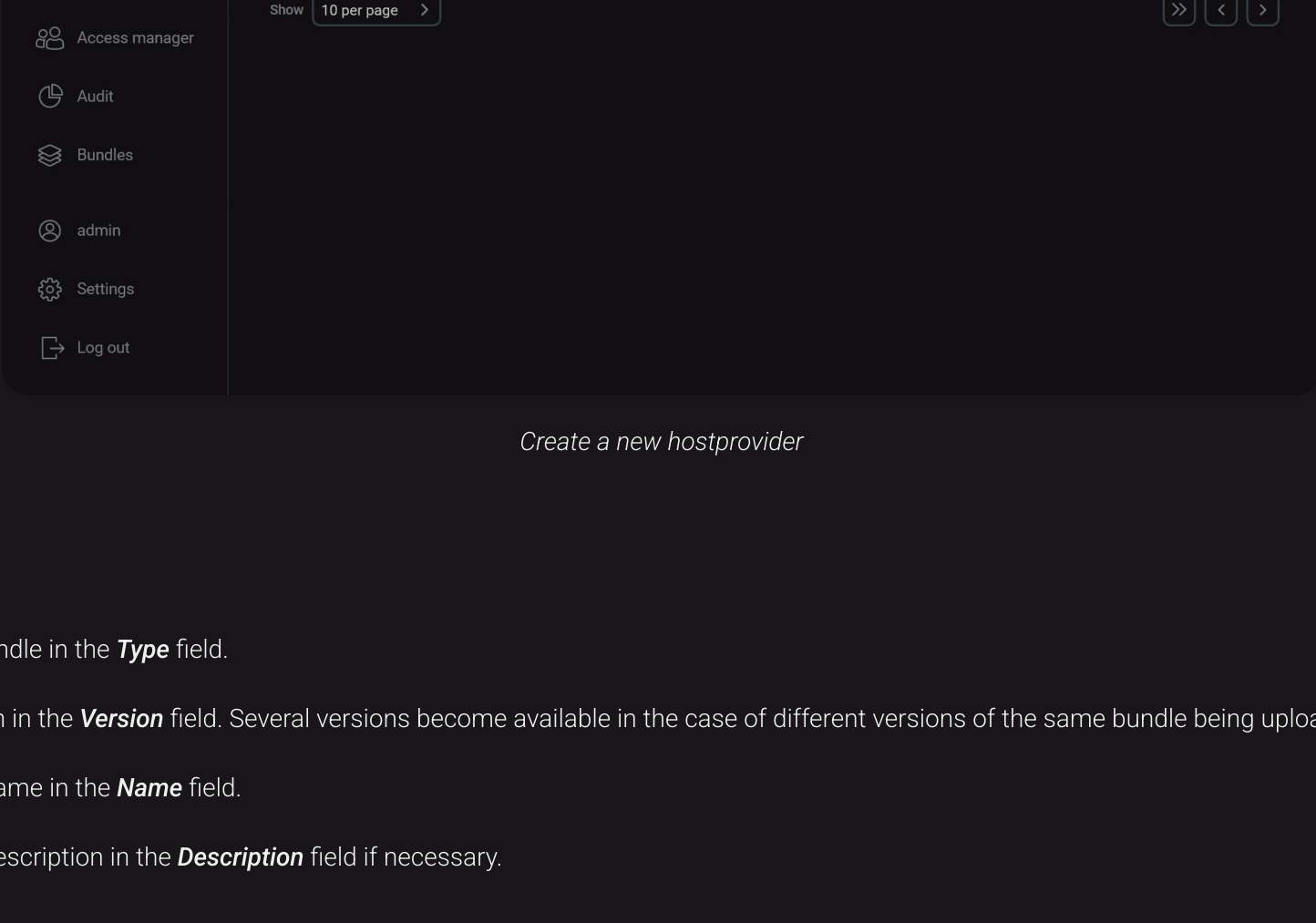
To upload a bundle to ADCM, follow the steps:

- 1. Select the **Bundles** item in the left navigation menu and click **Upload bundle**.
- 2. Select a bundle in the Open File Dialog.



Upload a bundle

- 3. As a result of the performed actions, a bundle is displayed on the **Bundles** page.

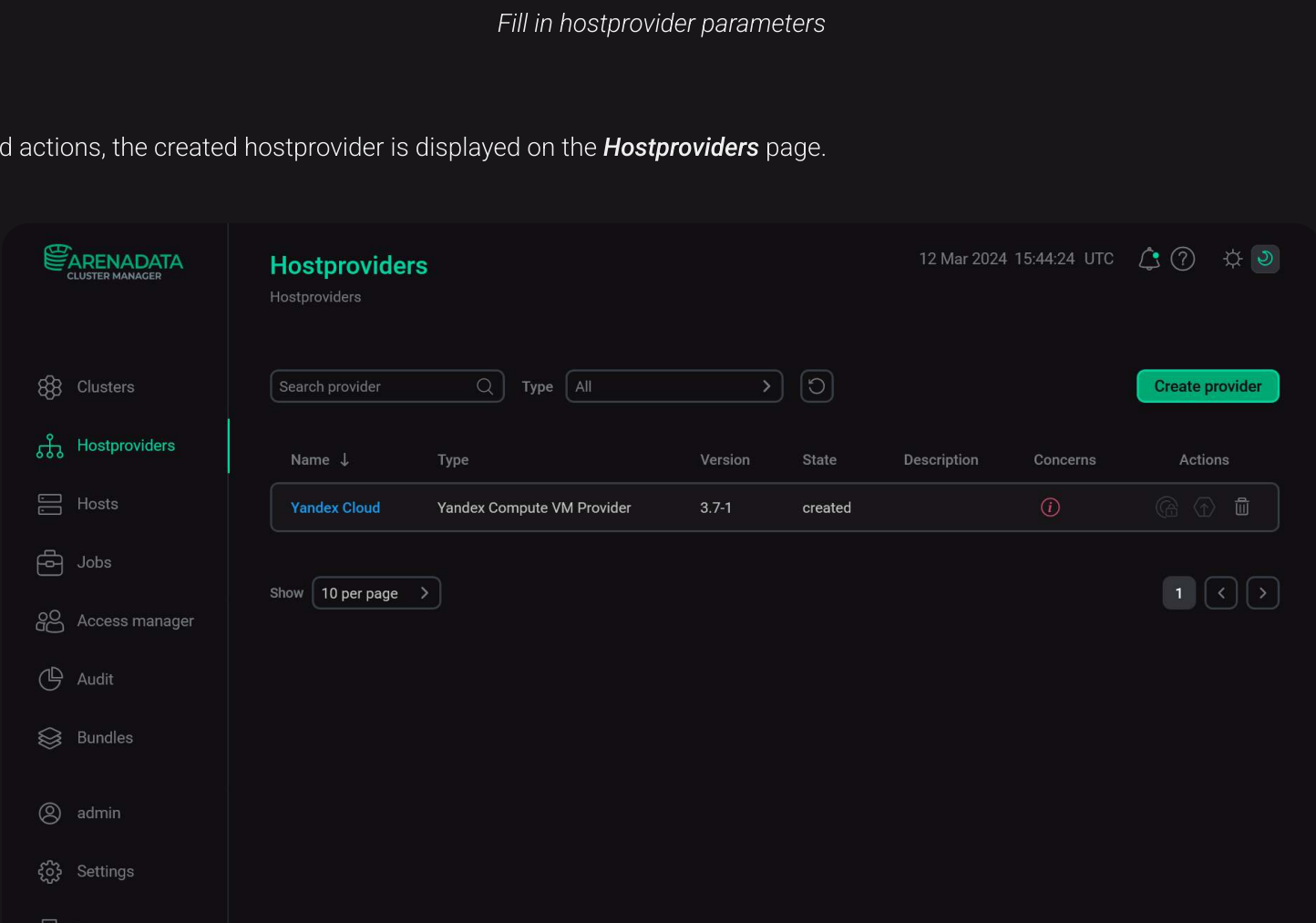


The result of successful uploading a bundle

Step 3. Create a hostprovider based on the uploaded bundle

To add a new hostprovider to ADCM on the base of the uploaded bundle, follow the steps:

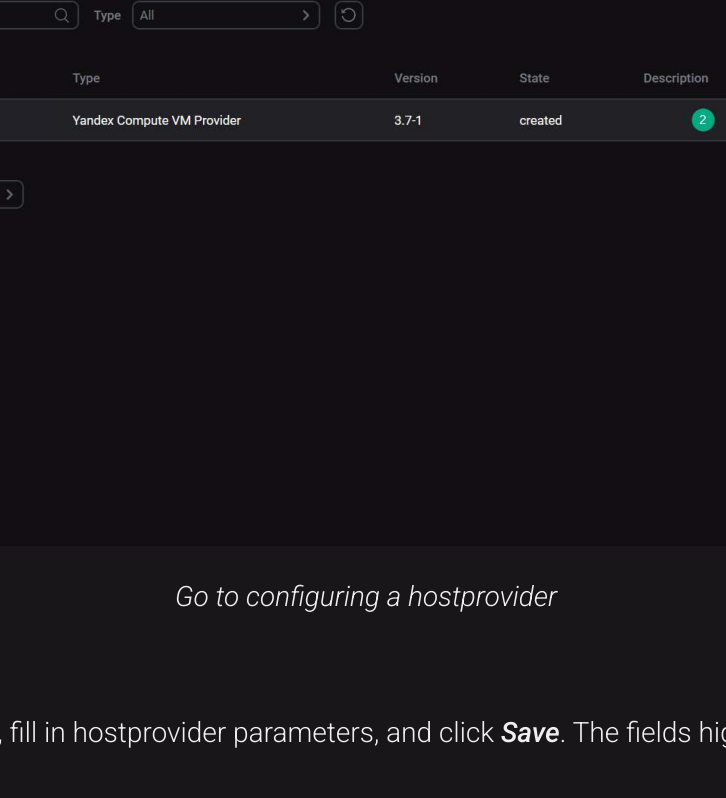
- 1. Select the **Hostproviders** item in the left navigation menu and click **Create provider**.



Create a new hostprovider

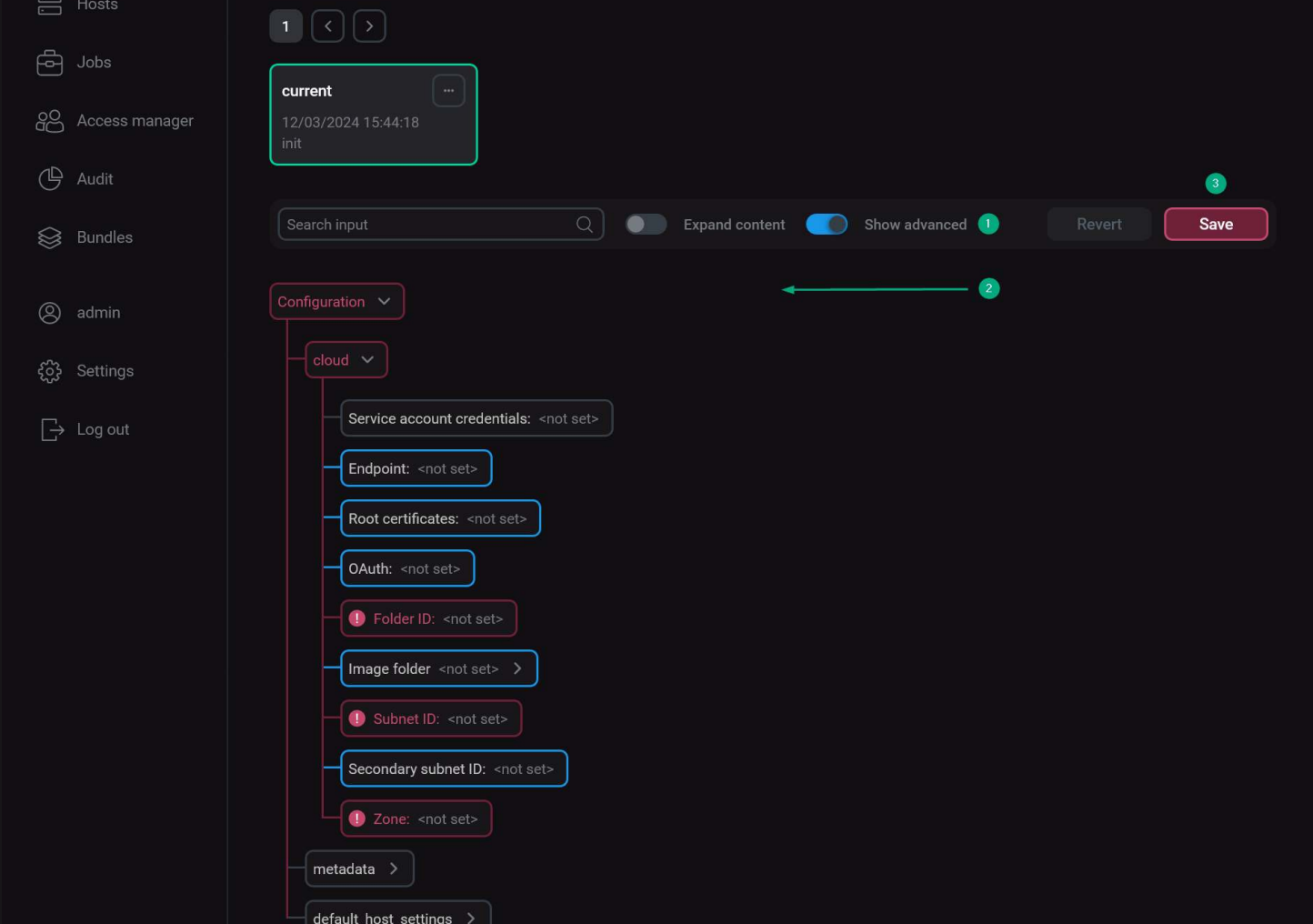
- 2. In the opened window:

 - Select an uploaded bundle in the **Type** field.
 - Select a bundle version in the **Version** field. Several versions become available in the case of different versions of the same bundle being uploaded.
 - Enter a hostprovider name in the **Name** field.
 - Enter a hostprovider description in the **Description** field if necessary.
 - Click **Create**.



Fill in hostprovider parameters

- 3. As a result of the performed actions, the created hostprovider is displayed on the **Hostproviders** page.

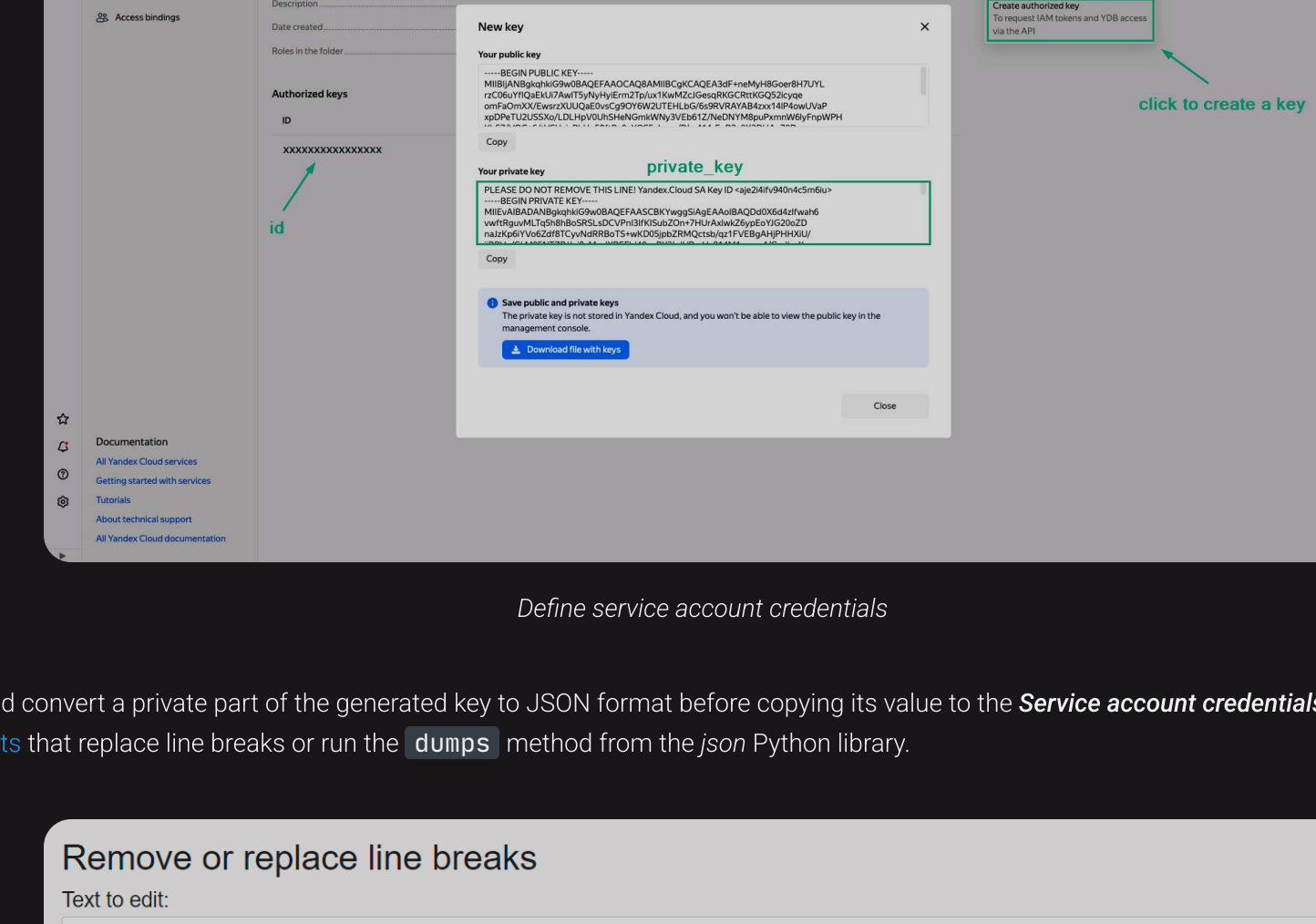


The result of adding a hostprovider successfully

Step 4. Configure a hostprovider

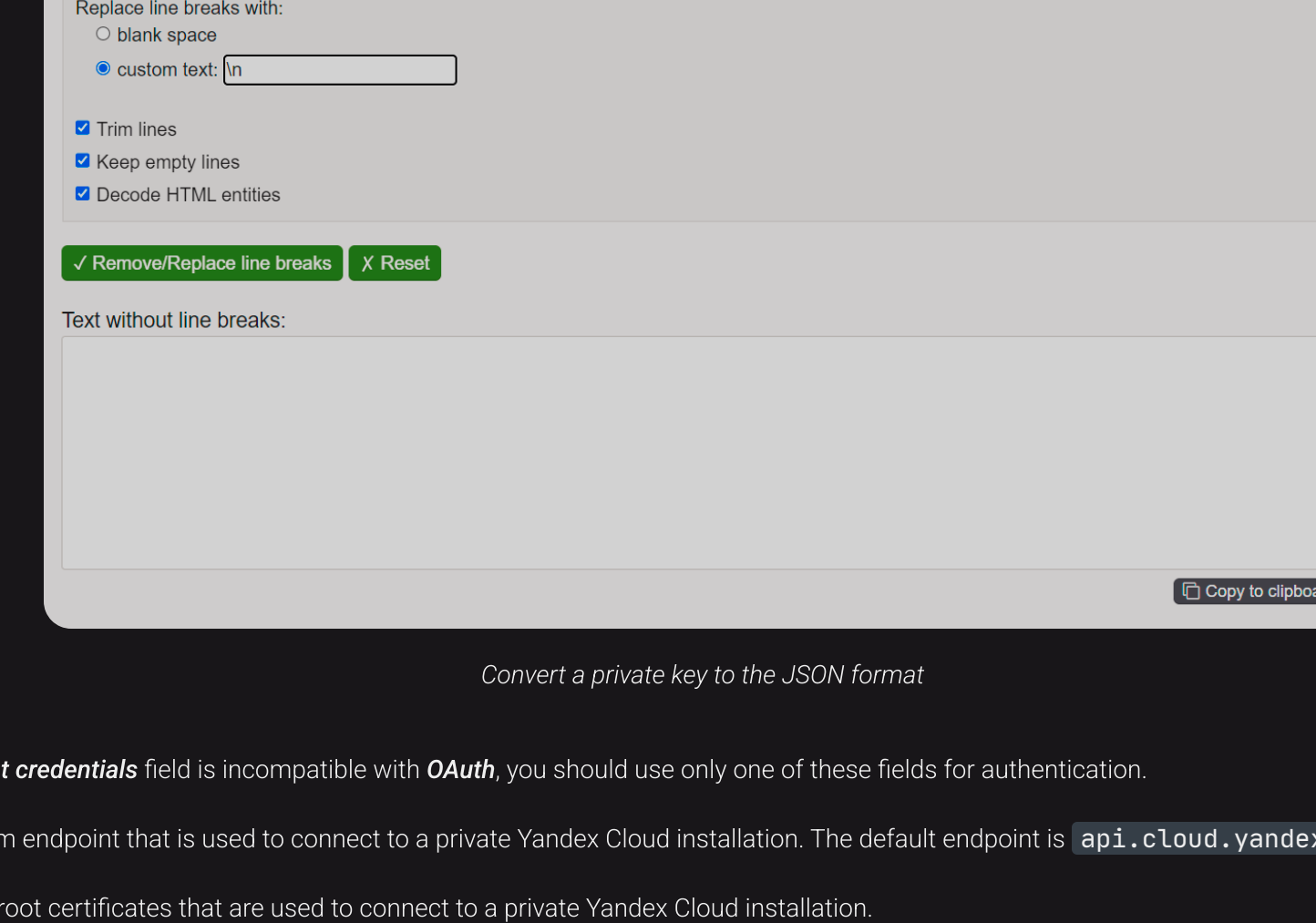
In order to configure the access to the clouds, follow the steps:

- 1. Select a hostprovider on the **Hostproviders** page. To do this, click a hostprovider name in the **Name** column. Alternatively, you can hover over the ⓘ icon in the **Concerns** column and follow the link in the pop-up window that opens. The icon indicates the presence of critical errors in the current hostprovider configuration (e.g. mandatory fields).



Go to configuring a hostprovider

- 2. In the next window, switch on the **Show advanced** toggle, fill in hostprovider parameters, and click **Save**. The fields highlighted in red are mandatory.



Configure a hostprovider

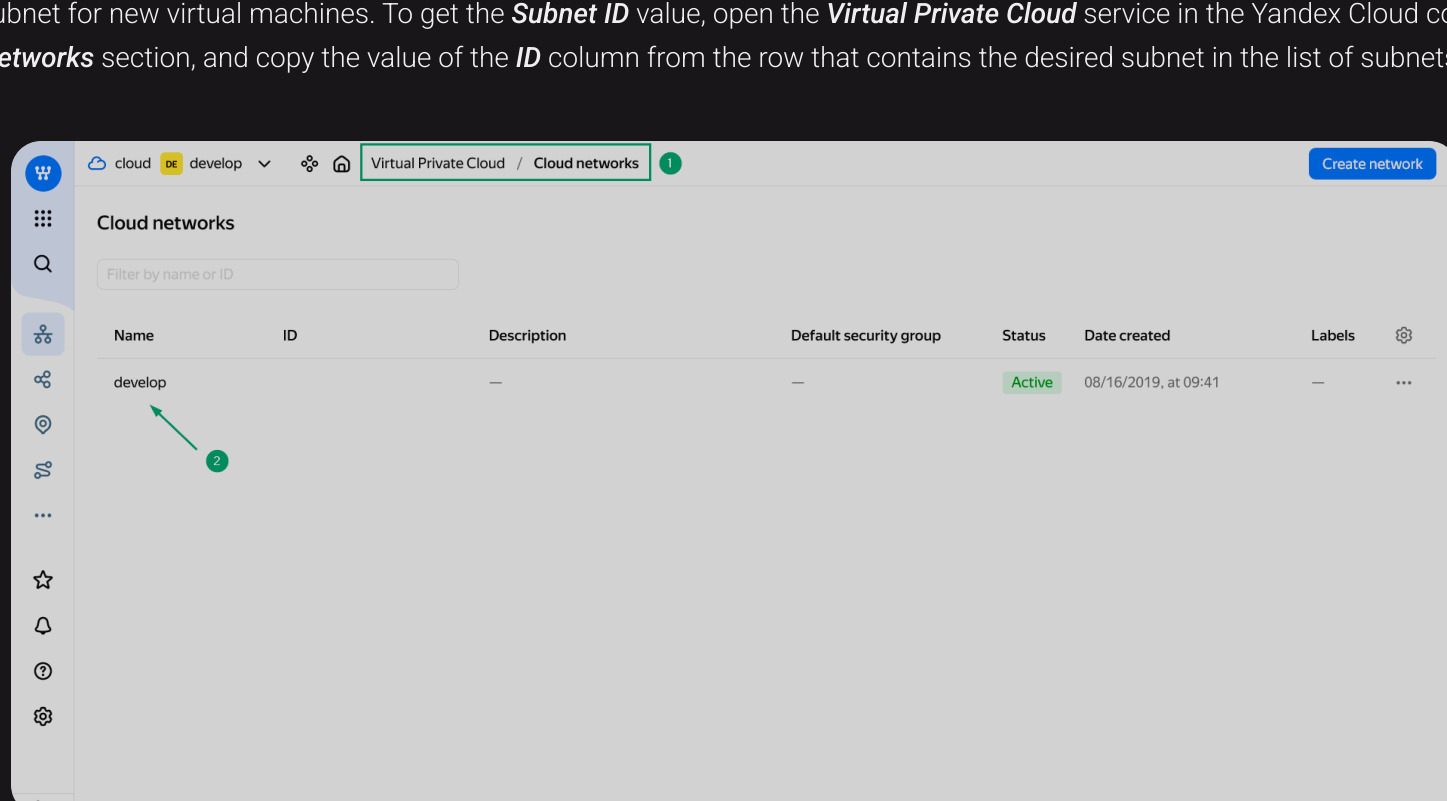
Hostprovider configuration parameters are given below:

- **cloud**

 - **Service account credentials** — credentials of the Yandex Cloud **service account** in the JSON format:

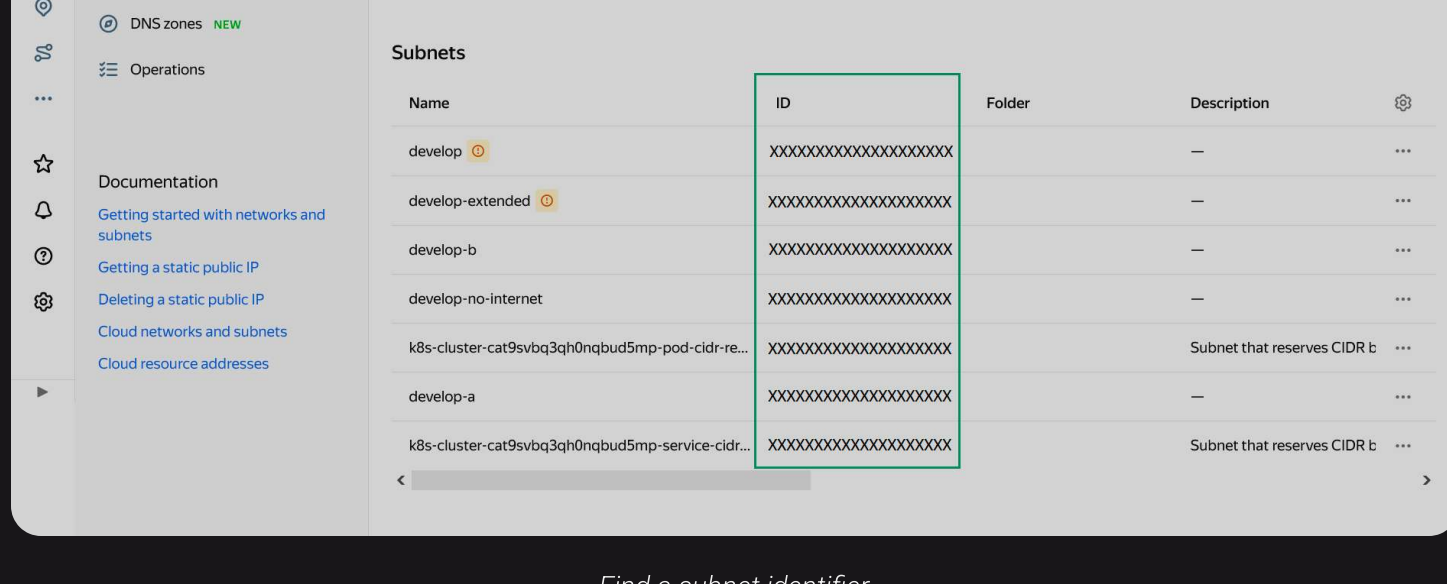
```
{
  "id": "<Identifier of the authorized key>",
  "service_account_id": "<Identifier of the service accounts>",
  "private_key": "<Private part of the authorized key>"
}
```

Authorized keys can be obtained for the service account according to the [Yandex Cloud documentation](#). To create a new key, click **Create new key** — **Create authorized key** on the service account page.



Define service account credentials

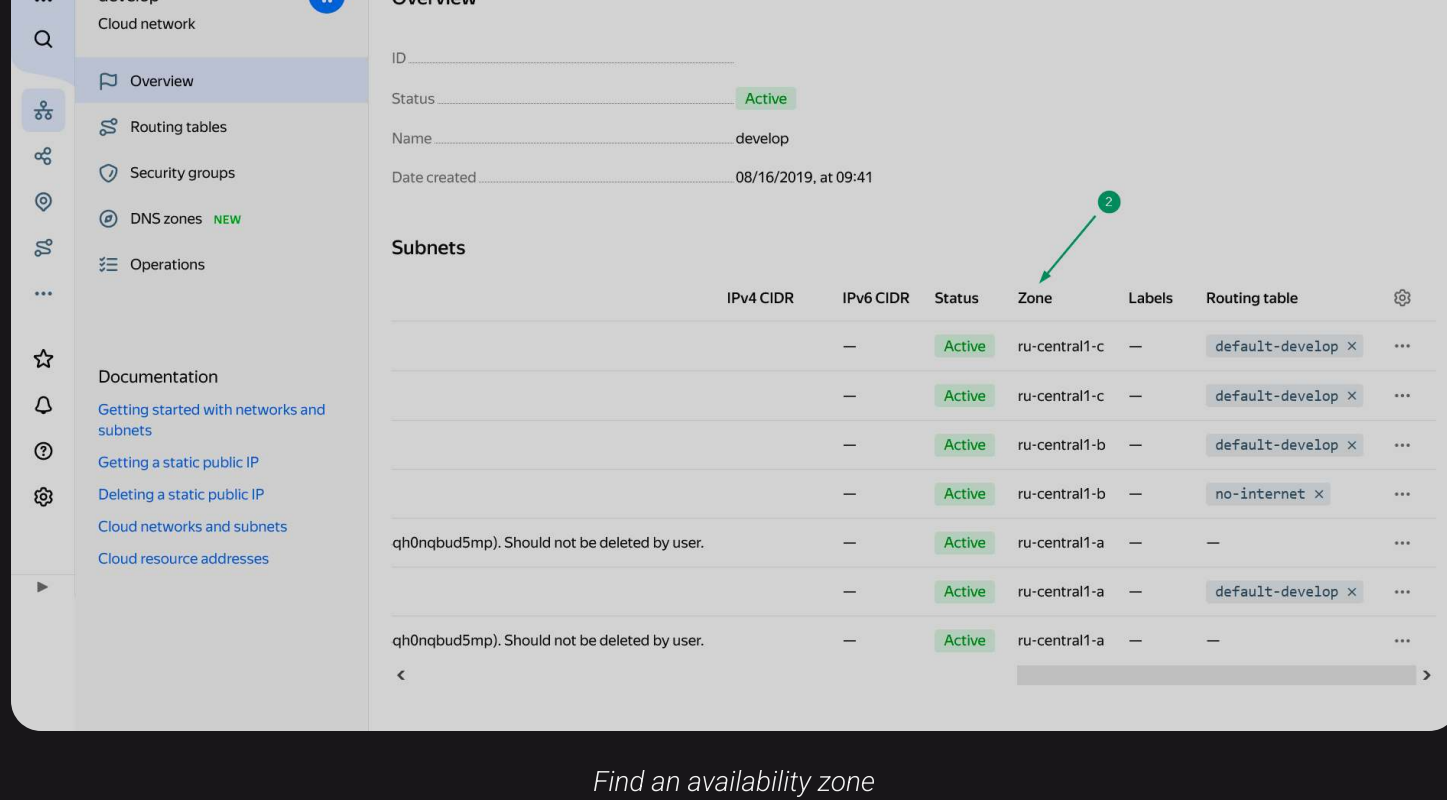
Note that you should convert a private part of the generated key to JSON format before copying its value to the **Service account credentials** field. To do this, use one of available [instruments](#) that replace line breaks or run the **dumps** method from the **json** Python library.



Convert a private key to the JSON format

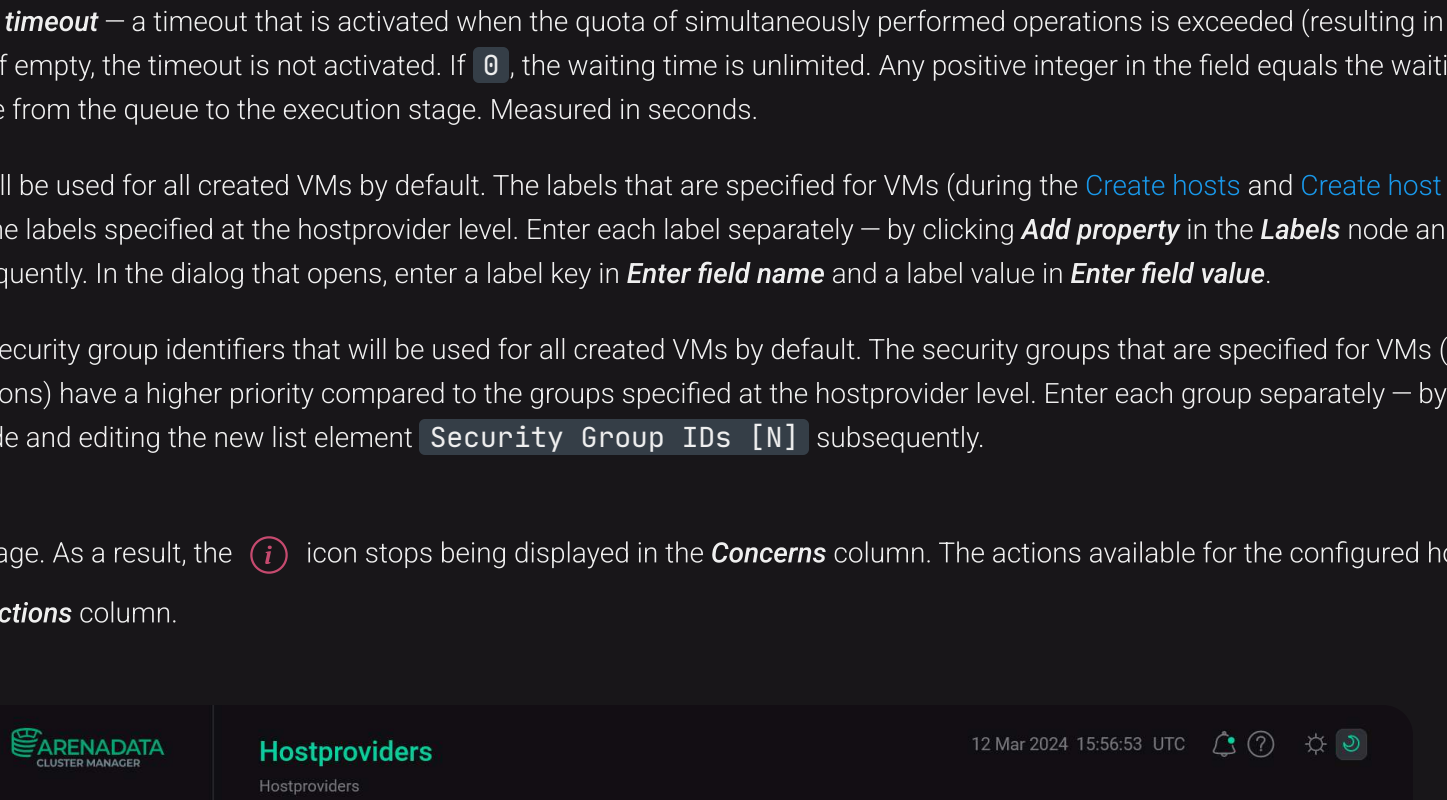
The **Service account credentials** field is incompatible with **OAuth**, you should use only one of these fields for authentication.

- **Endpoint** — a custom endpoint that is used to connect to a private Yandex Cloud installation. The default endpoint is api.cloud.yandex.net.
- **Root certificates** — root certificates that are used to connect to a private Yandex Cloud installation.
- **OAuth** — an OAuth token that can be obtained according to the [Yandex Cloud documentation](#). The **OAuth** field is incompatible with **Service account credentials**, you should use only one of these fields for authentication.
- **Folder ID** — a target folder for new virtual machines. Can be copied from the **ID** column in the **folder list** of the Yandex Cloud.

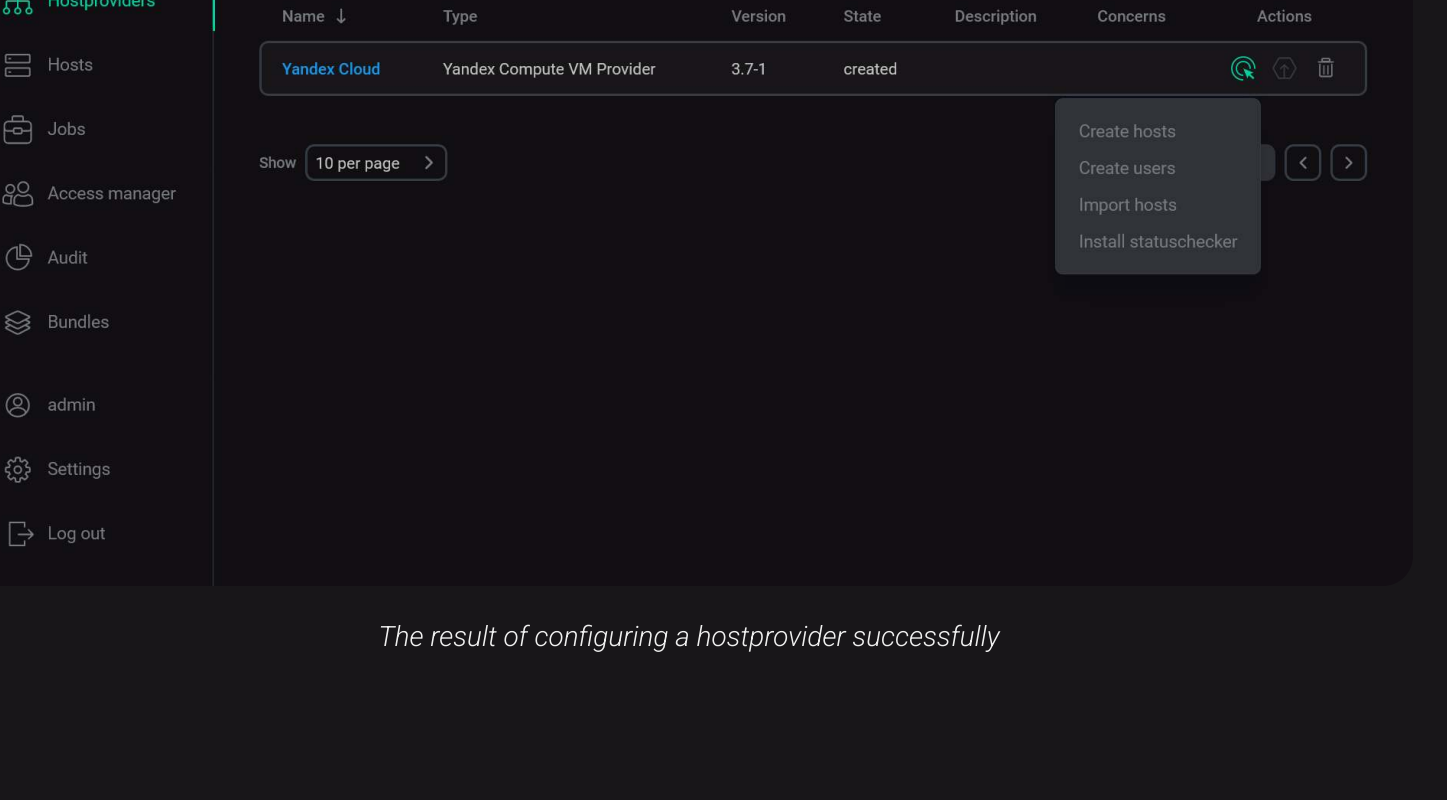


Find a folder identifier

- **Image folders** — identifiers of the folders that are used to store all organization images. Images can be obtained via the **get latest-from** function. Enter each folder identifier separately — by clicking the + icon in the **Image folders** node and editing the new list element **Image folder [N]** subsequently.
- **Subnet ID** — a target subnet for new virtual machines. To get the **Subnet ID** value, open the **Virtual Private Cloud** service in the Yandex Cloud console, click the desired network in the **Cloud networks** section, and copy the value of the **ID** column from the row that contains the desired subnet in the list of subnets that opens.



Select a network



Find a subnet identifier

- **Secondary subnet ID** — an identifier of the additional subnet that is used to create a second network interface on virtual machines. The second subnet must be within the same VPC in the Yandex Cloud as the **Subnet ID** subnet.
- **Zone** — a target availability zone (AZ) for new virtual machines. Every zone corresponds to the specific data center. Currently, the following zones are available: **ru-central1-a**, **ru-central1-b**, **ru-central1-c**, **ru-central1-d**. The **ru-central1-d** zone will be decommissioned. To get the **Zone** value, open the **Virtual Private Cloud** service in the Yandex Cloud console, click the desired network in the **Cloud networks** section, and copy the value of the **Zone** column from the row that contains the desired subnet in the list of subnets that opens.



Find an availability zone

- **metadata**

 - **Ssh keys** — a set of public keys that will be used to create users during the **Create hosts**, **Create users**, and **Create host** — **Init** actions. Enter each key separately — by clicking the (+) icon in the **Ssh keys** node and editing the new list element **Ssh keys [N]** subsequently. Each public key should start with **ssh-rsa** and end with **username@hostname**.

- **default_host_settings**

- **Active operations limit timeout** — a timeout that is activated when the quota of simultaneously performed operations is exceeded (resulting in errors returned by the Yandex Cloud gRPC). If empty, the timeout is not activated. If 0, the waiting time is unlimited. Any positive integer in the field equals the waiting time, during which the operation should move from the queue to the execution stage. Measured in seconds.

- **Labels** — labels that will be used for all created VMs by default. The labels that are specified for VMs (during the **Create hosts** and **Create host** — **Init** actions) have a higher priority compared to the labels specified at the hostprovider level. Enter each label separately — by clicking the **Add property** in the **Labels** node and editing the new list element **Labels [N]** subsequently. In the dialog that opens, enter a label key in **Enter field name** and a label value in **Enter field value**.

- **Security Group IDs** — security group identifiers that will be used for all created VMs by default. The security groups that are specified for VMs (during the **Create hosts** and **Create host** — **Init** actions) have a higher priority compared to the groups specified at the hostprovider level. Enter each group separately — by clicking the (+) icon in the **Security Group IDs** node and editing the new list element **Security Group IDs [N]** subsequently.

- 3. Return to the **Hostproviders** page. As a result, the ⓘ icon stops being displayed in the **Concerns** column. The actions available for the configured hostprovider can be opened by clicking the ⚙ icon in the **Actions** column.

The result of configuring a hostprovider successfully

Create hosts with Yandex Cloud hostprovider



© Daria Barysheva

To Table of Contents

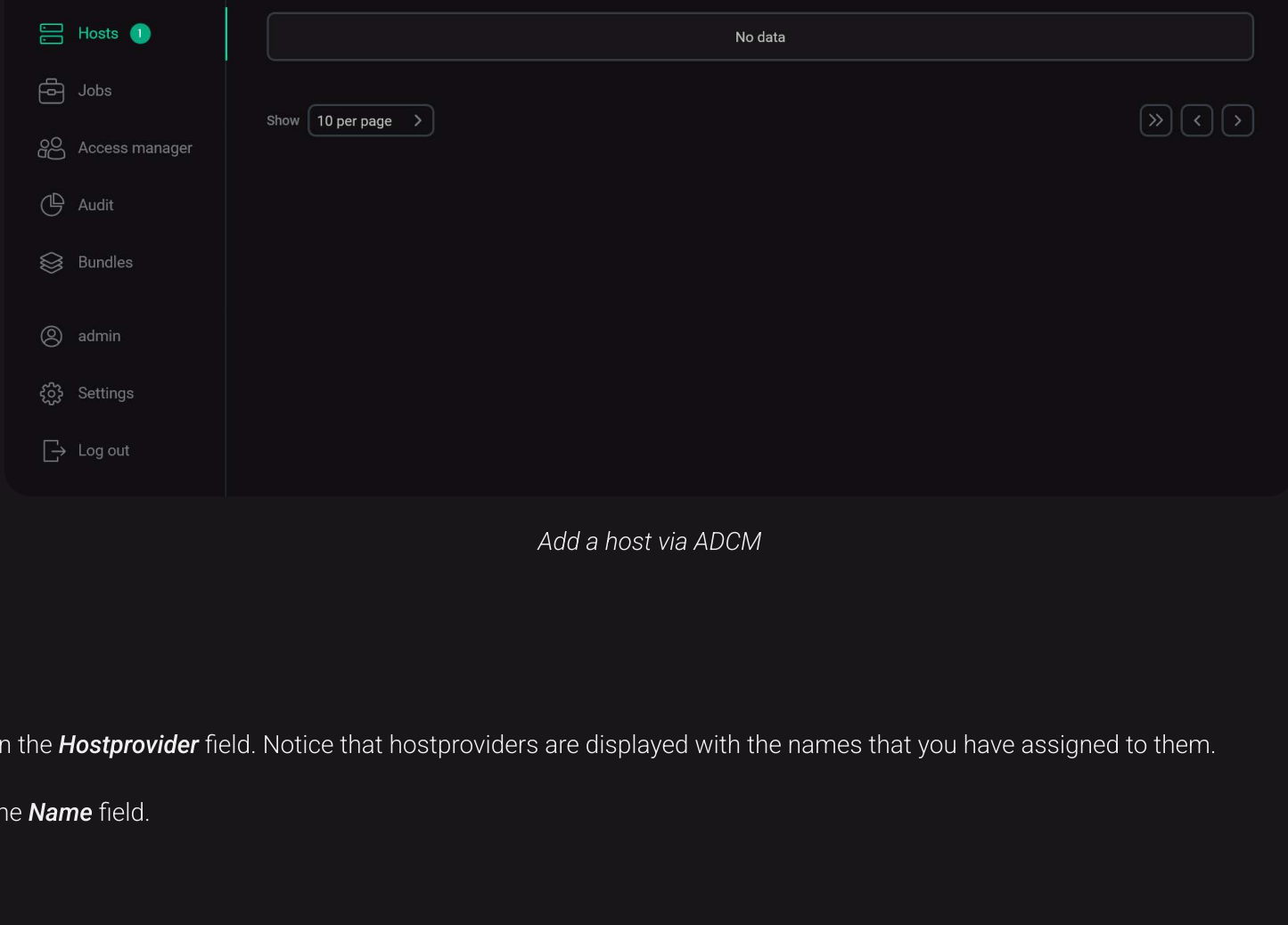
IMPORTANT

- Before adding hosts, ensure that the Yandex Cloud hostprovider is [installed and configured](#) via ADCM.
- This guide explains how to add a single host. To add several hosts simultaneously, run the hostprovider action [Create hosts](#).



The steps for adding a single host are listed below:

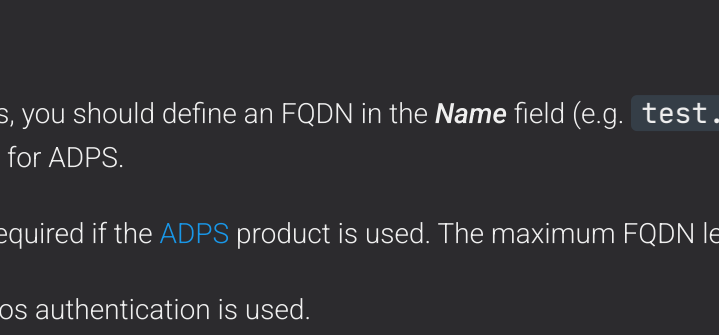
- Select the **Hosts** item in the left navigation menu and click **Create host**.



Add a host via ADCM

- In the opened dialog:

- Select a hostprovider in the **Hostprovider** field. Notice that hostproviders are displayed with the names that you have assigned to them.
- Enter a host name in the **Name** field.
- Click **Create**.



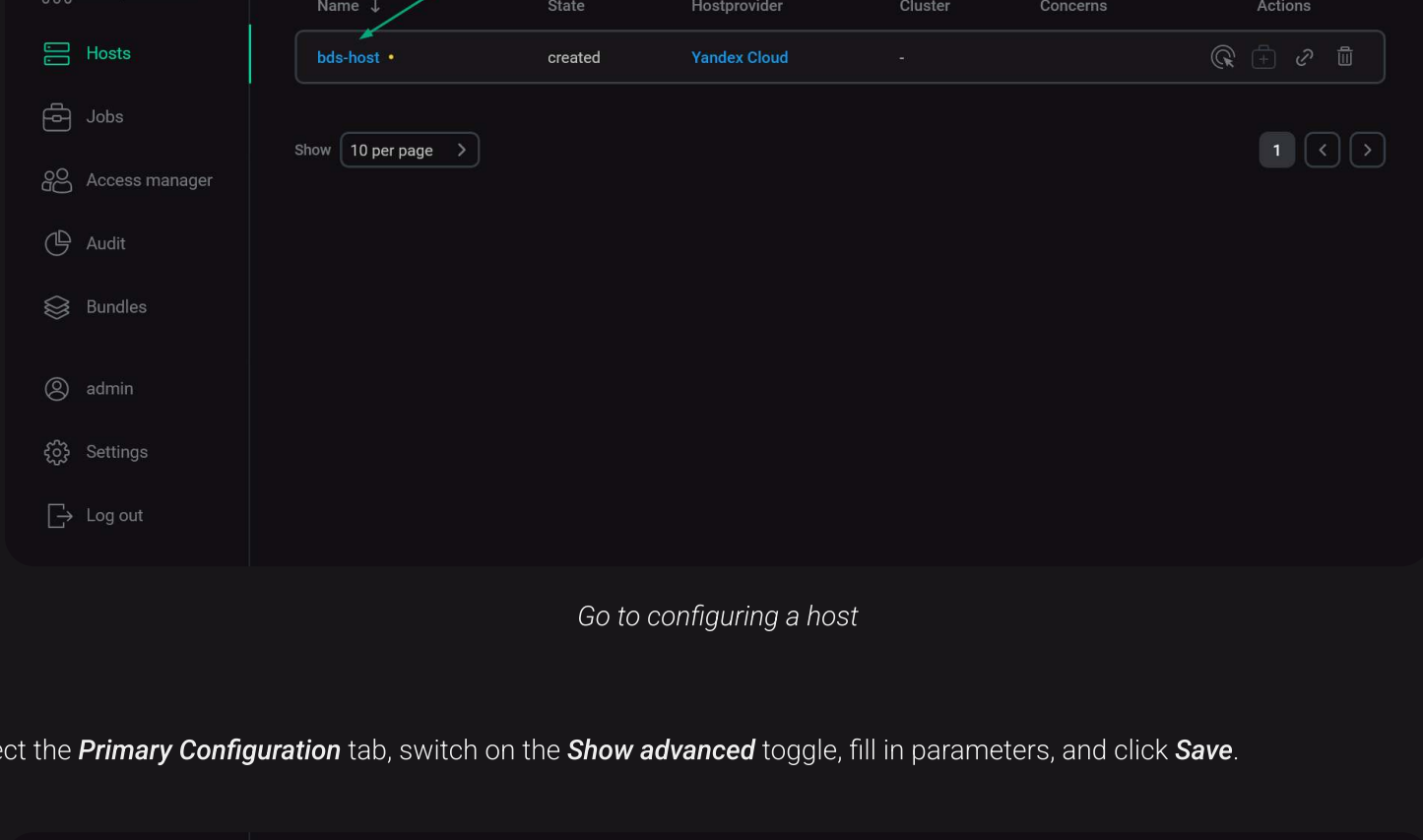
Describe a new host

CAUTION

- When creating hosts for the **ADH** and **ADPS** products, you should define an FQDN in the **Name** field (e.g. **test.ru-central1.internal**). The maximum FQDN length is 38 symbols for ADH and 49 symbols for ADPS.
- For the **ADS** and **ADS Control** products, FQDNs are required if the **ADPS** product is used. The maximum FQDN length for ADS hosts is 48 symbols.
- For the **ADQM** product, FQDNs are required if Kerberos authentication is used.
- ADB** starting with the [6.23.3.44](#) version supports both FQDN and short host names. For the previous ADB versions, it is not recommended to use FQDNs (as FQDNs cause errors during the **Expand** action and a workaround is needed).
- In other cases, both short host names and FQDNs are allowed in the **Name** field.

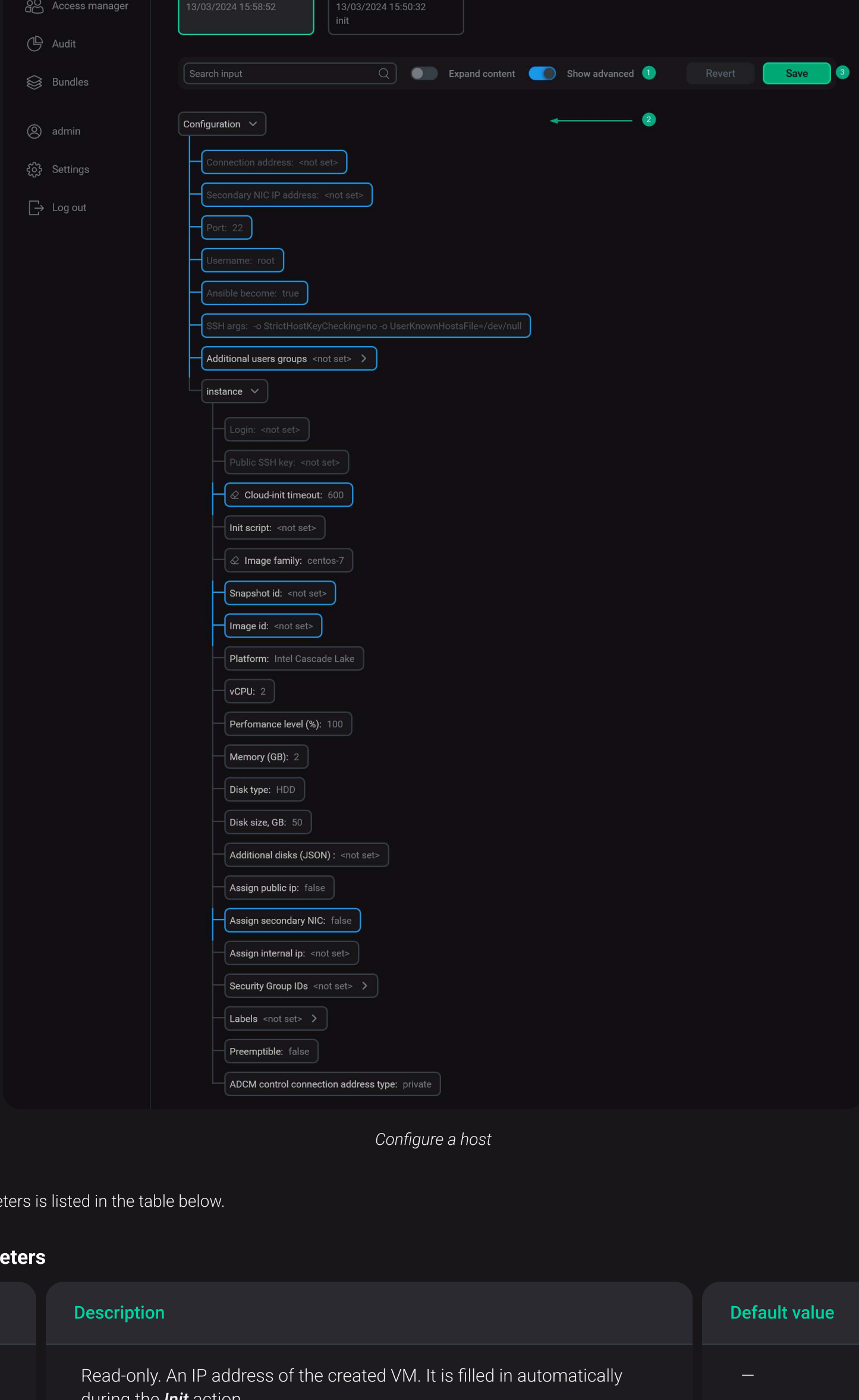


- Return to the **Hosts** page and switch to configuring the added host. To do this, click the host name in the **Name** column.



Go to configuring a host

- In the opened window, select the **Primary Configuration** tab, switch on the **Show advanced** toggle, fill in parameters, and click **Save**.



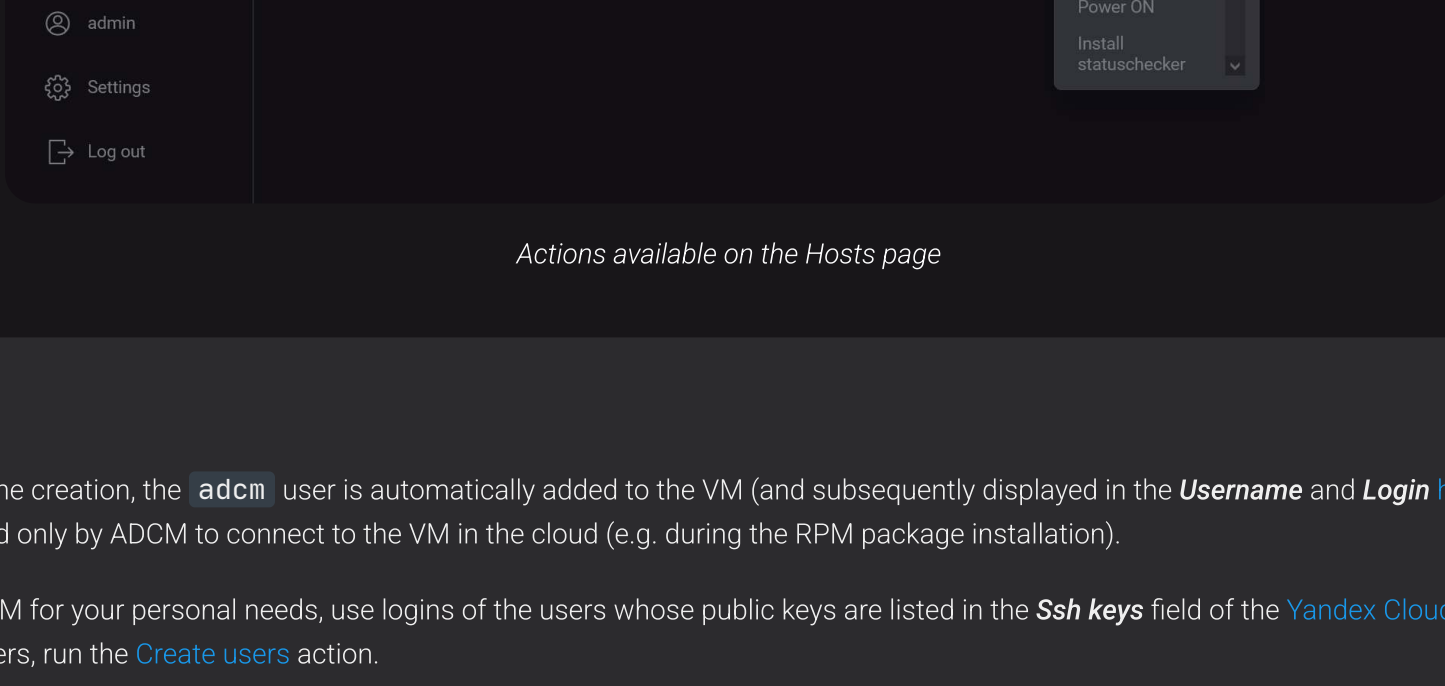
Configure a host

The assignment of parameters is listed in the table below.

Host configuration parameters

Parameter	Description	Default value
Connection address	Read-only. An IP address of the created VM. It is filled in automatically during the Init action	—
Secondary NIC IP address	Read-only. An IP address of the second network interface controller (NIC) that is used by the created VM. It is filled in automatically during the Init action	—
Port	Read-only. A port number that is used for connecting to the created VM via SSH	22
Username	Read-only. A user name that is used for connecting ADCM to the created VM via SSH. It is filled in automatically during the Init action	root
Ansible become	Read-only. A flag that grants the superuser privileges to the user specified in the Username field	true
SSH args	Read-only. SSH arguments for Ansible. The StrictHostKeyChecking=no and UserKnownHostsFile=/dev/null parameters disable strict host key checking for SSH. Otherwise, when this checking is enabled, the SSH client connects only to the known hosts that are stored in the known host list	-o StrictHostKeyChecking=no -o UserKnownHostsFile=/dev/null
Additional users groups	A list of additional Linux groups. All users are added to this list at the moment the VMs are being initialized. For example, in the Alt Linux image the ansible user should be added to the wheel group. Each group should exist in the image. Enter each group separately — by clicking the + icon in the Additional users groups node and editing the new list element Additional users groups [N] subsequently	—
Login	Read-only. A name of the user that is created on the new VM. It is filled in automatically during the Init action	—
Public SSH key	Read-only. A public SSH key of the new user with the Login name. It is filled in automatically during the Init action	—
Cloud-init timeout	A timeout for cloud-init to finish the running tasks (in seconds)	600
Init script	The initialization script that is executed at VMs deployment. A shebang (#!/) is not needed. Pay attention that this option is experimental: single or double quotes may break the installation process	—
Image family	A family of operating systems based on which VMs are created. The newest image from the specified family is used. Starting with Yandex Cloud hostprovider 2.13, you can fill in the parameter value manually	centos-7
Snapshot id	An ID of the boot disk snapshot. Incompatible with the Image id parameter	—
Image id	An ID of the boot disk image. Can be obtained via two commands: - For public images: <pre>yc compute image list --folder-id standard-images</pre> - For private images: <pre>yc compute image list</pre> Incompatible with the Snapshot id parameter	—
Platform	A processor type. For more information on supported platforms, refer to the Yandex Cloud documentation . Possible values: Intel Broadwell Intel Cascade Lake Intel Ice Lake (starting with Yandex Cloud hostprovider 2.15)	Intel Cascade Lake
vCPU	A number of vCPU	2
Performance level (%)	A guaranteed processor performance level that is allocated to VMs. See more details in the Yandex Cloud documentation	100
Memory (GB)	RAM (in GB)	2
Disk type	A storage class of VMs. Possible values: SSD HDD SSD-NONREPLICATED (starting with Yandex Cloud hostprovider 2.13)	HDD
Disk size, GB	A size of the boot disk that is created for VMs (in GB)	50
Additional disks (JSON)	Parameters of additional disks in the JSON format: autodelete — a flag that indicates whether to remove a disk after removing a VM. description — a disk description. type — a disk type (see Disk type above). size — a disk size in GB. All parameters are required. Example: <pre>[{ "autodelete": true, "description": "disk1", "type": "ssd", "size": 10 }, { "autodelete": false, "description": "disk2", "type": "hdd", "size": 100 }]</pre>	—
Assign public ip	Whether or not to assign public IP addresses to VMs	false
Assign secondary NIC	A flag that indicates whether to use the second network interface controller (NIC) for VM. You need to define the Secondary subnet ID value in the Yandex Cloud hostprovider settings first	false
Security Group IDs	Security group identifiers that will be used for all created VMs by default. The security groups that are specified during the Create hosts action have a higher priority compared to the groups specified at the hostprovider level. Enter each group separately — by clicking the + icon in the Security Group IDs node and editing the new list element Security Group IDs [N] subsequently	—
Labels	Labels that will be used for all created VMs by default. The labels that are specified during the Create hosts action have a higher priority compared to the labels specified at the hostprovider level. Enter each label separately — by clicking Add property in the Labels node and editing the new list element Labels [N] subsequently. In the dialog that opens, enter a label key in Enter field name and a label value in Enter field value	—
Preemptible	Whether or not to mark VMs as preemptible . Preemptible machines work for no longer than 24 hours and can be interrupted by the cloud provider at any time. The rental cost in this case is much cheaper. The parameter may be defined only before the VM initialization	false
ADCM control connection address type	An IP address type that is used by ADCM to communicate with VMs. Determines whether the connection between ADCM and the Yandex Cloud should use an external or internal route. If ADCM is deployed in another cloud and VPN is not configured, set the parameter value to public . Possible values: private — a private address. public — a public address.	private

As a result of the completed steps, a virtual machine is created in the Yandex Cloud, and new **actions** become available for the corresponding host on the **Hosts** page in ADCM. The statuschecker is installed on the new host automatically. Thus, you do not need to run the **install statuschecker** action for the created host.



Actions available on the Hosts page

NOTE

- During the virtual machine creation, the **adcm** user is automatically added to the VM (and subsequently displayed in the **Username** and **Login** host settings in ADCM). This user is used only by ADCM to connect to the VM in the cloud (e.g. during the RPM package installation).
- To connect to the new VM for your personal needs, use logins of the users whose public keys are listed in the **SSH keys** field of the Yandex Cloud hostprovider **settings**. To add new users, run the **Create users** action.



