KPOK

CROC Cloud hostprovider

The CROC hostprovider is designed to create virtual machines in CROC Cloud.

Version CURRENT Language: EN

Contents

Planning guide

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Before adding the CROC Cloud hostprovider, make sure that:

- The project is created in the CROC Cloud.
- The subnet is created in the CROC Cloud.
- ADCM can establish the connection to the specified subnet in the CROC Cloud.
- The user that creates the virtual machine has all necessary rights.

NOTE

The CROC Cloud hostprovider does not allow you to perform all the actions available in the CROC Cloud console.

Installation and configuration

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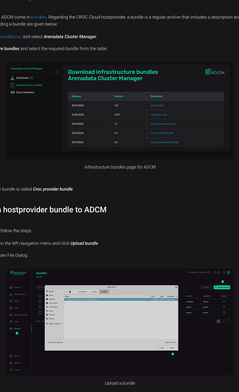
A typical installation sequence for the CROC Cloud hostprovider includes the following steps.

Step 1. Download a hostprovider bundle

Hostprovider distributions for ADCM come in bundles. Regarding the CROC Cloud hostprovider, a bundle is a regular archive that includes a description and logic to interact with CROC Cloud. The steps for downloading a bundle are given below:

1. Go to https://network.arenadata.io/ and select **Arenadata Cluster Manager**.
2. Navigate to **Infrastructure bundles** and select the required bundle from the table.



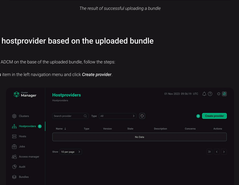
Infrastructure bundles page for ADCM

The CROC Cloud hostprovider bundle is called ***Croc provider bundle***.

Step 2. Upload a hostprovider bundle to ADCM

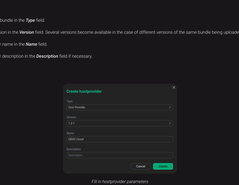
To upload a bundle to ADCM, follow the steps:

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.

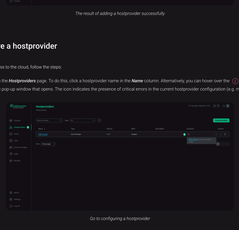


The result of successful uploading a bundle

Step 3. Create a hostprovider based on the uploaded bundle

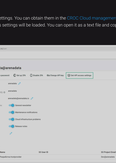
To add a new hostprovider to ADCM on the base of the uploaded bundle, follow the steps:

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



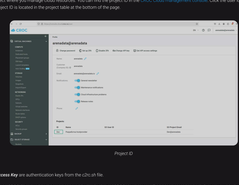
Create a new hostprovider

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.

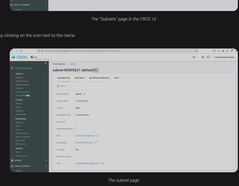


The result of adding a hostprovider successfully

Step 4. Configure a hostprovider

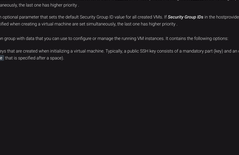
In order to configure the access to the cloud, follow the steps:

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

To specify CROC Cloud parameters, you need to get access settings. You can obtain them in the CROC Cloud management console. Click the user login in the top-right corner, select **Profile** → **Get API access settings**. The *cloc.sh* file with access settings will be loaded. You can open it as a text file and copy required parameters. For more information on the CROC Cloud settings, refer to the CROC tutorials.

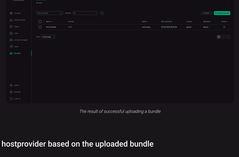
API access settings

The following settings are available in ADCM:

- *Croc endpoint* – a URL where you can access CROC Cloud. The default value is `https://api.ctlsdf.croc.ru`.
- *Project ID* – ID of the project where you manage cloud resources. You can find the project ID in the CROC Cloud management console. Click the user login in the top-right corner and select **Profile**. The project ID is located in the project table at the bottom of the page.

Project ID

- *Access Key* and *Secret Access Key* are authentication keys from the *cloc.sh* file.
- *Region* – an availability zone. CROC Cloud resides in three geographically distributed CROC data centers. Each data center has an infrastructure dedicated to CROC Cloud that is called an availability zone. See Availability Zones.
- *Subnet ID* – the subnet ID from the CROC cloud settings. To find it, go to the *Subnets* page in the **VIRTUAL MACHINES** → **NETWORKING** section and click the necessary subnet.



The 'Subnets' page in the CROC UI

Subnet ID can be copied by clicking on the icon next to the name.

The subnet page

- *Secondary network ID* – an additional IP address that is assigned to a network interface in the selected subnet. To add a second network interface, you must explicitly specify the *Subnet ID*, and set the *Assign secondary NIC* checkbox checked in the configuration settings of the *Create hosts* action. *Assign secondary NIC* is available in the *instance* group when **Show advanced** toggle button is enabled.
- *default_host_settings* – a group with the default host settings that include the following parameters:
  - *Labels* – an optional parameter that sets default label values for all created VMs. If *Labels* in the hostprovider settings and *Labels* in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority.
  - *Security Group IDs* – an optional parameter that sets the default Security Group ID value for all created VMs. If *Security Group IDs* in the hostprovider settings and *Security Group IDs* in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority.
- *metadata* – a configuration group with data that you can use to configure or manage the running VM instances. It contains the following options:
  - *Ssh-keys* – user SSH keys that are created when initializing a virtual machine. Typically, a public SSH key consists of a mandatory part (key) and an optional part (`username` or `username@hostname`, that is specified after a space).

Manage a CROC Cloud hostprovider

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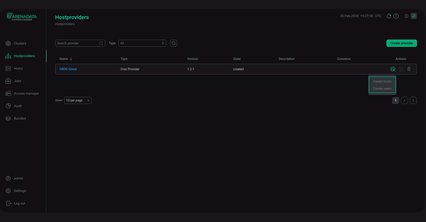
After you create a hostprovider in the CROC Cloud, you can perform the following actions:

- Create hosts — creates a group of virtual machines.
- Create users — creates users.

To run an action, open the ***Hostproviders*** page, click the icon in the ***Actions*** column, and select an action in the drop-down list.



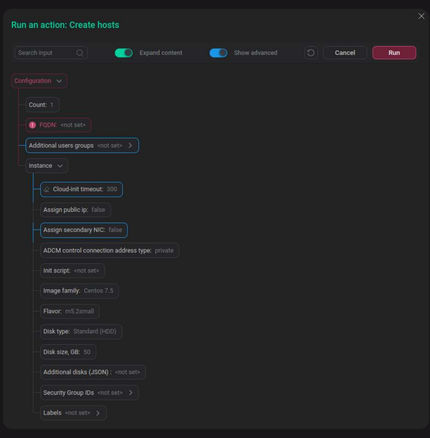
Select a hostprovider action

Create hosts

NOTE

Do not use the ***Create hosts*** action for products that require FQDNs. Use the Create host → Init action on the ***Hosts*** page instead.

This action allows you to create a group of virtual machines. Select the ***Create hosts*** action in the ***Actions*** drop-down list — the ***Run an action: Create hosts*** window will be opened.



The "Run an action: Create hosts" window

In this window, you can specify the following options (the fields highlighted in red are mandatory):

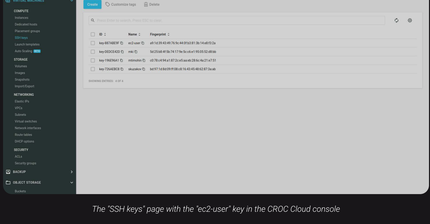
- ***Count*** — the number of created virtual machines.
- ***FQDN*** — the prefix for names of virtual machines. Every name is formed according to the `<FQDN>-<VM number>.<Domain zone>` template. VM numbers start with `1`. If you need to add one virtual machine, create it on the ***Hosts*** page. See Create hosts with CROC Cloud hostprovider.
- ***Additional users groups*** — all users created on the host ***Init*** action will be added to the specified groups when initializing the virtual machine. These groups must exist in the virtual machine image.
- ***instance*** — contains virtual machine instance settings listed in the table below.

Parameter name	Description	Default value
Cloud-init timeout	Timeout for cloud-init to finish running tasks, in seconds	300
Assign public ip	Set this checkbox checked if you need to use a public IP address	false
Assign secondary NIC	Set this checkbox checked if you need to assign an additional network interface to the virtual machine in the specified subnet	false
ADCM control connection address type	Specifies whether a private or public address ADCM should use to connect to the virtual machine	private
Init script	An initialization script	—
Image family	A family of operating systems based on which virtual machines will be created. The newest image from the specified family will be used	CentOS 7.5
Flavor	The virtual machine configuration that determines the characteristics of its resources: the number and type of CPU, the amount of RAM, and other virtual machine parameters	m5.2xsmall
Disk type	A type of disk (volume). The following values are possible: ▪ st2: Standard (HDD); ▪ gp2: Universal (SSD); ▪ io2: Ultimate (SSD).	Standard (HDD)
Disk size	Maximum amount of data that a volume can hold	50
Additional disks (JSON)	Parameters of additional disks in JSON format. For example: `[{ "name": "disk1", "type": "st2", "size": 32 }, { "name": "disk2", "type": "gp2", "size": 32 }]` The volume must be a multiple of 8, not less than 16Gb for st2 and not less than 32Gb for gp2	—
Security Group IDs	Sets default Security Group ID value for all created virtual machines. If ***Security Group IDs*** in the hostprovider settings and ***Security Group IDs*** in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority	—
Labels	Sets default label values for all created virtual machines. If ***Labels*** in the hostprovider settings and ***Labels*** in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority	—

The ***Additional users groups***, ***Cloud-init timeout***, and ***Assign secondary NIC*** parameters are available when the ***Show advanced*** toggle button is enabled.

After you specify all required settings, click ***Run*** to complete creating virtual machines. The created hosts will be added on the ***Hosts*** page.

To organize access to a host for the default CROC system user — `ec2-user`, create a key with the `ec2-user` name on the ***Virtual machines*** → ***SSH keys*** page of the CROC console before creating a host. When creating a host, ADCM makes a request to the CROC cloud, and if a key with the `ec2-user` name exists, it will copy its public part to the virtual machine settings.



The "SSH keys" page with the "ec2-user" key in the CROC Cloud console

Create users

When you run this action, the users specified in the ***metadata*** section located on the ***Primary configuration*** tab of the CROC Cloud hostprovider are created on all virtual machines.

Create hosts with CROC Cloud hostprovider

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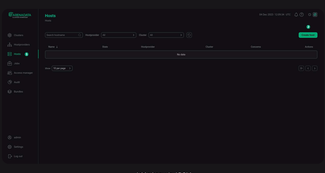
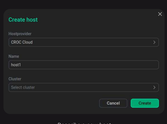
To create a host, go to the ***Hosts*** page and click ***Create host***.



Add a host via ADCM

In the opened window:

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

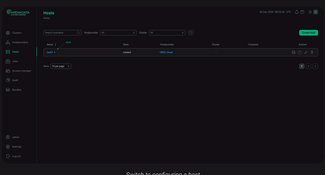


Describe a new host

CAUTION

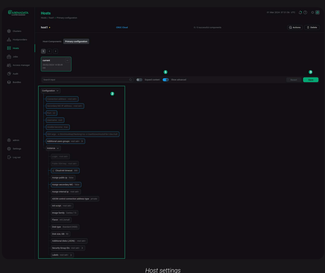
- When creating hosts for the ADH and ADPG products, you should define an FQDN in the ***Name*** field (e.g. `test.ru-central1.internal`). The maximum FQDN length is 38 symbols for ADH and 49 symbols for ADPG.
- For the ADS and ADS Control products, FQDNs are required if the ADPS product is used. The maximum FQDN length for ADS hosts is 48 symbols.
- For the ADCM product, FQDNs are required if Kerberos authentication is used.
- ADB starting with the 6.23.0.44 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.

After the host is created, click the host name in the ***Name*** column to configure the host.



Switch to configuring a host

In the opened window, select the ***Primary configuration*** tab, fill in parameters listed below, and click ***Save***. Some parameters are available when the ***Show advanced*** toggle button is enabled.

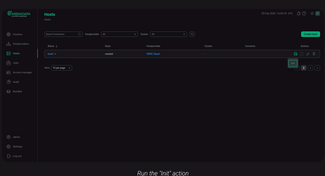


Host settings

Host configuration parameters

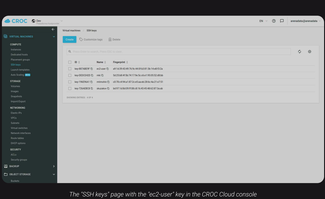
Parameter name	Description	Default value
Connection address	An IP address of the virtual machine for connecting via SSH	—
Secondary NIC IP address	An IP address of the second network interface of the virtual machine	—
Port	The SSH port	22
Username	A username that is used for SSH connection	root
Ansible become	Determines whether to grant `root` rights to this user	true
SSH args	Additional SSH connection parameters	-o StrictHostKeyChecking=no -o UserKnownHostsFile=/dev/null
Additional users groups	All users created on the host ***Init*** action will be added to the specified groups when initializing the virtual machine. These groups must exist in the virtual machine image	—
Login	The user that is created for a virtual machine	—
Public SSH key	A public SSH key	—
Cloud-init timeout	Timeout for cloud-init to finish running tasks, in seconds	300
Assign public ip	Set this checkbox checked if you need to use a public IP address	false
Assign secondary NIC	Set this checkbox checked if you need to assign an additional network interface to the virtual machine in the specified subnet	false
Assign internal ip	Specifies an internal IP address assigned to the instance	—
ADCM control connection address type	Specifies whether a private or public address ADCM should use to connect to the virtual machine	private
Init script	An initialization script	—
Image family	A family of operating systems based on which virtual machines will be created. The newest image from the specified family will be used	CentOS 7.5
Flavor	The virtual machine configuration that determines the characteristics of its resources: the number and type of CPU, the amount of RAM, and other virtual machine parameters	m5.2small
Disk type	A type of disk (volume). The following values are possible: - st2: Standard (HDD); - gp2: Universal (SSD); - io2: Ultimate (SSD).	Standard (HDD)
Disk size	Maximum amount of data that a volume can hold	50
Additional disks (JSON)	Parameters of additional disks in JSON format. For example: `[{ "name": "disk1", "type": "st2", "size": 32 }, { "name": "disk2", "type": "gp2", "size": 32 }]` The volume must be a multiple of 8, not less than 16Gb for st2 and not less than 32Gb for gp2.	—
Security Group IDs	Sets default Security Group ID value for the created virtual machine. If ***Security Group IDs*** in the hostprovider settings and ***Security Group IDs*** in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority	—
Labels	Sets default label values for the created virtual machine. If ***Labels*** in the hostprovider settings and ***Labels*** in the settings specified when creating a virtual machine are set simultaneously, the last one has higher priority	—

After you set all required settings, run the host ***Init*** action.



Run the "Init" action

To organize access to a host for the default CROC system user – `ec2-user`, create a key with the `ec2-user` name on the ***Virtual machines → SSH keys*** page of the CROC console before creating a host. When creating a host, ADCM makes a request to the CROC cloud, and if a key with the `ec2-user` name exists, it will copy its public part to the virtual machine settings.



The "SSH keys" page with the "ec2-user" key in the CROC Cloud console

Manage hosts with CROC Cloud hostprovider

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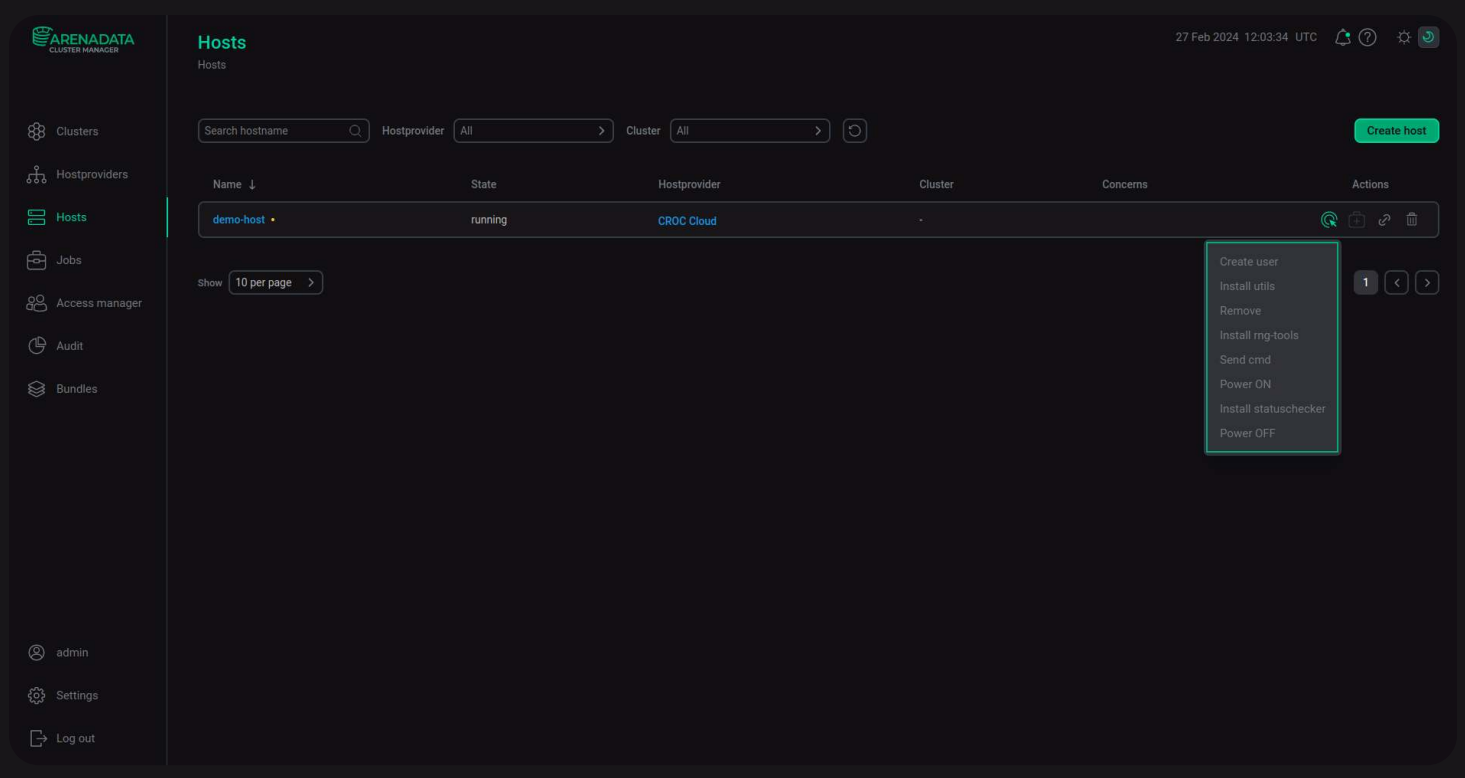
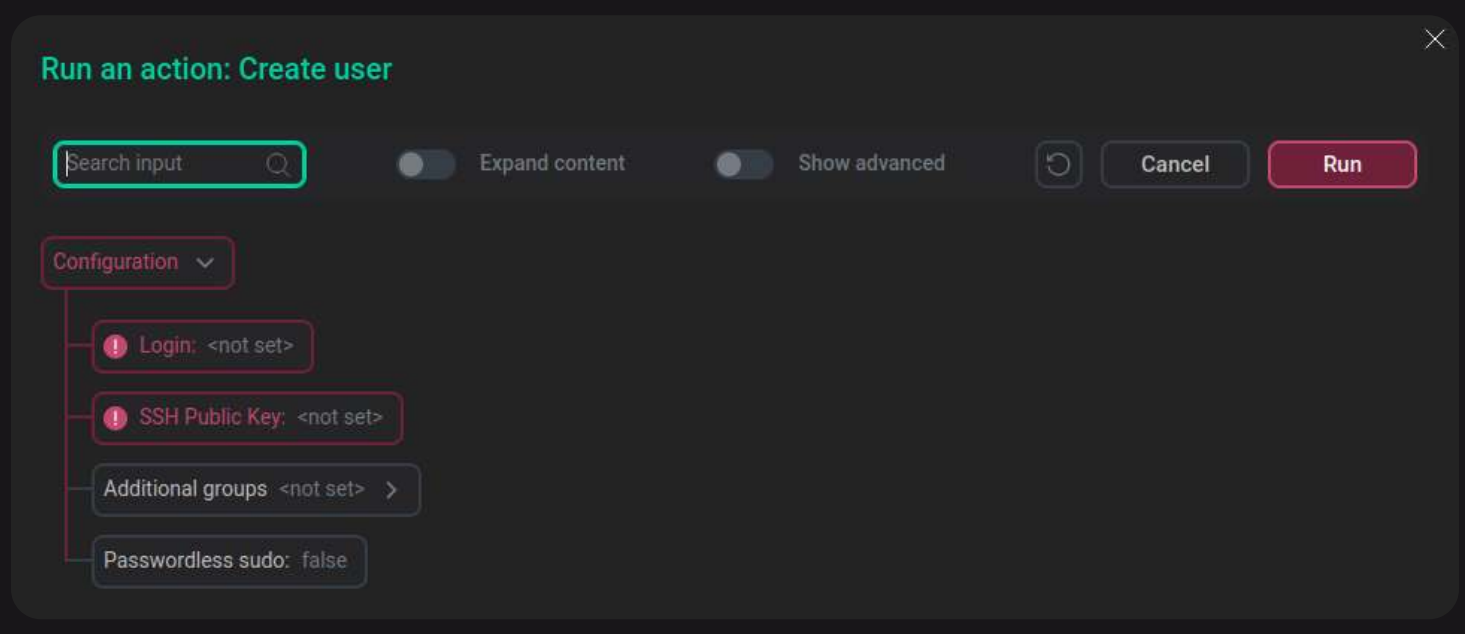
After a host is initialized, you can perform host actions in ADCM UI. To do this, click the icon in the ***Actions*** column, and select an action in the drop-down list.



Select a host action

The following actions are available:

- ***Create user*** — creates a user. When you select this action, a window with user parameters opens. The parameters are listed in the table below.



The "Run an action: Create user" window

Parameter name	Description
Login	Name of the created user
SSH Public Key	A public SSH key of the created user. It should start with `ssh-rsa`
Additional groups	Operating system groups to which the user will be added (optional)
Passwordless sudo	If enabled, the user can escalate their privileges to `sudo` without password. The user will also be added to the `adcm_sudo` group

After you specify all required settings, click ***Run*** to complete the action.

- ***Install utils*** — installs the specified packages.
- ***Remove*** — deletes a virtual machine from the CROC Cloud and ADCM.
- ***Install rng-tools*** — installs the rngd tool that fills the system entropy pool.
- ***Power ON*** — turns on the virtual machine.
- ***Install statuschecker*** — installs the statuschecker utility that regularly checks the status of the server and services installed using ADCM.
- ***Power OFF*** — turns off the virtual machine.
- ***Send cmd*** – sends a bash command to the host.

Release notes

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1.4

Date: 09.10.2024

Bug fixes

Fixed an issue with the availability of CentOS 7 repositories

Misc/Internal

Updated dependencies

The concept of working with SSH keys has been changed

1.3

Date: 15.03.2024

New features

Implemented the ability to add the `ec2-user` SSH key previously created in the CROC Cloud console to the hosts created in ADCM

1.2

Date: 31.01.2024

New features

Added the ability to use an additional network interface on a dedicated network for the ADB cloud bundle

1.1

Date: 12.01.2024

New features

The ***Labels*** setting is added to the ***default_host_settings*** section of the CROC Cloud hostprovider configuration. This is an optional field where you can set default ***Labels*** values for all created virtual machines

1.0

Date: 21.12.2023

New features

Added the following host actions:

- ***Create user*** — creates a user.
- ***Install utils*** — installs the specified packages.
- ***Remove*** — deletes a virtual machine from the CROC Cloud and ADCM.
- ***Install rng-tools*** — installs the rngd tool that fills the system entropy pool.
- ***Power ON*** — turns on the virtual machine.
- ***Install statuschecker*** — installs the statuschecker utility that regularly checks the status of the server and services installed using ADCM.
- ***Power OFF*** — turns off the virtual machine.
- ***Send cmd*** – sends a bash command to the host.

Added the following hostprovider actions:

- ***Create hosts*** — creates a group of virtual machines.
- ***Create users*** — creates users.

Added the ability to assign a second network interface to the created virtual machine and set MTU=8888 on it