

Working with Managed Servers

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The screenshot shows the 'Managed Servers' page in a web application. At the top, there's a navigation bar with links like Dashboard, Resources, DNS, DHCP, Servers, IPAM, Peering, Reporting, Settings, and Help. A search bar is on the right. Below the navigation bar, there's a 'Manage Options' section with an 'Add Server' button. The main content area is titled 'Server Section' and contains a 'DNS Monitoring' table. The table has columns for Server Name, Requests (2 min), DNS, Monitor, DHCP, and State. It lists 11 servers, including DNS Master, DNS Cache 1-4, and DHCP Zones A, B, and C, along with their failover configurations. The 'Requests' column shows the number of requests in a green bar, and the 'State' column shows 'Running' or 'Stopped' with a gear icon for settings. A pagination bar at the bottom indicates 'Displaying 1 to 11 of 11 items'.

Server Name	Requests (2 min)	DNS	Monitor	DHCP	State
DNS Master	4 requests	v0.17	v0.20	-	Running
DNS Cache 1	4 requests	v0.17	v0.20	-	Running
DNS Cache 2	0 requests	v0.17	v0.20	-	Stopped
DNS Cache 3	4 requests	v0.17	v0.20	-	Running
DNS Cache 4	4 requests	v0.17	v0.20	-	Running
DHCP Zone A	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
DHCP Zone B	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
DHCP Zone C	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
DHCP Zone A Failover	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
DHCP Zone B Failover	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
DHCP Zone C Failover	4 requests	-	v0.20	IPv4: v0.12 - IPv6: v0.12	Running

The Managed Server page is where you can add a new server, view the list of existing servers, and view monitoring data on each server. From here, you may also access server settings and details for each server.

Requirements

Note: Managed Servers requires Python3 and Docker to be installed to support this feature.

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The Managed Server List Interface

The Managed Server Section List provides server and monitoring data for each managed DNS / DHCP server.

The screenshot shows a web interface titled "Manage Options" with an "Add Server" button. Below is the "Server Section" containing a "DNS Monitoring" header with a "Refresh Table" button and a search bar. The table lists several servers, including "1-test", "6cDNS install problems", "6cDNS Install Problems 2", "6cDNS Install Problems 3", "c9300", "Contabo SSH Key", "Contabo Test Add service", "Contabo1", "Contabo2", and "Demo Contabo1". Each row displays the number of requests in the last 2 minutes (e.g., 0 or 4), the versions of DNS, Monitor, and DHCP components, and the overall state (Stopped or Running).

Server Name	Requests (2 min)	DNS	Monitor	DHCP	State
1-test	0 requests	-	-	-	Stopped
6cDNS install problems	0 requests	-	-	-	Stopped
6cDNS Install Problems 2	0 requests	-	-	-	Stopped
6cDNS Install Problems 3	0 requests	-	-	-	Stopped
c9300	0 requests	-	-	-	Stopped
Contabo SSH Key	0 requests	-	-	-	Stopped
Contabo Test Add service	0 requests	-	-	-	Stopped
Contabo1	4 requests	v0.21	v0.20	IPv4: v0.12 - IPv6: v0.12	Running
Contabo2	4 requests	-	v0.19	IPv4: v0.12 - IPv6: v0.12	Running
Demo Contabo1	0 requests	-	-	-	Stopped

The list provides the following information:

Server Name: The server display name, set by the user during server creation. You may click on the server name link to view server details

Requests: Requests are the heartbeat notifications received in the last 2 minutes. Requests are sent every 30 seconds, so a display of 4 or 5 requests represents a satisfactory request connection, and the request bar will show in green. For any lower value, the color of the bar will show in red.

DNS / Monitor / DHCP: The version of the component running. If the server is not running, no version will display.

State: State shows the overall state of the server - the server may be running, but without any components started. "Running" will show in green, whereas "Stopped" will display as an orange bar.

Action Menu (gear icon): Right click on the action menu (or anywhere on the row) to display available server actions

Working with the Managed Server List

The following actions may be performed when interacting with the server list:

Sort the list by clicking on the "Server Name" column, to view by Ascending / Descending order

Search / Filter the list for specific servers by entering a full or partial server name into the search box at the upper right of the list

Display more/fewer servers per page by clicking on the "Items per page" selector at the top right of the list, next to the search box

Refresh the list to check for updated information by clicking the "Refresh Table" button (rotating arrows)

Click on a server name to view / edit server details

Add New Managed Server (Setup Wizard)

Before you begin, you will need to know following connection information for the new managed server:

- Server FQDN or IP
- Desired server OS
- SSH credentials and port

To set up a new managed server, click "Add Server" at the top right of the Managed Server Tab.

The screenshot shows the 'Manage Options' page. At the top right, there is a green button labeled 'Add Server' which is circled in red. Below this is the 'Server Section' header. Underneath, there is a 'DNS Monitoring' section with a 'Refresh Table' button and a search bar. A table lists several servers with their status and request counts.

Server Name	Requests (2 min)	DNS	Monitor	DHCP	State
DNS Master	4 requests	v0.17	v0.20	-	Running
DNS Cache 1	4 requests	v0.17	v0.20	-	Running
DNS Cache 2	0 requests	v0.17	v0.20	-	Stopped
DNS Cache 3	4 requests	v0.17	v0.20	-	Running

From there, proceed through each of the five steps of the Add New Server wizard, below:

Step 1: Common Settings

The screenshot shows the 'Add New Server' wizard, Step 1: Common Settings. The wizard has five steps: 1. Common Settings, 2. Communication Settings, 3. Monitoring Settings, 4. Service Settings, and 5. Confirmation. The current step is 'Common Settings'. It contains several form fields for configuring the server.

Display Name *
Demo Server
This is the server name that will appear in the DNS interface.

Server OS *
Ubuntu
The operating system that will run on the server.

SSH UserName *
root
For SSH connection. Need write access to the zone folder and Bind settings.

SSH Port *
22
Server SSH Port.

Installation Type
☒ Automatic Installation ☐ Manual Installation
The Management Service will connect to the Managed Server then install and configure any required services.

FQDN or IP *
192.168.0.77
The IP address that ProVision will use to connect to this server.

SSH Password *

SSH Key Auth
☐

SSH Route
Search SSH-Route

Test Connection **Next**

Enter the common settings for the new server:

Display Name: The display name for the server

Installation Type: You may choose either an automatic installation, where ProVision handles the installation, or perform a manual installation.

After selecting the installation type, enter the required fields for the server, depending on the selected install type:

Display Name (always required)

Server OS (always required)

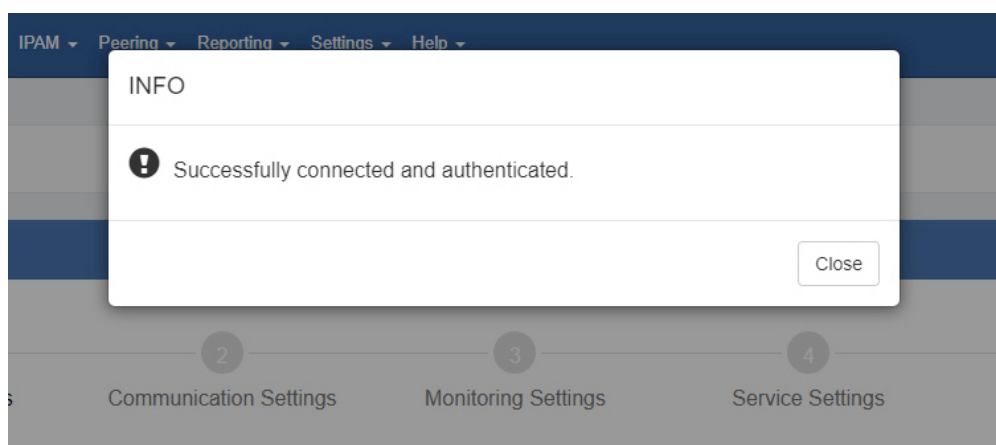
FQDN or IP (required for automatic installations)

SSH Username / Password (required for automatic installations)

SSH Port (required for automatic installations)

SSH Route (optional)

After entering in the common settings, click "Test Connection" to verify the connection and authentication.



Once a connection has been confirmed, click "Next".

Step 2: Communication Settings

Manage Options

Go To List

Server Section

1

2

3

4

5

Common Settings

Communication Settings

Monitoring Settings

Service Settings

Confirmation

This section has to do with the way in which the managed server communicates with the provision system for configuration, data collection and metrics that will be showed in the charts area.

Provision UserName

Enter Username...

ProVision username for server updates. If it is empty, it will be created automatically.

Provision Password

Enter password...

ProVision password for server updates. If it is empty, it will be created automatically.

IP Api Address *

192.168.0.63

Previous

Next

Managed servers require a ProVision user account and API IP in order to communicate configuration, data, and monitoring information.

ProVision Username / Password: You may enter a specific ProVision username and password, or allow one to be automatically generated.

IP API Address: The API address the managed server should use. There are cases when the DNS servers are in different networks and should communicate with ProVision on different IPs.

Click "Next" to proceed.

Step 3: Monitoring Settings

Select the desired monitoring settings for the server. You may either accept the default settings, or click on the toggle for **Custom Monitoring Settings** to override default settings.

Manage Options

Go To List

Server Section

1

2

3

4

5

Common SettingsCommunication SettingsMonitoring SettingsService SettingsConfirmation

On this page you can configure monitoring settings of the Managed Services that you will add later, you can enable/disable the metrics collection, the type of metrics you want to gather, the collection intervals and the data retention period.

☒ Custom Monitoring Settings

☒ System Monitoring

System Monitoring Interval

5

System monitoring interval in seconds.

☒ Dns Monitoring

DNS Monitoring Interval

60

DNS monitoring interval in seconds.

Raw Data Retention

60

The period to keep the raw/detailed monitoring data in minutes.

Aggregate Data Retention

60

The period to keep the aggregated monitoring data in days.

Communication Type

Push-based

Previous

Next

Options include:

System Monitoring: Enable / Disable monitoring for system statistics. If enabled, enter the desired **System Monitoring Interval** (in seconds). More frequent intervals require larger storage, but generates more data in cases where investigation is needed.

DNS Monitoring: Enable / Disable monitoring for DNS statistics. If enabled, enter the desired **DNS Monitoring Interval** (in seconds). DNS requests are collected for the set time interval, and then sent as an aggregated result.

Raw Data Retention: How long to keep the raw data, in minutes. This affects how far back you could investigate an incident using the detailed data. Raw data requires sizable storage needs; so the default setting is 1440 min (1 day).

Aggregated Data Retention: How long to keep the aggregated data, in days.

Communication type: Select either Push-based (when the server pushes data to ProVision) or Pull-based (when ProVision connects to the server and pulls the data). Push-based is the preferred method, but Pull-based may be desirable in cases where a firewall would not allow inbound connections to ProVision.

Click "Next" to continue.

Step 4: Service Settings

Here you can select which components to install linked to the current server. If you prefer not to add a service, both toggles may be disabled.

The screenshot shows a configuration wizard titled 'Manage Options' with a 'Go To List' button. The 'Server Section' is highlighted in blue. A progress bar at the top shows five steps: 1. Common Settings, 2. Communication Settings, 3. Monitoring Settings, 4. Service Settings (current), and 5. Confirmation. Below the progress bar, a note states: 'In this section you can set if you want to add a Managed Service linked to the current Server. If you prefer not to add any service leave the toggles OFF.' There are two toggle switches: 'Add DNS Service' (checked) and 'Add DHCP Service' (checked). To the right of these toggles are two dropdown menus for 'Max DNS Upgrade Version' and 'Max DHCP Upgrade Version', both set to 'latest'. Below these are radio buttons for 'Server Type' with 'Child' selected and 'Parent' unselected. At the bottom is a 'Server Parent *' dropdown menu with the text 'Select parent...'. 'Previous' and 'Next' buttons are at the bottom left and right respectively.

Add DNS Service: Enable / Disable to add a DNS Managed Service link. Options include:

Max DNS Upgrade Version: Select either "latest", or select a specific version to install and not upgrade beyond, in case of known issues or incompatibility.

Add DHCP Service: Enable / Disable to add a DNS Managed Service link (Kea / MySQL DB). Multiple DHCP instances can connect to one database, organized as one parent with multiple children.

In ProVision, "1 database" = "1 dhcpmodule resource", and only a "parent" DHCP can have address and credentials for the database. The children don't store any information about the database and the necessary data is taken from the parent; no "dhcpmodule resource" are created for the children.

Options include:

Max DHCP Upgrade Version: Select either "latest", or select a specific version to install and not upgrade beyond, in case of known issues or incompatibility.

Server Type: Select "Child" or "Parent".

- **Child:** If "Child" is selected, then the parent server must be selected. On the managed server there will be an attribute to note that it will have DHCP component, but it would be a child one and which one is the parent. In this case the pv_mysql component is not installed as it is not needed - the DHCP will connect to another database
- **Parent (Default Configuration):** By default, if "Parent" is selected then ProVision will set up pv_dhcp and pv_mysql components on the server and pv_dhcp will be configured to use this pv_mysql as database. The server will offer both IPv4 and IPv6 addresses.
- **Parent (Advanced Configuration):** The main use case is when you don't want to put further load to the server by hosting the database or a database in a container might not perform good enough, you have this option to provide another MySQL instance. Using this the user can also modify the database name, user, password and if the server should serve IPv4, IPv6 or both. The user can also select the location of the database - local with pv_mysql component with the provided credentials or remote, which is completely remote database and no pv_mysql component will be set up.

When you are done setting up service and database settings, click "Next".

Step 5: Confirmation

The last step to setting up a new managed server is review and confirmation.

Manage Options

Go To List

Server Section

1

2

3

4

5

Common Settings

Communication Settings

Monitoring Settings

Service Settings

Confirmation

Common Settings

Display Name *

Demo Server

Server OS *

ubuntu

FQDN or IP *

192.168.0.77

Authentication Type

password

Communication Settings

Provision UserName

Autogenerated

IP Api Address *

192.168.0.63

Provision Password

Autogenerated

SSH Port *

22

Monitoring Settings

Custom Monitoring Settings

true

System Monitoring

true

System Monitoring Interval

5

Raw Data Retention

60

Communication Type

push-based

Dns Monitoring

true

DNS Monitoring Interval

60

Aggregate Data Retention

60

Service Settings

Add DNS Service

Will be added

Max DNS Upgrade Version

latest

Add DHCP Service

Will not be added

Max DHCP Upgrade Version

Previous

Create Server

Options selected in previous steps will display on the page - review and confirm all settings, utilizing the "Previous" button if changes are needed.

Once settings are verified, click "Create Server" to complete the setup wizard.

The new Managed Server will display in the Managed Server list.

After a new server has been created, you may edit it by clicking on the server name, or view monitoring data from the Managed Server list.

View or Edit Managed Server Details

Click on a server name, or open the server action menu to view details for a managed server.

The details of a server are organized into tabs: Settings, Services, Monitoring, and RPS.

Settings

By default, only "Display Name", "Server OS" and "FQDN or IP" fields are shown.

Toggle on "Show Advanced Settings" to see the ssh credentials, "IP Api Address" and the max versions for each component:

This screenshot shows the 'Show Advanced Settings' section of the Settings module. The 'Show Advanced Settings' toggle is turned on. The section contains several fields for SSH configuration: 'Provision UserName' (pv_4119_g30W@ProVision.test), 'Provision Password' (masked), 'SSH UserName' (root), 'SSH Password' (masked), 'SSH Port' (22), 'SSH Route' (Search SSH-Route), 'IP Api Address' (194.24.189.120), 'Max DNS Upgrade Version' (latest), and 'Max DHCP Upgrade Version' (latest). There are also 'Custom Monitoring Settings' and 'SSH Key Auth' toggles.

Toggle on "Custom Monitoring Settings" to view/edit the monitoring settings:

This screenshot shows the 'Custom Monitoring Settings' section of the Settings module. The 'Custom Monitoring Settings' toggle is turned on. The section contains several fields for monitoring configuration: 'System Monitoring Interval' (5), 'DNS Monitoring Interval' (30), 'Raw Data Retention' (60), 'Aggregate Data Retention' (30), and 'Communication Type' (Push-based). There are also 'Syst. Monitoring' and 'Dns Monitoring' toggles.

This will be toggled if the user has set custom settings earlier or during the setup. The fields are the same as in the Monitoring Settings step during setup and are described there.

At the bottom left of the settings module, two buttons are available: "Run Actions" (including Push Install, Push Update, and Run Diagnostic options) and "Download Setup".

On the bottom right, you may click "Test Connection" to test the SSH connection to the server.

This screenshot shows the bottom of the Settings module. On the left, there is a dropdown menu with options: 'Push Install', 'Push Update', 'Run Diagnostic', 'Run Actions', and 'Download Setup'. On the right, there are two buttons: 'Test Connection' and 'Save Changes'.

When any edits are complete, click "Save Changes".

Services

Under Services, you can view the enabled components for this server.

Server Section

Settings

Services

Monitoring

RPS

Managed Services

Service Name	Service	Server Type	Max Version		Port
Contabo1 Managed DNS	pv_dns	master	latest	Edit	22
Contabo1 Managed DHCP	pv_dhcp	parent	latest	Edit	68

Click on a component to open a new tab with component details. In case of a "child" DHCP service, the link will lead to its parent.

Server Section

Settings

Services

Monitoring

RPS

Managed Services

Service Name	Service	Server Type	Max Version		Port
Contabo2 Managed DNS	pv_dns	master	latest	Edit	53
Child of Contabo1 Managed DHCP	pv_dhcp	child	latest	Edit	68

Add Service

The "Add Service" button shows a popup to choose the service.

Add Service

Service Type *

DNS Service

DNS Service

DHCP Service

Close

Save

For DNS there is nothing to select:

Add Service

Service Type *

DNS Service

Max DNS Upgrade Version

latest

Close

Save

For DHCP, the interface is the same as during the setup wizard:

Add Service

Service Type *

DHCP Service

Server Type

☐ Child ☒ Parent

Server Parent *

Select parent...

Close

Save

Here, you may edit your settings if changes are needed.

Add Service

Service Type *

DHCP Service

Server Type

☒ Child

☐ Parent

Max DHCP Upgrade Version

latest

DB Location *

Select DB Location...

DB Database *

Enter DB Name...

DB Password *

Enter DB Password...

IP Server Type *

Configuration Type

☒ Default

☐ Advanced

DB Host *

Enter DB Host Name...

DB UserName *

Enter DB Username...

DB Port *

Enter DB Port...

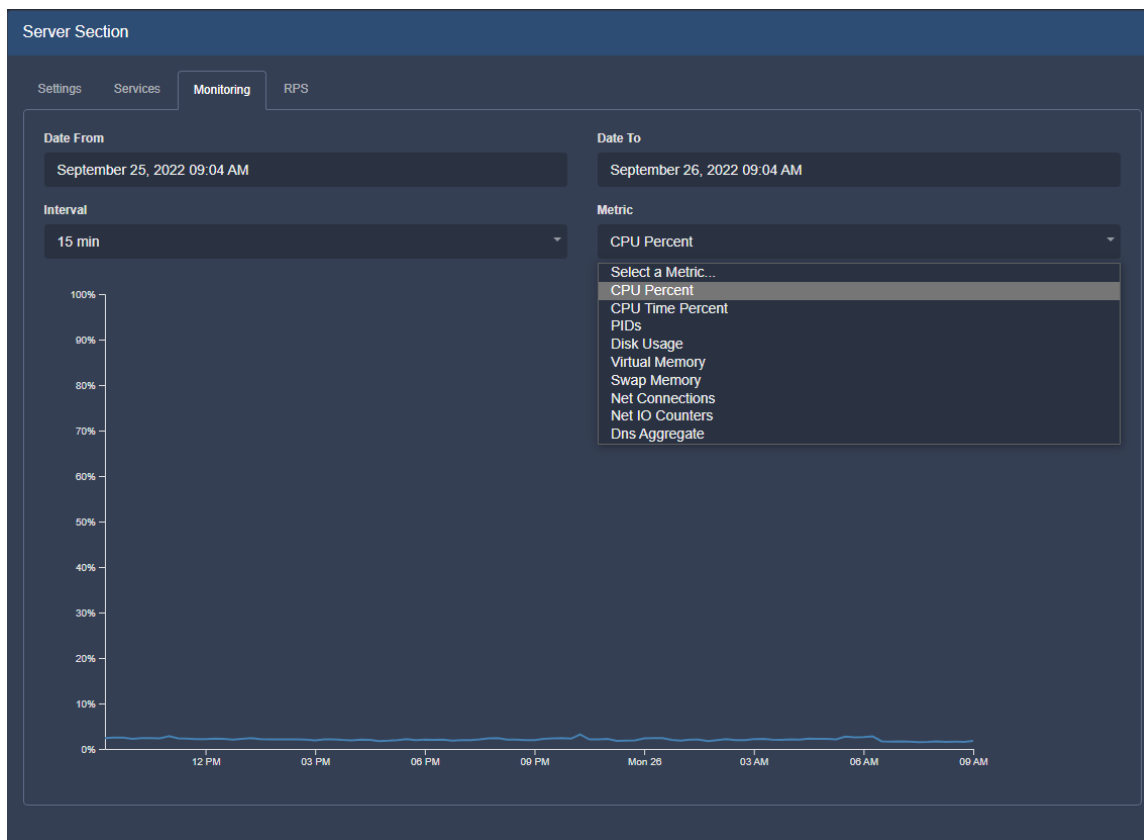
Close

Save

When done, click "Save" to ensure any changes are saved, or click "Close" to exit without saving.

Monitoring

Under Monitoring, you can see the aggregated system statistics + "DNS aggregate":



Select a certain time interval (by default, the last 24h) and aggregation interval (5 min, 15 min, 30 min, 1 hour). Note - the charts are different for the different metrics.

For example, selecting "Dns Aggregate" shows a different set of information:

Server Section

Settings Services **Monitoring** RPS

Date From: September 25, 2022 09:16 AM Date To: September 26, 2022 09:16 AM

Interval: 15 min Metric: Dns Aggregate

DNS Monitoring Items per page: 20 Search by name...

DNS Record Id	Host Name	↕ Last Access	↕ Total Hits
0	version.bind.	2022-09-26 07:04:43	675
0	testip.internet-census.org.	2022-09-26 06:31:42	96
0	dnsscan.shadowserver.org.	2022-09-26 09:05:26	86
0	id.server.	2022-09-26 07:04:43	54
0	hostname.bind.	2022-09-25 23:51:35	49
0	a.gtld-servers.net.	2022-09-26 08:57:45	46
0	amazon.com.	2022-09-26 05:17:40	43
0	239.166.163.194.in-addr.arpa.	2022-09-26 05:17:40	43
0	google.com.	2022-09-25 14:37:47	31
0	ampereinnovatech.com.	2022-09-26 07:04:43	14
0	clients1.google.com.	2022-09-25 10:08:02	12
4134	pvverify.test.	2022-09-26 09:15:46	5
0	194-163-166-239-6330f991.spiderprobe.com.	2022-09-26 05:17:40	1
4189	pvverify.test.	2022-09-26 09:15:26	1

Displaying 1 to 14 of 14 items.

Previous 1 Next

For the DNS records, we aggregate the overall total hits and the last time it was accessed. This is in order to be able to see the most/least used records and the ones which haven't been used for a long time and could be deleted. "Date From" and "Date To" here refer to the "Last Access".

If the request is for a record, for which we don't have resource, the ID will be 0. We have "pvverify.test" two times, because one of them is for "A" request and the other is for "TXT".

RPS (requests per second)

Under RPS, you can search for data for a given dns record.

Server Section

Settings

Services

Monitoring

RPS

Date From *

September 25, 2022 09:26 AM

Date To *

September 26, 2022 09:26 AM

Action *

Request

Host

E.g. example.com

DNS Record

Search Resource

Type

Select type...

Description	Values
Request Per Second	0
Date From	2022-09-25 9:26
Date To	2022-09-26 9:26
Total	38
Time Delta	86400

The following search filters are available:

Date From/ Date To: Time interval to search

Action: Request or response

DNS Record: Search for a specific resource

Host: Search by host

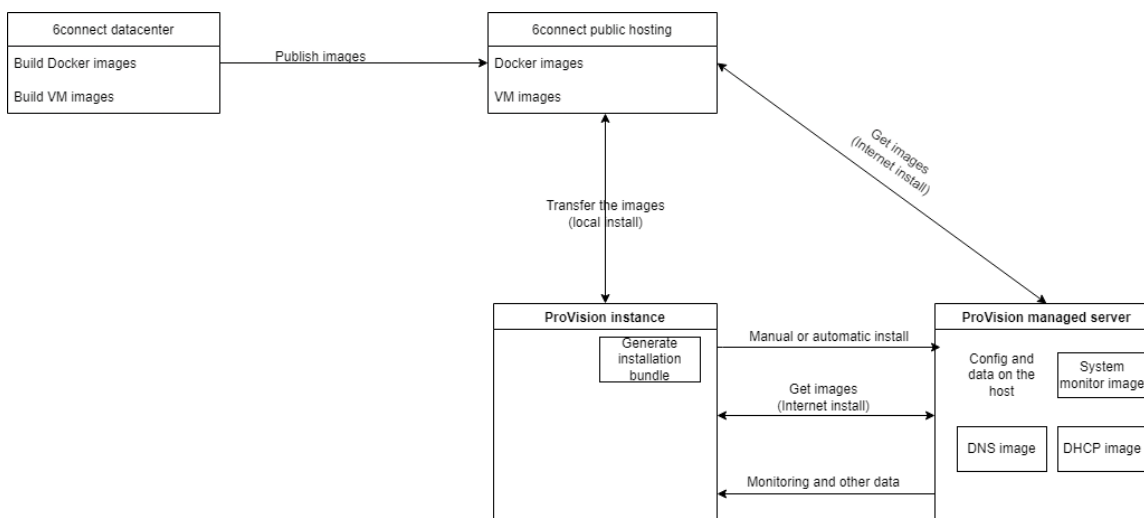
Type: DNS request type (A, AAAA, CNAME, MX, TXT etc.)

Update / Install Managed Server (Existing Component)

The installation can be run more than once. If we already have running components, they will be stopped before the real installation continues.

If there is newer version of any component, it will be downloaded and used.

The overall process is:



Requirements

Python 3.6+ and Docker are the only requirements. If we run the installation with root (see below) and we have internet access, the installation process will install Docker.

The overall process is always the same - ProVision generates an install bundle, it is transferred to the server, extracted there and run some scripts from it. This can be done by ProVision (automatic install) or by the user (manual). In case of automatic install ProVision will automate the steps, which the user would do manually. All the components can run without root access, but we need it for user creation, folders creation, network and heartbeat service setup.

Automatic (Recommended)

This is the recommended and easiest setup method. If you have root access, ProVision can do all the necessary actions.

Go to the details page Settings tab "Run Actions" "Push Install"

Server Section

Settings Services Monitoring RPS

Display Name * Contabo2
This is the server name that will appear in the DNS interface.

Server OS * Ubuntu
The operating system that will run on the server.

FQDN or IP * 161.97.167.192
The IP address that ProVision will use to connect to this server.

Run Action Push Install Push Update Run Diagnostic Settings ng Settings

Test Connection Save Changes

Confirmation dialog will be shown:

Please confirm

Are you sure that you want to **pushconfig** for server **Contabo2**?

This action will knock the service offline for an unpredictable amount of time.

Accept Close

Popup with the progress will be shown.:

Push Status

✓ Finished Config Pushing Request

✓ (2022-09-26T13:13:22+00:00) Executing activate(12/12)

✓ (2022-09-26T13:13:22+00:00) Executing change_dir_owner 11/12

✓ (2022-09-26T13:10:48+00:00) Executing setup_dhcp(10/12)

✓ (2022-09-26T13:10:47+00:00) Executing setup_dns(9/12)

✓ (2022-09-26T13:09:46+00:00) Executing setup_monitoring(8/12)

✓ (2022-09-26T13:09:45+00:00) Executing setup_heartbeat(7/12)

✓ (2022-09-26T13:09:45+00:00) Executing create_dir_struct(6/12)

Download Log File

Close

Each command/step is shown together with the overall progress. The different steps take different time to complete, meaning 6/12 doesn't mean half of the time remains. The required time depends on the internet connection speed and CPU mainly. The longest steps are "setup_monitoring" and "setup_dhcp", they have to download the biggest containers.

Manual (from the command line)

This case is usually when the user doesn't want to input the root user in ProVision, but he has root access. The setup bundle should be downloaded and saved on your local computer:

Server Section

Settings Services Monitoring RPS

Display Name *

Contabo2

This is the server name that will appear in the DNS interface.

Server OS *

Ubuntu

The operating system that will run on the server.

FQDN or IP *

161.97.167.192

The IP address that ProVision will use to connect to this server.

Show Advanced Settings

Custom Monitoring Settings

Run Actions

Download Setup

Test Connection

Save Changes

The setup bundle name will be in format "setup-XXX.tar" where XXX is the resource ID of the managed server. The rest of the process is:

- copy the file to the managed server (with SCP or any other suitable way)

- extract it with "**tar -xf setup-XXX.tar**"
- execute "**sudo /bin/bash install_python3.sh**" - this should finish with "PVOK"

Without root

This is the used if root access to the server is not available. In this case, an admin with root access should first do the following:

- Install docker with the relevant commands for the OS. This can be done by running "**install_docker.sh**" from the setup bundle with root or any other suitable way
Install docker CentOS
Install docker Ubuntu
- Create the relevant user, add it to "docker" group, create "**/provision**" directory and make the created user owner of this directory.
User and directory setup
- Make the necessary network changes. This can be done by running "**network_config.sh**" from the install bundle
Network config CentOS

Network config Ubuntu

- Create service file and edit user with the correct system user.
pv_heartbeat.service

Make symlink to this file (replace /provision/libs/pv_heartbeat.service with the correct file path):

pv_heartbeat symlink

CentOS sudoers

Ubuntu sudoers

Create sudoers file (user with the correct system user) and place it in /etc/sudoers.d:

- Reload the systemct daemon:

Reload services

From this point automatic or manual setup can be done with the non-root user

Update Managed Server

Updates may be automatic or manually performed.

Automatic:

In ProVision's Managed Servers page, open the server details. Then, under the settings tab, click "Run Actions, and select "Push Update".

The screenshot shows the 'Server Section' interface with tabs for Settings, Services, Monitoring, and RPS. The 'Settings' tab is active, displaying fields for 'Display Name' (Contabo2), 'Server OS' (Ubuntu), and 'FQDN or IP' (161.97.167.192). Below these fields is a 'Run Actions' button with a dropdown arrow, which is expanded to show 'Push Install', 'Push Update' (highlighted with a red box), and 'Run Diagnostic'. Other buttons include 'Download Setup', 'Test Connection', and 'Save Changes'.

Manual Update:

From the command line on the server, execute "**python3 /provision/libs/pv_update.py**"

The process of update of a component is as follow:

- Stop the running instance
- Check for newer version and download, if any exist. If no newer version is available, start the component again and skip the other steps
- Install the newer version
- Verify the component - if the container is running and if the component is working as expected. For DNS we have internal TXT DNS record "pvverify.test" with value "PVOK". We check if it is resolved correctly. For DHCP we have internal pool for 198.51.100.0/24 and we try to acquire IP from it.
- In case of failure in the verification, start the last stable version (the one which was stopped)

Managed Server Diagnostics / Debug

Automatic - GUI

The user can run some basic diagnostics from the Managed Serve details page, under the Settings tab. Click "Run Actions", then "Run Diagnostics":

The screenshot shows the 'Server Section' interface with the 'Settings' tab selected. The interface includes the following elements:

- Display Name ***: A text input field containing 'Contabo1'. Below it, a note states: 'This is the server name that will appear in the DNS interface.'
- Server OS ***: A dropdown menu showing 'Ubuntu'. Below it, a note states: 'The operating system that will run on the server.'
- FQDN or IP ***: A text input field containing '194.163.166.239'. Below it, a note states: 'The IP address that ProVision will use to connect to this server.'
- Buttons**: A vertical stack of buttons on the left: 'Push Install', 'Push Update', and 'Run Diagnostic' (which is highlighted with a red box). At the bottom left are 'Run Actions' (orange) and 'Download Setup' (cyan). At the bottom right are 'Test Connection' (cyan) and 'Save Changes' (blue).
- Navigation**: Tabs at the top include 'Settings' (active), 'Services', 'Monitoring', and 'RPS'.

All the debug and diagnostic tools are in the monitoring component, thus it needs to be running in order to function.

After clicking the button, a confirmation dialog will be shown with the results:

Push Status

OK
Checking remote rabbit queue monitor_servers
OK
Remote queue length: 0
Remote queue consumer count: 1

Testing push event to test_debug
Create test_debug
OK
Debug queue initial length: 1
Publish to test_debug
OK
Debug queue current length: 2
End of diagnostics

✓ (2022-09-27T13:56:34+00:00) Run diagnostics

✓ (2022-09-27T13:56:34+00:00) Verify pv_monitor container is running

Download Log File

Close

We verify if we have docker running, if the monitoring component is running and the RabbitMQ connection.

You may download the results by clicking "Download Log File", and "Close" when done.

Manual - Command Line Scripts

All the scripts are in `/provision/libs/`.

All the scripts can be started with `-h` parameter to show relevant help.

- `pv_install.py` - used for the whole setup. The process itself is broken into separate steps, which can be executed individually with `-e/--exec-only=`. The steps can be seen from the help `(-h)`. This should be used by developers and for debugging purposes
- `start_pv_*.sh` - all these scripts are used to start given component. All of them support `-v/--version` to specify the version of the component to start and `-b/--bash` to start the container in debug mode. In debug mode the user will be logged into the container but without starting `/start.sh` (the entrypoint).
- `stop_pv_*.sh` - all these scripts are used to properly stop given component/container

Local

In addition to logging into any of the containers (starting the relevant script with `-b/--bash`) few other files are included into the monitoring component:

- mysql client for browsing the database
- `dhtest` ([link](#)) for DHCP testing
- `dnsutils` - `dig`, `nslookup`, `nsupdate`
- `telnet`

Delete Managed Server

To delete a managed server, right click on the action menu/ row for the server, and select "Delete".

Additional Information

- [Managed Servers Settings](#)