## Scheduler

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Server Time: 2020-01-07 17:50:51 PST
Server Time: 2020-01-07 17:50:51 PST
Server Timezone: US/Pacific -08:00
Server Timezone: US/Pacific -08:00

| Show: Active All |  |  |  |  |  | Filter tasks |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name | Repeat Start | Repeat Info | Last Run | Active |  |  |  |  |
| DNS Monitor ERROR Records Daily | 2018-May-21 | Every day at 00:00 PST | 2020-01-07 00:00:03 PST | $\otimes$ | Details | View History | Run Now | Delete |
| Cloud Backup | 2019-Jun-19 | Every day at 08:00 PST | 2020-01-07 08:00:02 PST | $\bullet$ | Details | View History | Run Now | Delete |
| Reports importer | 2019-Jun-27 | Sunday at 09:15 PST Monday at 09:15 PST Friday at 09:15 PST Saturday at 09:15 PST Wednesday at 09:15 PST Thursday at 09:15 PST | 2020-01-06 09:15:02 PST | $\bullet$ | Details | View History | Run Now | Delete |
| Approvals Process weekly | 2019-Jul-01 | Every 1 weeks at 09:15 PST | 2020-01-06 09:15:03 PST | $\otimes$ | Details | View History | Run Now | Delete |
| Approvals - Delete Archived | 2019-Jun-27 | 2nd of every month at 11:00 PST 6th of every month at 09:00 PST 13th of every month at 12:00 PST | 2020-01-06 09:00:03 PST | $\bullet$ | Details | View History | Run Now | Delete |
| Weekly Test task | 2019-Jul-02 | Every 1 weeks at 10:30 PST | 2020-01-07 10:30:02 PST | $\bullet$ | Details | View History | Run Now | Delete |
| Cloud backup weekly test | 2019-Jul-03 | Every 1 weeks at 11:45 PST | 2020-01-01 11:45:02 PST | * | Details | View History | Run Now | Delete |
| Approvals Process 10 min | 2019-Jul-10 | Every 10 minutes | 2020-01-07 17:50:03 PST | 0 | Details | View History | Run Now | Delete |

The Scheduler tab allows you to manage and schedule repeating tasks in ProVision.

- Scheduler

Available Task Types

- Enter Task Details
- Add Repeat Settings
- Verify Repeat Settings and Save

Managing Tasks

- Activate / Deactivate Tasks
- Edit a Task
- View Task Log
- Delete a Task


## Available Task Types

Many predefined task types are available through the scheduler:

## - Approvals - Delete events older than 1 month:

The "Approvals - Delete events older than 1 month" task deletes any Approvals history events older than 30 days. It is recommended to run this task monthly to clear out obsolete approvals items and reduce approvals page load time. For information on working with Approvals, see DNS Tab and Approvals.

- Approvals - Process Subscription Events:

The "Approvals - Process Subscription" task processes approval request events and handles the sending of notification emails to subscribed Approvals Groups. If Approvals are in use with notifications, it is recommended to create this task with a run time of "every 5 minutes" and no end date. For information on working with Approvals, see DNS Tab and Approvals.

## - Backup - Backup the database

Performs a data backup to the 6 connect cloud servers, or to a selected resource server existing in ProVision.

- Backup - Delete old archived data and logs:

The "Delete old archived data" task removes data older than 30 days from archived resources, logs, systems logs, and statistics from your ProVision instance. Be sure to use care with running this task to prevent accidental deletion of log data that may still be necessary for reference. It is typically recommended to run this task once every 1-3 months to reduce log data volumes.

- DHCP Leases Monitor:

Updates lease monitoring and checks for lease expiration for the DHCP module. See DHCP Tab for additional information on setting up DHCP Servers and Push options.

## - DHCP Server Push:

Pushes configuration updates to the selected DHCP server(s). Select push to a single server, or all DHCP servers. See DHCP Tab for additional information on setting up DHCP Servers and Push options.

## - DNS Error Monitor:

Checks the DNS records in theError state to determine if they have been fixed. Default setup is once a day, and you can set it to run more often if necessary. This task may replace or supplement the manual DNS Zone / Record "Check" button, depending on set frequency.

- DNS Resource Monitor:

Checks Records/Zones periodically to monitor DNS server response.

- DNS Zone Transfer:

Pushes zone updates to the DNS servers. Select pushes to apply to all zones in a DNS Group, all zones on one server, or one particular zone. Requires the intended Group / Server / Zone to already exist in ProVision. See DNS Tab for additional information on setting up DNS Servers, Groups, Zones, and Push options.

- DNS Zones Backup Removal:

Removes DNS Zone backups that are older than the "Days to preserve" setting in the Scheduler Task. See DNS Tab for additional information on setting up DNS Servers, Groups, Zones, and Push options.

## - IPAM Alerts:

Set a time / frequency for IPAM aggregate alert emails to be sent to alert recipients. Alert recipient email and available space threshold percentage is set through the action menu for individual aggregates under the IPAM Tab. For information on setting up an alert for an aggregate, see Working with IP Aggregates. This task is created/enabled by default.

## - Process Holding Tank:

Removes IP Blocks from the Holding Tank and returns them to the available pool. See Holding Tank Management.

## - IPAM - Rotate Dynamic IPs:

The Scheduler task "Rotate Dynamic IPs" reassigns single IPv4 NAT addresses (/32s) after 'x' days post-config to an available address denoted by the Dynamic_Available tags.

Prior to using this task, two blocks (one public, one private) must be NAT'ed in IPAM, the NAT Config pushed to a router, and appropriate blocks tagged with "Dynamic_Base" and "Dynamic_Available". For information on working with NAT'ed Blocks, see Working with IP Blocks

## - Rotate Logs:

Removed Log items older than the "Delete Logs older than $X$ days" setting in Admin Preferences.

- Test Task:

Tests the scheduler and notification system - it simply sends a notification email to the provided address at the specified run time.

## Add Task

To add a new scheduled task, hit the "Add Task" button below the Scheduler task list. You will then see the Task Detail Settings area.


## Enter Task Details

Under "Task Detail", fill in the following fields:
Name: Create a name for your task
Task: Select a pre-created task from the dropdown menu.
Process Holding Tank Settings: When selecting the Process Holding Tank task, you will have the following setting options:
Email From / Email To: Enter an email address to send task notifications from, and the desired recipient. This is an optional setting.
DNS Zone Transfer Settings: When selecting the DNS Zone Transfer task, you will have the following setting options:
Select Action Type / Select Server: When selecting the DNS zone transfer task, you can choose the action type to a) push all zones to all servers b) push all zones on a single server (then select server) or c) push one zone (then select zone).

Backup the Database Settings: When selecting the Backup task, you will have the following setting options:
Email From / Email To: Enter an email address to send task notifications from, and the desired recipient. This is an optional setting.
Location: Choose "Cloud" to save the backup to the 6connect cloud, or "Server" to save to a specified server resource already defined in ProVision. If "Server" is selected, choose the server resource from the dropdown list.

Start: The start date you wish the task to begin repeatedly occurring. By default, the current day is entered.
End: The date you wish repeat settings to end. For one-time tasks, enter the next calendar day after the start (run) date. To have a task run indefinitely, leave the end date blank


## Add Repeat Settings

Add repeat settings for your tasks. First, select your repeat type - hourly, daily, weekly, monthly, or none (one time). The type that you select will prompt different additional setting options.


Repeat Type options and details:
Hourly: Selecting the hourly repeat type will then prompt for the number of repeat times per hour - every $5,10,15,20,30$, or 60 minutes. All minute selections start from the top of the hour. For example, if every 20 minutes is selected, the task will run at $: 00,: 20,: 40$ during each hour.

Daily: Selecting the daily repeat type will prompt for the specific time to repeat the task, and which days you wish the task to occur. The Repeat Time is based on a 24 hour clock set at UTC time. To assist in any time zone conversions, the current UTC time is shown at the top of the scheduler page.

Weekly: Selecting the weekly repeat type prompts for the specific time to repeat the task as well as frequency by week. Weekly tasks occur on the day selected as the start date. Using the weekly option, you may choose from a range of weekly (every 1 week) to once every two months (every 8 weeks).

Monthly: Selecting the monthly repeat type prompts for a repeat time and a day. For the day option, you can either choose a specific day (ie, the 15th of each month) or a relative day (the 1st Friday of each month).

For Monthly repeat settings, verify that the calendar day you select the task to occur exists! For example, if you select the 5th Saturday of each month, the task will repeat only in months which have 5 Saturdays and skip all other months.

None (one-time): Select the time and day that you wish the single occurrence task to run. (Ensure that "End Date" in task details is set to the day after the desired run date).

After you have selected your Repeat Setting options, click the "Add Repeat Setting" button.

## Verify Repeat Settings and Save

When you add repeat settings, they will appear under the "Repeat Settings For This Task" area. Verify your settings, and if desired, you may delete individual repeat settings by hitting the "Delete" button.

When complete, hit the "Save Task" button to finalize your changes and add your new task to the task list.


## Managing Tasks

After tasks have been added, they will show in the task list along with their basic settings. The list may be filtered to show all tasks or active tasks only by selecting the radio buttons next to "Show:". Further filtering may be done by typing a Name or Repeat Info keyword into the "Filter Tasks" input box above the task list.

From the task list itself, you can enable/disable tasks, view details, view history, run tasks, and delete tasks.

| Scheduler |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Server Time: Server Timezone: | 2015-11-17 12:29:24 PST <br> America/Los_Angeles -08:00 |  |  |  |  |  |  |  |
| Show: Active $\bigcirc$ All |  |  |  |  |  | Every dayl |  |  |
| Name | Repeat Start | Repeat Info | Last Run | Active |  |  |  |  |
| IPAM Utilization Alerts | 2015-Jun-26 | Every day at 08:00 PST | 2015-11-09 06:00:02 PST | $\square$ | Details | View History | Run Now | Delete |
| Backup Daily | 2015-Nov-03 | Every day at 20:00 PST | 2015-11-14 18:00:02 PST | $\nabla$ | Details | View History | Run Now | Delete |
| QA 5.1.3 Holding - Daily | 2015-Nov-03 | Every day at 18:00 PST | 2015-11-16 16:00:01 PST | $\otimes$ | Details | View History | Run Now | Delete |
| QA Test Daily | 2015-Nov-16 | Every day at 11:15 PST | 2015-11-17 09:15:01 PST | $\otimes$ | Details | View History | Run Now | Delete |
| Add Task |  |  |  |  |  |  |  |  |

## Filters:

Show: Select "Active" to show only active tasks (checkbox enabled under "Active" for the task), or "All" to show all tasks
Filter Tasks (Text box): To further filter the task list, type a Name or Repeat Info keyword (ie, "Backup" or "Every day") into the Filter Tasks text box.

## Task List:

Name: The task name assigned during the "Add Task" creation process.
Repeat Start: The date selected for the repeat settings to start
Repeat Info: The repeat settings chosen for the task.
Last Run: The date and time the task was last run, if applicable.
Active: To activate tasks, simply click the check box under "Active" in the task list. To deactivate a task, uncheck it. By default, tasks are checked as active once created.

Details: This link will bring up the task details and repeat settings, which then may be edited and re-saved if needed.
View History: This link will show the log for task actions.
Run Now: The "Run Now" button will run the scheduled task when pressed, regardless of the scheduled repeat settings.
Delete: Deletes the task.

## Activate / Deactivate Tasks

Click on the check box under "Active" for the task

| Scheduler |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Server Time: 2015-11-17 12:29:24 PST <br> Server Timezone: America/Los_Angeles -08:00 |  |  |  |  |  |  |  |  |
| Show: Active $\bigcirc$ All |  |  |  |  |  | Every dayl |  |  |
| Name | Repeat Start | Repeat Info | Last Run | Active |  |  |  |  |
| IPAM Utilization Alerts | 2015-Jun-26 | Every day at 08:00 PST | 2015-11-09 06:00:02 PST | $\square$ | Details | View History | Run Now | Delete |
| Backup Daily | 2015-Nov-03 | Every day at 20:00 PST | 2015-11-14 18:00:02 PST | $\bullet$ | Details | View History | Run Now | Delete |
| QA 5.1.3 Holding - Daily | 2015-Nov-03 | Every day at 18:00 PST | 2015-11-16 16:00:01 PST | * | Details | View History | Run Now | Delete |
| QA Test Daily | 2015-Nov-16 | Every day at 11:15 PST | 2015-11-17 09:15:01 PST |  | Details | View History | Run Now | Delete |
| Add Task |  |  |  |  |  |  |  |  |

## Edit a Task

Click on the "Details" link for the task, then edit the Task Detail and Repeat Settings that appear below as needed.

| Scheduler |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Server Time: <br> Server Timezone: | 2015-11-17 12:29:24 PST |  |  |  |  |  |  |  |
| Show: Active ○ All |  |  |  |  |  | Every day |  |  |
| Name | Repeat Start | Repeat Info | Last Run | Active |  |  |  |  |
| IPAM Utilization Alerts | 2015-Jun-26 | Every day at 08:00 PST | 2015-11-09 06:00:02 PST | $\square$ | Details | View History | Run Now | Delete |
| Backup Daily | 2015-Nov-03 | Every day at 20:00 PST | 2015-11-14 18:00:02 PST | $\bullet$ | Details | View History | Run Now | Delete |
| QA 5.1.3 Holding - Daily | 2015-Nov-03 | Every day at 18:00 PST | 2015-11-16 16:00:01 PST | $\bullet$ | Details | View History | Run Now | Delete |
| QA Test Daily | 2015-Nov-16 | Every day at 11:15 PST | 2015-11-17 09:15:01 PST |  |  | View History | Run Now | Delete |

Add Task

Hit "Save Task" when finished to save your changes, or select "Cancel" to close the view without saving.

## Schedule/Repeat Settings

Repeat Settings For This Task:

- Every day at 11:15 PS

Delete

Add Repeat Setting
Repeat Type Hourly Daily Weekly Monthly None (one-time)
Every $\bigcirc 5 \mathrm{~min} 10 \mathrm{~min} 15 \mathrm{~min} 20 \mathrm{~min} 30 \mathrm{~min} 60 \mathrm{~min}$
Add Repeat Setting
Cance

## View Task Log

Click on the "History" link for the task.

| Scheduler |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Server Time: <br> Server Timezone: | 2015-11-17 12:29:24 PST |  |  |  |  |  |  |  |
| Show: Active All |  |  |  |  |  | Every dayl |  |  |
| Name | Repeat Start | Repeat Info | Last Run | Active |  |  |  |  |
| IPAM Utilization Alerts | 2015-Jun-26 | Every day at 08:00 PST | 2015-11-09 06:00:02 PST | $\square$ | Details | View History | Run Now | Delete |
| Backup Daily | 2015-Nov-03 | Every day at 20:00 PST | 2015-11-14 18:00:02 PST | 0 | Details | View History | Run Now | Delete |
| QA 5.1.3 Holding - Daily | 2015-Nov-03 | Every day at 18:00 PST | 2015-11-16 16:00:01 PST | $\bullet$ | Details | View History | Run Now | Delete |
| QA Test Daily | 2015-Nov-16 | Every day at 11:15 PST | 2015-11-17 09:15:01 PST | 0 | Details | liew Histor | Run Now | Delete |

## Add Task

The log details for the task will be shown below. When done, click on the "Close" button to exit the view.

## Run history for QA Test Daily

| Timestamp | Level | Message |
| :--- | :--- | :--- |
| 2015-11-17 11:15:01 PST | INFO | task_id=98 task=QA Test Daily action=finished message=TestTask::execute0 |
| 2015-11-16 11:15:01 PST | INFO | task_id=98 task=QA Test Daily action=finished message=TestTask::execute0 |
| 2015-11-16 11:05:08 PST | INFO | Task "QA Test Daily" (98) added |
| Close |  |  |

## Delete a Task

To delete a task, hit the "Delete" button at the end of the row in the Task List. You will be presented with message asking if you are sure you wish to delete the task. Click on the "Delete" button next to the message to verify the deletion, or hit "Cancel" to exit without deleting.


## (i) Enabling the Scheduler

To enable the scheduler in a local instance, add the following to cron:

*     *         *             * */path/to/php/path/to/ProVision/scheduler/task-runner.php

