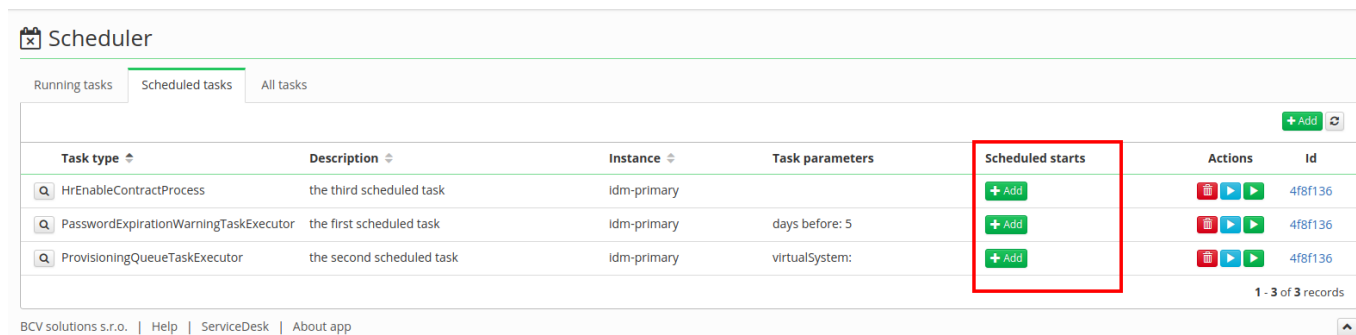


# Task Scheduler - create and configure a trigger

A trigger is a tool in CzechIdM that initiates scheduled tasks. At the moment, there are three types of triggers. We can schedule a task to commence just once, periodically or after another scheduled task has successfully finished. Let's start with newly created scheduled tasks. (Tutorial for [scheduled tasks](#))



Scheduler						
Running tasks		Scheduled tasks	All tasks			
Task type	Description	Instance	Task parameters	Scheduled starts	Actions	Id
HrEnableContractProcess	the third scheduled task	idm-primary		+ Add		4f8f136
PasswordExpirationWarningTaskExecutor	the first scheduled task	idm-primary	days before: 5	+ Add		4f8f136
ProvisioningQueueTaskExecutor	the second scheduled task	idm-primary	virtualSystem:	+ Add		4f8f136

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So we have three scheduled tasks, none of them has any trigger. Let's start with the first scheduled task (by description). Click on the **Add** button in **Scheduled starts** and a pop-up window will show up.

We have four types of triggers:

- Once time start trigger - task starts once in configured date and time.
- Repeated start trigger - configure period to repeated task start. Configured period is converted to cron expression on the background.
- Cron trigger - cron expression can be configured directly.
- Other task trigger - task is started after other (dependent) task ends.

## Once time start trigger

New scheduled run

Type

One-time start

Fire time

Calendar icon highlighted

January 2018

00:00 highlighted

Close Save

On **the first scheduled task** we will configure a trigger which will start the scheduled task just once. For type, choose **One-time start** and in **Fire time** by clicking on "calendar" select the date and at the bottom of the calendar menu click on "hours" and select the time.

Scheduler

Running tasks Scheduled tasks All tasks

Task type	Description	Instance	Task parameters	Scheduled starts	Actions	Id
HrEnableContractProcess	the third scheduled task	Idm-primary		<a href="#">+ Add</a>	<a href="#">Stop</a> <a href="#">Play</a> <a href="#">Refresh</a>	4f8f136
PasswordExpirationWarningTaskExecutor	the first scheduled task	Idm-primary	days before: 5	31.01.2018 08:00:00 <a href="#">+ Add</a> <a href="#">X</a>	<a href="#">Stop</a> <a href="#">Play</a> <a href="#">Refresh</a>	4f8f136
ProvisioningQueueTaskExecutor	the second scheduled task	Idm-primary	virtualSystem:	<a href="#">+ Add</a>	<a href="#">Stop</a> <a href="#">Play</a> <a href="#">Refresh</a>	4f8f136

1 - 3 of 3 records

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We have now configured a scheduled task and a date is set when it will be initiated. After that start, the trigger will disappear and we can select a new trigger. Now click the **Add** trigger button next to **the second scheduled task**.

## Repeated start trigger

## New scheduled run ✕

**Type**

Repeated start ▼

**Valid from**

04.03.2020 15:13 📅 ✕

First fire time will be related to given date.

**Repeat every**

5 ▼ minutes ▼

Result cron expression: 0 3/5 \* \* \* ?

Close Save

Now select the trigger type **Repeated start**. We can choose interval from prepared options which could start the scheduled task periodically from given valid date. Configured period is converted to cron expression on the background. Behavior is the same as cron trigger, which is described below.

## Cron trigger

## New scheduled run

**Type**

Cron


**Valid from**

01.03.2020 00:00

First fire time will be related to given date.

**Cron expression**

0 0 7 \* \* ?

Quartz cron  expression

Close

Save


Now select the trigger type **Cron**. In **Cron expression** field you can add an expression which could start the scheduled task periodically. We set **0 0 7 \* \* ?**, meaning the scheduled task will be started every day at 7 AM. When valid date is configured, then first start of the task will be postponed to given date.

Cron expression tutorial:

<http://www.quartz-scheduler.org/documentation/quartz-2.3.0/tutorials/crontrigger.html>

Other common combinations:













- **0 0 \* \* \* ?** - start the task every hour
- **0 0 7 \* \* ?** - start the task every day at 7 AM
- **0 0 5 ? \* MON** - start the task every monday at 5 AM
- **0 0 11/12 \* \* ?** - start the task twice every day - at 11 AM and at 11 PM

 Scheduler

Running tasks

Scheduled tasks

All tasks

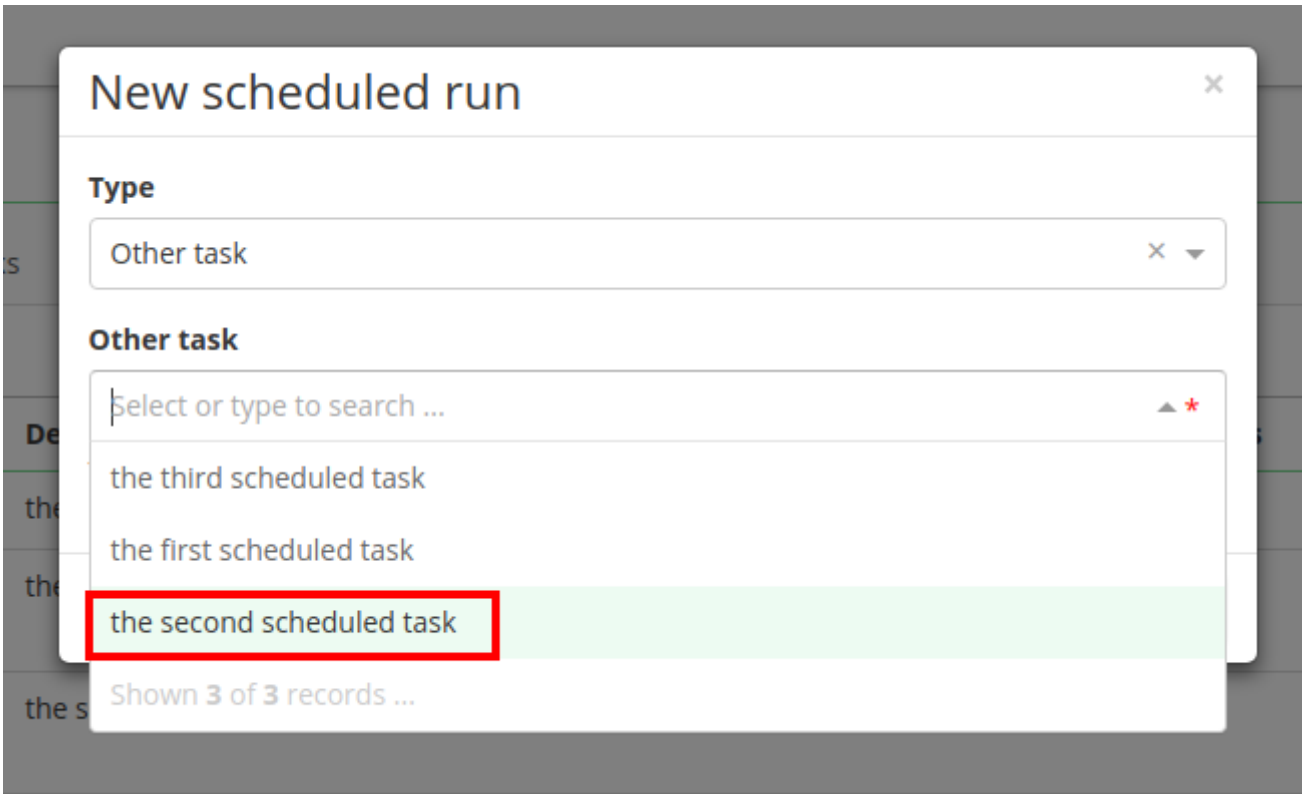
Task type	Description	Instance	Task parameters	Scheduled starts	Actions	Id
 HrEnableContractProcess	the third scheduled task	idm-primary		<div><div>+ Add</div></div>	<div>  </div>	4f8f136
 PasswordExpirationWarningTaskExecutor	the first scheduled task	idm-primary	days before: 5	<div><div>31.01.2018 08:00:00</div><div><div>+ Add</div></div></div>	<div>  </div>	4f8f136
 ProvisioningQueueTaskExecutor	the second scheduled task	idm-primary	virtualSystem:	<div><div>31.01.2018 07:00:00</div><div><div>+ Add</div></div></div>	<div>  </div>	4f8f136

1 - 3 of 3 records

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In the picture above, we can see another trigger and the next scheduled start is tomorrow on 31st January at 7 AM. This trigger will not disappear after that date, but will be updated to another start.

Other task trigger



Now we add the trigger to the last scheduled task and in **Type** select **Other task**. In **Other task** field select another scheduled task, but as you can see on the picture above, scheduled tasks are represented by their description, because there can be more scheduled tasks with same task type. In this tutorial we selected **the second scheduled task**.

Scheduler

Running tasksSchedul**ed tasks**All tasks


Task type	Description	Instance	Task parameters	Scheduled starts	Actions	Id
HrEnableContractProcess	the third scheduled task	idm-primary		<div>ProvisioningQueueTaskExecutor</div> <div>+ Add</div>		4f8f136
PasswordExpirationWarningTaskExecutor	the first scheduled task	idm-primary	days before: 5	31.01.2018 08:00:00		4f8f136
ProvisioningQueueTaskExecutor	the second scheduled task	idm-primary	virtualSystem:	31.01.2018 07:00:00		4f8f136

1 - 3 of 3 records

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In the picture above, you can see **the third scheduled task** has a trigger with another task. After this task (in our case **the second task**) has successfully finished, **the third scheduled task** will start.

Task parameters	Scheduled starts
	<div>ProvisioningQueueTaskExecutor <span>Show info card</span></div>
days before: 5	
virtualSystem:	

 Scheduled task

Task type	ProvisioningQueueTaskExecutor
Description	the second scheduled task
Parameters	virtualSystem:

If we click on the scheduled task in trigger, a pop-up will show the details of that scheduled task.

From:

<https://wiki.czechidm.com/> - **CzechIdM Identity Manager**

Permanent link:

[https://wiki.czechidm.com/tutorial/adm/create\\_and\\_configure\\_trigger](https://wiki.czechidm.com/tutorial/adm/create_and_configure_trigger)

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