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**Warning:** This documentation is for a pre-release version of pgAdmin 4

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## Creating a pgAgent Job

pgAgent is a scheduling agent that runs and manages jobs; each job consists of steps and schedules.

To create or manage a job, use the pgAdmin tree control to browse to the server on which the pgAgent database objects were created. The tree control will display a *pgAgent Jobs* node, under which currently defined jobs are displayed. To add a new job, right click on the *pgAgent Jobs* node, and select *Create pgAgent Job...* from the context menu.

When the pgAgent dialog opens, use the tabs on the *pgAgent Job* dialog to define the steps and schedule that make up a pgAgent job.

The screenshot shows a 'Create - pgAgent Job' window with the following fields and values:

- Name:** pgAgent\_job1
- Enabled?:** Yes (switched to the right)
- Job class:** Routine Maintenance (selected from a dropdown)
- Host agent:** (empty text box)
- Comment:** (empty text box)

At the bottom of the window are buttons for 'Cancel', 'Reset', and 'Save'.

Use the fields on the *General* tab to provide general information about a job:

- Provide a name for the job in the *Name* field.
- Move the *Enabled* switch to the *Yes* position to enable a job, or *No* to disable a job.
- Use the *Job Class* drop-down to select a class (for job categorization).
- Use the *Host Agent* field to specify the name of a machine that is running pgAgent to indicate that only that machine may execute the job. Leave the field blank to specify that any machine may perform the job.

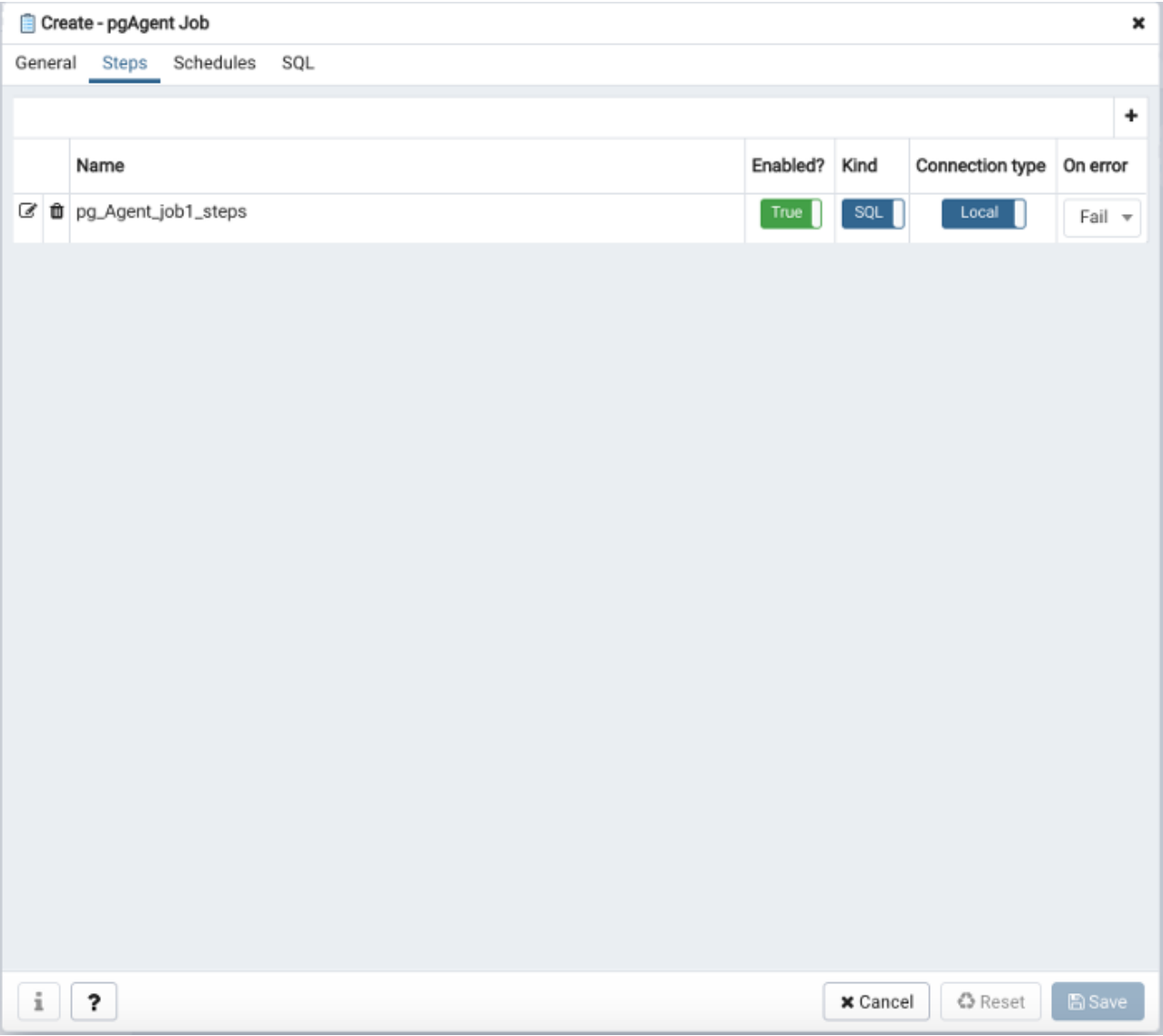
#### Note

It is not always obvious what value to specify for the Host Agent in order to target a job step to a specific machine. With pgAgent running on the required machines and connected to the scheduler database, you can use the following query to view the hostnames as reported by each agent:

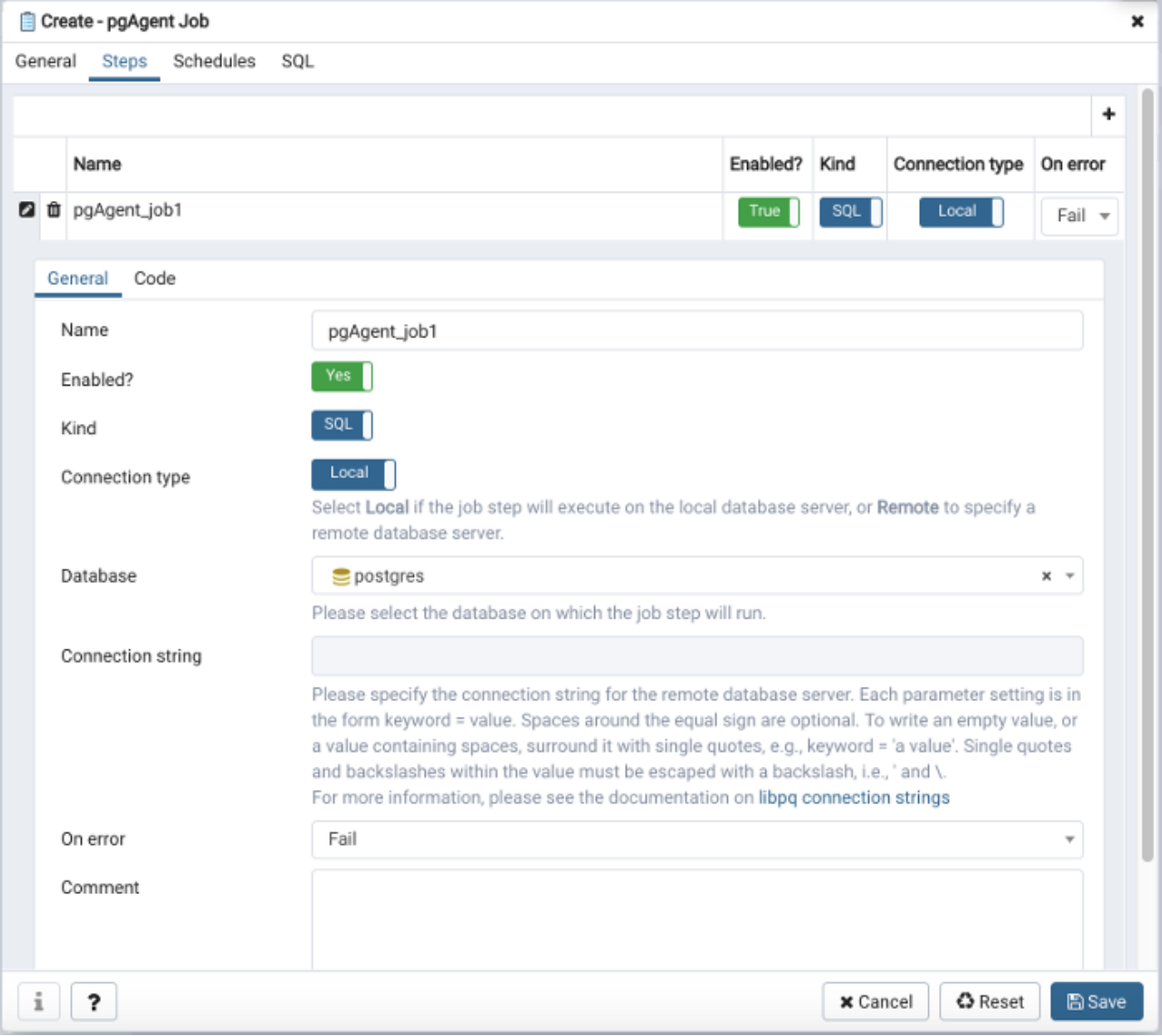
```
SELECT jagstation FROM pgagent.pga_jobagent
```

Use the hostname exactly as reported by the query in the Host Agent field.

- Use the *Comment* field to store notes about the job.



Use the *Steps* tab to define and manage the steps that the job will perform. Click the Add icon (+) to add a new step; then click the compose icon (located at the left side of the header) to open the step definition dialog:



Use fields on the step definition dialog to define the step:

- Provide a name for the step in the *Name* field; please note that steps will be performed in alphanumeric order by name.
- Use the *Enabled* switch to include the step when executing the job (*True*) or to disable the step (*False*).

- Use the *Kind* switch to indicate if the job step invokes SQL code (*SQL*) or a batch script (*Batch*).
  - If you select *SQL*, use the *Code* tab to provide SQL code for the step.
  - If you select *Batch*, use the *Code* tab to provide the batch script that will be executed during the step.

#### Note

The fields *Connection type*, *Database* and *Connection string* are only applicable when *SQL* is selected because *Batch* cannot be run on remote servers.

- Use the *Connection type* switch to indicate if the step is performed on a local server (*Local*) or on a remote host (*Remote*). If you specify a remote connection should be used for the step, the *Connection string* field will be enabled, and you must provide a libpq-style connection string.
- Use the *Database* drop-down to select the database on which the job step will be performed.
- Use the *Connection string* field to specify a libpq-style connection string to the remote server on which the step will be performed. For more information about writing a connection string, please see the [PostgreSQL documentation](#).
- Use the *On error* drop-down to specify the behavior of pgAgent if it encounters an error while executing the step. Select from:
  - *Fail* - Stop the job if you encounter an error while processing this step.
  - *Success* - Mark the step as completing successfully, and continue.
  - *Ignore* - Ignore the error, and continue.
- Use the *Comment* field to provide a comment about the step.

Create - pgAgent Job

General **Steps** Schedules SQL

Name	Enabled?	Kind	Connection type	On error
pg_Agent_job1_steps	True	SQL	Local	Fail

General **Code**

SQL query



```
1 begin
2 end;
```

Cancel Reset Save



Use the context-sensitive field on the step definition dialog's *Code* tab to provide the SQL code or batch script that will be executed during the step:

- If the step invokes SQL code, provide one or more SQL statements in the *SQL query* field.
- If the step performs a batch script, provide the script in the *Script* field. If you are running on a Windows server, standard batch file syntax must be used. When running on a Linux server, any shell script may be used, provided that a suitable interpreter is specified on the first line (e.g. `#!/bin/sh`).

When you've provided all of the information required by the step, click the compose icon to close the step definition dialog. Click the add icon (+) to add each additional step, or select the *Schedules* tab to define the job schedule.

	Name	Enabled?	Start	End
 	pgAgent_job1_schedule	<input checked="" type="checkbox"/>	2019-03-04 11:26:47 +05:30	2019-03-05 11:26:49 +05:30


Click the Add icon (+) to add a schedule for the job; then click the compose icon (located at the left side of the header) to open the schedule definition dialog:


	Name	Enabled?	Start	End
 	pgAgent_job1_schedule	<input checked="" type="checkbox"/>	2019-03-04 11:26:47 +05:30	2019-03-05 11:26:49 +05:30

**General** | Repeat | Exceptions

Name:

Enabled?: ☒

Start:  

End:  

Comment:

Use the fields on the schedule definition tab to specify the days and times at which the job will execute.

- Provide a name for the schedule in the *Name* field.
- Use the *Enabled* switch to indicate that pgAgent should use the schedule (Yes) or to disable the schedule (No).
- Use the calendar selector in the *Start* field to specify the starting date and time for the schedule.

- Use the calendar selector in the *End* field to specify the ending date and time for the schedule.
- Use the *Comment* field to provide a comment about the schedule.

Select the *Repeat* tab to define the days on which the schedule will execute.

Create - pgAgent Job

General Steps **Schedules** SQL

Name	Enabled?	Start	End
pgAgent_job1_schedule	True	2019-03-04 11:26:47 +05:30	2019-03-05 11:26:49 +05:30

General **Repeat** Exceptions

Schedules are specified using a **cron-style** format.  
 For each selected time or date element, the schedule will execute.  
 e.g. To execute at 5 minutes past every hour, simply select '05' in the Minutes list box.  
 Values from more than one field may be specified in order to further control the schedule.  
 e.g. To execute at 12:05 and 14:05 every Monday and Thursday, you would click minute 05, hours 12 and 14, and weekdays Monday ;  
 For additional flexibility, the Month Days check list includes an extra Last Day option. This matches the last day of the month, whethe

**Days**

Week Days: x Monday x

Month Days: x 2nd x 4th x

Months: x January x February x March x April x May x June x July x August x September x October x November x December

**Times**

Hours: x 01 x

Minutes: x 30 x

Cancel Reset Save

Use the fields on the *Repeat* tab to specify the details about the schedule in a cron-style format. The job will execute on each date or time element selected on the *Repeat* tab.

Click within a field to open a list of valid values for that field; click on a specific value to add that value to the list of selected values for the field. To clear the values from a field, click the X located at the right-side of the field.

Use the fields within the *Days* box to specify the days on which the job will execute:

- Use the *Week Days* field to select the days on which the job will execute.
- Use the *Month Days* field to select the numeric days on which the job will execute. Specify the *Last Day* to indicate that the job should be performed on the last day of the month, regardless of the date.
- Use the *Months* field to select the months in which the job will execute.

Use the fields within the *Times* box to specify the times at which the job will execute:

- Use the *Hours* field to select the hour at which the job will execute.
- Use the *Minutes* field to select the minute at which the job will execute.



Select the *Exceptions* tab to specify any days on which the schedule will *not* execute.

Create - pgAgent Job

General

Steps

Schedules

SQL

	Name	Enabled?	Start	End
<input checked="" type="checkbox"/> <input type="checkbox"/>	pgAgent_job1_schedule	True	2019-03-04 11:26:47 +05:30	2019-03-05 11:26:49 +05:30

General

Repeat

Exceptions

	Date	Time
<input type="checkbox"/>	2019-03-04	<any>

?

Cancel

Reset

Save

Use the fields on the *Exceptions* tab to specify days on which you wish the job to not execute; for example, you may wish for jobs to not execute on national holidays.

Click the Add icon (+) to add a row to the exception table, then:

- Click within the *Date* column to open a calendar selector, and select a date on which the job will not execute. Specify *<Any>* in the *Date* column to indicate that the job should not execute on any day at the time selected.
- Click within the *Time* column to open a time selector, and specify a time on which the job will not execute. Specify *<Any>* in the *Time* column to indicate that the job should not execute at any time on the day selected.

When you've finished defining the schedule, you can use the *SQL* tab to review the code that will create or modify your job.



```
Create - pgAgent Job
General Steps Schedules SQL
1 DO $$
2 DECLARE
3     jid integer;
4     scid integer;
5 BEGIN
6 -- Creating a new job
7 INSERT INTO pgagent.pga_job(
8     jobjclid, jobname, jobdesc, jobhostagent, jobenabled
9 ) VALUES (
10     1::integer, 'pgAgent_job1'::text, ''::text, ''::text, true
11 ) RETURNING jobid INTO jid;
12
13 -- Steps
14 -- Inserting a step (jobid: NULL)
15 INSERT INTO pgagent.pga_jobstep (
16     jstjobid, jstname, jstenabled, jstkind,
17     jstconnstr, jstdbname, jsterror,
18     jstcode, jstdesc
19 ) VALUES (
20     jid, 'pgAgent_job1_steps'::text, true, 's'::character(1),
21     ''::text, 'postgres'::name, 'f'::character(1),
22     'begin
23 end;'::text, ''::text
24 ) ;
25
26 -- Schedules
27 -- Inserting a schedule
28 INSERT INTO pgagent.pga_schedule(
29     jscjobid, jscname, jscdesc, jscenabled,
30     jscstart, jscend, jscminutes, jschours, jscweekdays, jscmonthdays, jscmonths
31 ) VALUES (
32     jid, 'pgAgent_job1_scedule'::text, ''::text, true,
33     '2019-03-04T11:26:47+05:30'::timestamp with time zone, '2019-03-05T11:26:49+05:30'::timestamp with time zone,
34     ''::text, ''::text, ''::text, ''::text, ''::text, ''::text
35 ) ;
36
```

Click the *Save* button to save the job definition, or *Cancel* to exit the job without saving. Use the *Reset* button to remove your unsaved entries from the dialog.

After saving a job, the job will be listed under the *pgAgent Jobs* node of the pgAdmin tree control of the server on which it was defined. The *Properties* tab in the main pgAdmin window will display a high-level overview of the selected job, and the *Statistics* tab will show the details of each run of the job.

Dashboard

Properties

SQL

Statistics

Dependencies

Dependents

▼ General

Name

pgAgent\_job1

ID

4

Enabled?

Yes

Job class

Routine Maintenance

Host agent

Created

2019-02-11 11:29:23.557053+05:30

Changed

2019-02-11 11:29:23.557053+05:30

Next run

Last run

Last result

Unknown

Running at

Not running currently.

Comment

To modify an existing job or to review detailed information about a job, right-click on a job name, and select *Properties* from the context menu.