

# Module:5 Instance Maintenance

## 5.1 Tracking logs issues

There can be multiple reasons for tracking logs not being forwarded. We recommend that you check the following information:

- Does the Tracking workflow have errors?

Refer to [Monitoring technical workflows](#).

The screenshot displays the Adobe Campaign interface. On the left is a navigation tree with categories like Administration, Campaign Management, Production, and Technical workflows. The main area shows a table of technical workflows. The 'Tracking' workflow is selected, and its journal messages are displayed below.

Label	Internal name	Status	Failed	Last processor
Tracking	tracking	Pause requested	No	02/08/2017 13:32:39
New workflow	WKF158	Being edited	No	
Database cleanup	cleanup	Started	No	02/08/2017 12:00:13
Database cleanup	WKF154	Being edited	No	
Database cleanup ...	WKF153	Being edited	No	

Date	Activity name	Message
02/08/2017 1:32:39 ...		Pausing workflow (operator 'Administrator (admin)')
02/08/2017 1:32:39 ...		Workflow 'tracking' is being run
02/08/2017 1:00:14 ...	nlmodule	Consolidating tracking logs for the period [02/08/2017 1:00:14 - 02/08/2017 1:00:13]
02/08/2017 1:00:13 ...	nlmodule	Application server for Adobe Campaign v7 (7.0 build 200 / ?)
02/08/2017 1:00:13 ...	nlmodule	Workflow 'tracking' is being run
02/08/2017 12:00:13 ...	nlmodule	Consolidating tracking logs for the period [02/08/2017 12:00:13 - 02/08/2017 12:00:13]
02/08/2017 12:00:13 ...	nlmodule	Application server for Adobe Campaign v7 (7.0 build 200 / ?)
02/08/2017 12:00:13 ...	nlmodule	Workflow 'tracking' is being run
02/08/2017 11:00:13 ...	nlmodule	Consolidating tracking logs for the period [02/08/2017 11:00:13 - 02/08/2017 11:00:13]
02/08/2017 11:00:13 ...	nlmodule	Application server for Adobe Campaign v7 (7.0 build 200 / ?)
02/08/2017 11:00:13 ...	nlmodule	Workflow 'tracking' is being run
02/08/2017 10:00:14 ...	nlmodule	Consolidating tracking logs for the period [02/08/2017 10:00:14 - 02/08/2017 10:00:14]
02/08/2017 10:00:14 ...	nlmodule	Application server for Adobe Campaign v7 (7.0 build 200 / ?)

- Is the module trackinglogd running on the server?

Refer to [Log files](#).

- Have changes been made?

They can trigger a loss of connection to the servers using the tracking alias.

## 5.2 Log precision

You can apply this process to all Adobe Campaign modules to increase log precision.

It involves relaunching the processes with a higher level of logs.

### IMPORTANT

This procedure cancels the services in progress on this module.

Adobe Campaign can operate with two levels of log:

1. The **Verbose** mode is the first level after the standard level. The following command activates it:

```
nlservice restart <MODULE_NAME> -verbose
```

Check that the error actually occurred, and then restart the process in the normal way:

```
nlservice restart <MODULE_NAME> -noconsole
```

🔗 🔗 The **TraceFilter** mode, which lets you save the greatest number of logs. It is activated by the following command:

```
nlservice stop <MODULE_NAME>; nlservice <MODULE_NAME> -verbose -tracefilter:*
```

### NOTE

If you use **tracefilter:\***, all log types are activated: **ncm**, **rdr**, **nms**, **jst**, **timing**, **wdbc**, **ldap**, **soap**, **xtk**, **xtkquery**, **session**, **xtkwriter**, **network**, **pop3**, **inmail**

The most useful log types are: **wdbc** (displays all SQL queries), **soap** (displays all SOAP calls), **ldap** (displays all LDAP queries after authentication), **xtkquery** (displays the list of all the querydef).

You can use them individually (**tracefilter:soap,wdbc** for example). You can also activate them all and choose to exclude certain others: **-tracefilter:\*,!soap**

Check that the error actually occurred, and then restart the process in the normal way:

```
nlservice restart <MODULE_NAME> -noconsole
```

## IMPORTANT

The logs of these commands are stored in the log file of the module.

Here is an example specific to the Web module. The other modules operate as indicated above.

Before sending this command, check that no job in progress will be affected:

```
nlservice pdump -who
```

Next, shut down and restart the module in **TraceFilter** mode:

```
nlservice stop web; LD_PRELOAD=libjsig.so nlservice web -tomcat -verbose  
-tracefilter:* -tracefile:web_debug@default
```

Another example:

```
nlservice stop mta@<INSTANCE_NAME>; nlservice mta -instance:<INSTANCE_NAME>  
-tracefilter:* -tracefile:mta_debug@<INSTANCE_NAME>
```

## NOTE

The **Tracefile** mode lets you save the logs. In the examples above, the logs are saved in the **var/<instance-name>/mta\_debug.log** and **var/default/web\_debug.log** files.

## IMPORTANT

In Windows, do not add the LD\_PRELOAD option. The following command suffices:  
nlservice web -tomcat -verbose -tracefilter:\*

Check that the problem occurs again, and then restart the module:

```
nlservice restart web -tomcat -noconsole
```

All information is available in the file **/usr/local/neolane/nl6/var/default/log/web.log**.

## 5.3 Workflow HeatMap

Campaign Workflow HeatMap consists in a color-coded graphical representation of all the workflows that are currently running. It is only available to **Campaign Administrators**.

Discover additional ways to monitor Campaign processes in [this page](#).

### Get started with the Workflow HeatMap

By providing a quick overview on the number of concurrent workflows, the Workflow HeatMap enables the Adobe Campaign platform administrators to monitor the load on the instance and plan workflows accordingly.

More precisely, it helps the platform administrators to:

- See and understand concurrent workflows
- Filter workflows by duration to see which workflows may encounter issues
- Filter activities by duration to see which activities may encounter issues
- Easily find individual workflows and all related activities (with their duration)
- Filter by workflow type: [technical workflows](#) or [campaign workflows](#)
- Look for a specific workflow to analyze

#### NOTE

In addition to the **Workflow Heatmap**, you can create a workflow that will let you monitor the status of a set of workflows and send recurring messages to supervisors. For more on this, refer to the [dedicated section](#).

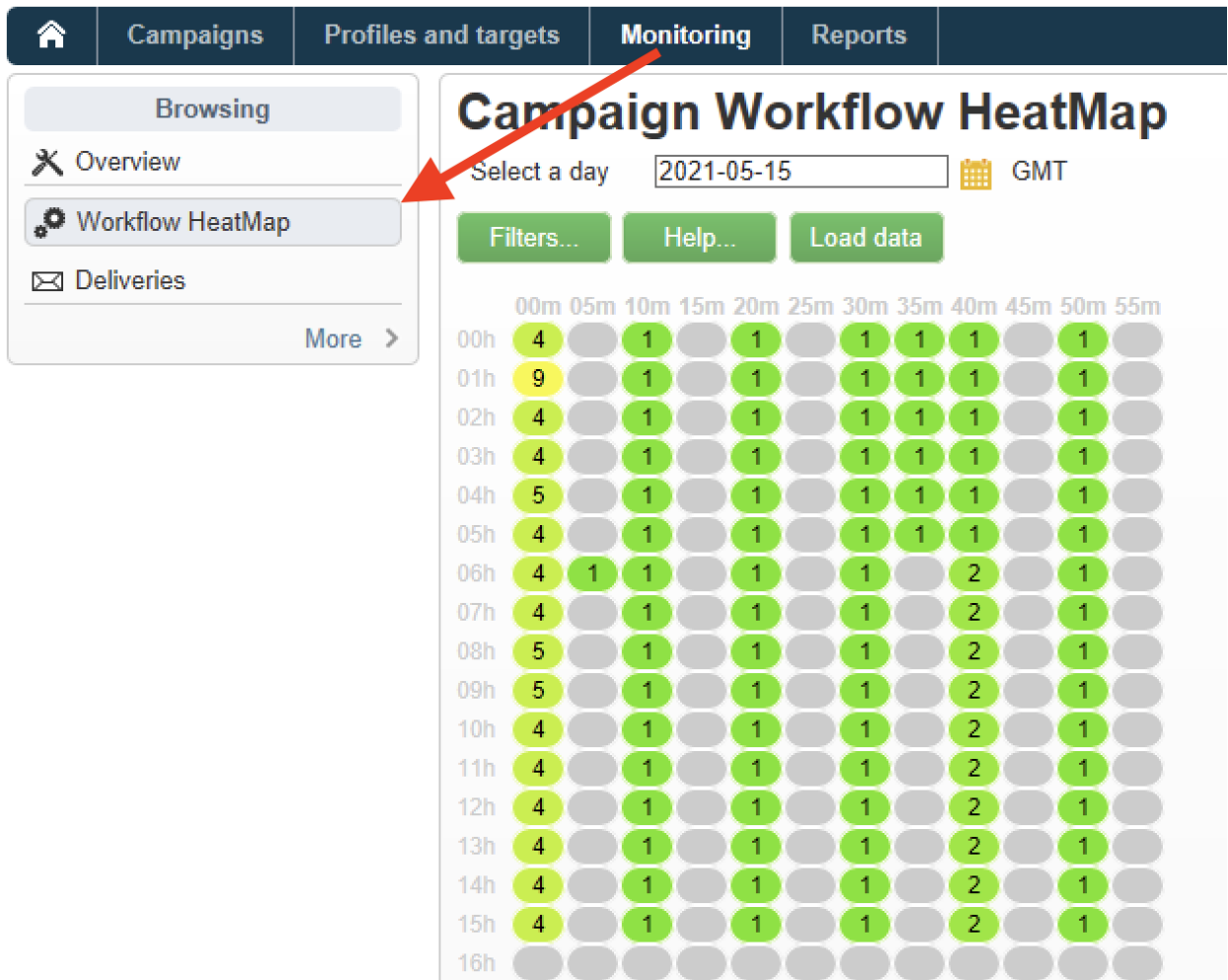
Using the Workflow HeatMap requires to have a good understanding of the following concepts: [Workflows](#), [Activities](#) and [Workflow Best Practices](#).

### Customize the Workflow HeatMap

#### NOTE

If no data is displayed in the Workflow HeatMap, click the **Load data** button.

1. Go to **Monitoring** and click the **Workflow HeatMap** link to display the **Campaign Workflow HeatMap** page.



2. Click the calendar to select a day.

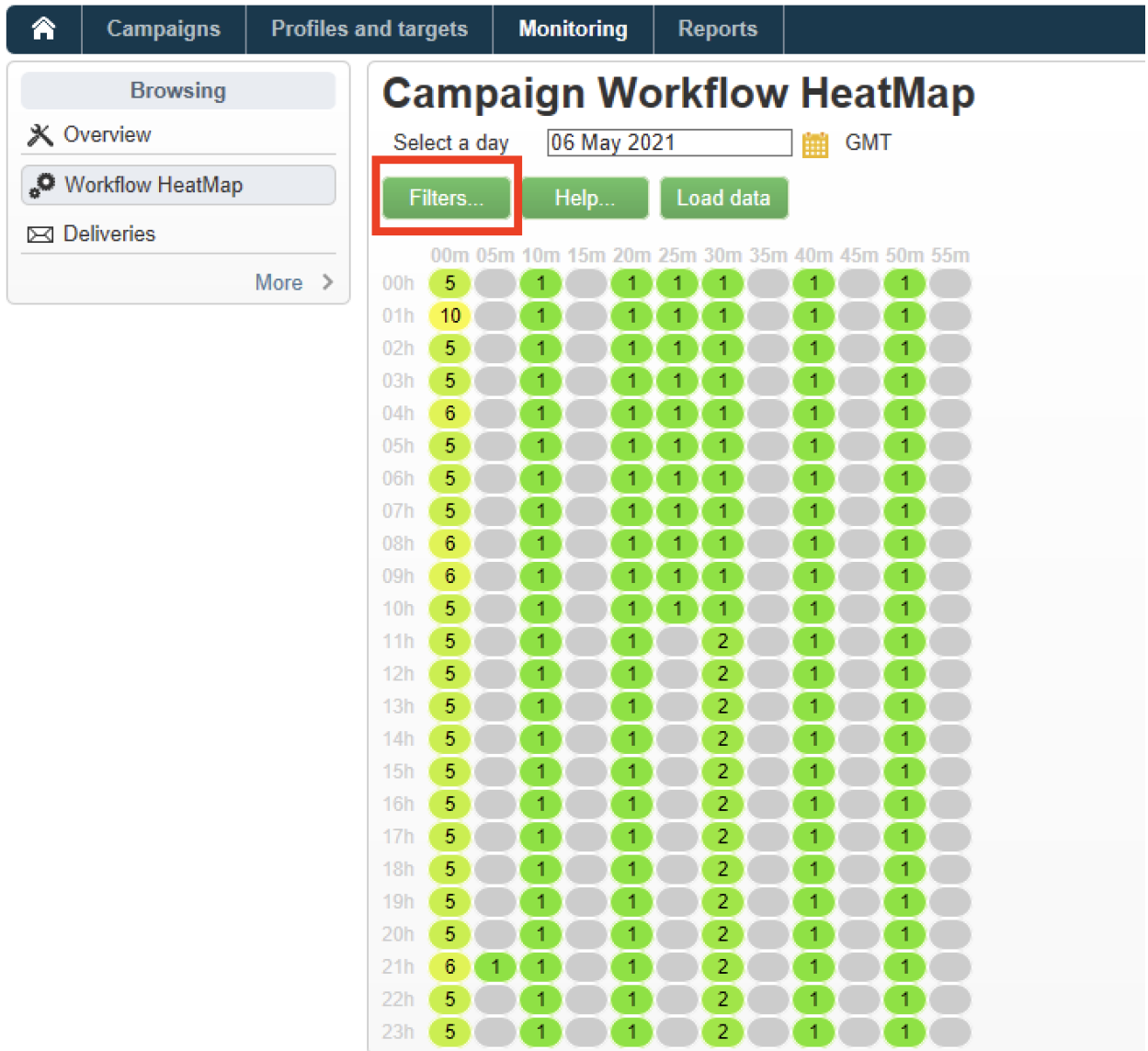
By default, the page shows the workflow activity for the current day. You can change it and select any day in the past.

NOTE

Only the workflows that have not been deleted by the **Database cleanup** workflow are visible. For more on the Database cleanup workflow, refer to [this section](#).


By default, the Workflow HeatMap time zone is the one defined for the current administrator user. For example, you may want to change it if you are not in the same area as the marketing users you are working with.

3. Click the **Filters** button.



4. Use the slider to set the minimum duration from 0 second to 1 hour. This enables you to search only workflows running for more than a certain number of seconds or minutes.

# Campaign Workflow HeatMap

Select a day   GMT

[Filters...](#)

[Help...](#)

[Load data](#)

Minimum activity duration  1830s 30 minutes

Minimum workflow duration  0s

Workflows  ▼

Workflow type  ▼

Workflow name filter

Colorblind mode

Start hour  ▼

Stop hour  ▼

5. You can also choose a specific workflow from the **Workflows** drop-down list.

[Filters...](#) [Help...](#) [Load data](#)

Minimum activity duration  0s

Minimum workflow duration  0s

Workflows  ▼

Workflow type

Workflow name filter

Colorblind mode

Start hour

Stop hour

all (all)

Database cleanup (cleanup)

Forecasting (forecasting)

Stock: Orders and alerts (stockMgt)

Cost calculation (budgetMgt)

Campaign jobs (operationMgt)

Mid-sourcing (delivery counters) (defaultMidSourcingDlv)

Mid-sourcing (delivery logs) (defaultMidSourcingLog)

Replicate Reference tables (ffdaReplicateReferenceTables)

Collect privacy requests (collectPrivacyRequests)

Delete privacy requests data (deletePrivacyRequestsData)

Privacy request cleanup (cleanupPrivacyRequests)

Replicate Staging data (ffdaReplicateStagingData)

00m 05m 10m 15m 20m

00h  4  1  1  1  1  1  1  1  1

01h  9  1  1  1  1  1  1  1  1

## NOTE

The **Min duration** filter is applied. If you cannot find a specific workflow, reset the minimum duration to 0 so that all workflows are displayed in the list.

6. You can also filter on the **Workflow type** :
  - **Technical** : Only [out-of-the box-technical workflows](#) and [data management workflows](#) are displayed.
  - **Marketing** : Only workflows linked to a marketing campaign, known as [campaign workflows](#), are displayed.
7. To search a specific workflow by name, you can also use the **Workflow name filter** field.
8. If you edited some workflows in the time between, click the **Reload data** button to refresh the data that are displayed in the grid.


## Interpret the Workflow HeatMap

The Campaign Workflow HeatMap is a grid naturally readable from upper left to bottom right, allowing to find the “hot zones” with a green to red color-coded range.

- The darker red cells correspond to periods when a high number of workflows are running at the same time.
- The grey cells correspond to periods when no workflow is running.

To learn how the color code is applied and how to navigate the HeatMap, click the **Help** button.

# Campaign Workflow HeatMap

Select a day   GMT

[Filters...](#) [Help...](#) [Load data](#)

**Controls**      Arrows: Navigate through the HeatMap  
Shift + arrows: Jump to next non-empty cell  
Ctrl + arrows: Go to next or previous day

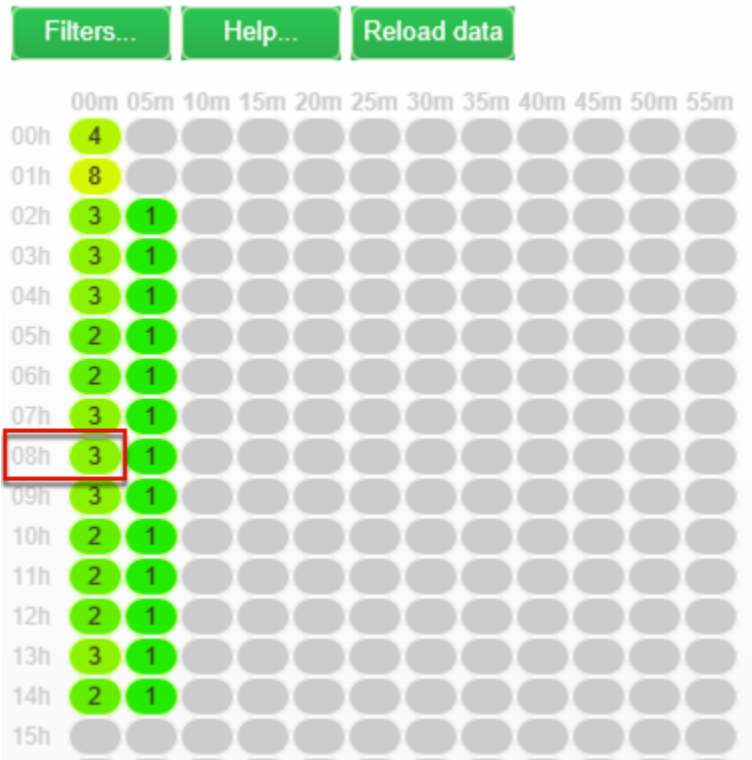
**Color legend**    1 2 3 5 8 12 18 24 30 38 50

Each row represents an hour of the day and each cell represents 5 minutes of that hour.

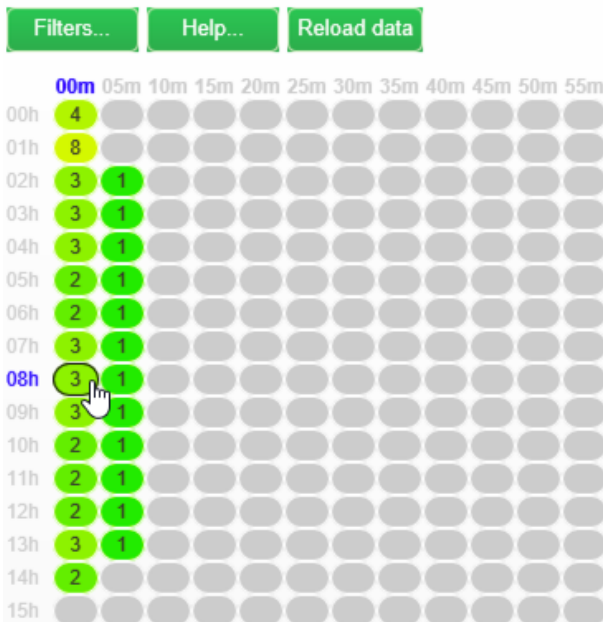
The grid shows all the workflows that are running at the same time for each of these 5-minute periods.



In the example below, between 8am and 8:05am, three workflows are running (no matter their individual duration):



1. Click a colored cell to display the details of all concurrent workflows running during this period.



#	Wkf id	Workflow Name	Activity	Duration(s)	Campaign
1	<a href="#">3685</a>	<a href="#">Tracking tracking</a>	nlmodule (130841)	<1s	
2	<a href="#">3756</a>	<a href="#">Offer notification offerMgt</a>	js (130871)	3 s.	
3	<a href="#">3803</a>	<a href="#">Campaign jobs operationMgt</a>	js3 (130901)	<1s	

For each workflow, all the activities that it contains are listed, with their duration.

2. Click the workflow ID or name to directly open a workflow.
3. To go back to the **Campaign Workflow HeatMap** view, click the **Home** button.

### Use cases: use the HeatMap to take actions

There are two main cases where the Campaign Workflow HeatMap can be useful.

#### Reduce the number of concurrent workflows

As a Campaign administrator, the Workflow HeatMap can help you to understand the load on the instance and plan existing or new workflows at appropriate times.

1. From the **Campaign Workflow HeatMap** view, click the **Filters** button.
2. Set duration to a few seconds or a few minutes.
3. Exclude the shortest workflows that are not significant by increasing the duration filter.



Min duration (seconds):  3 minutes (189)

Workflows:

Workflow type:

Workflow name filter (regex):

4. Explore the results to understand the load on the instance and take appropriate actions:
  - If you encounter performance issues and if one or more red cells are displayed in the grid, consider changing several workflows' starting times. Ask the marketing users to move manually workflows from busy ("hot") periods to more available time slots. This should maintain a stable level of activity along the day.
  - To avoid peaks and prevent the instance from overload, look at the HeatMap before planning new workflows and choose the best time. Consider time slots corresponding to grey or green cells in the grid to start new workflows.

#### Find long-running workflows that impact performances

As a Campaign administrator, the Workflow HeatMap helps you to find the longest workflows which can slow down the activity.

1. From the **Campaign Workflow HeatMap** view, click the **Filters** button.
2. Set duration to 1 hour.

Min duration (seconds):  1 hour (3600)

Workflows  ▾

Workflow type  ▾

Workflow name filter (regex):

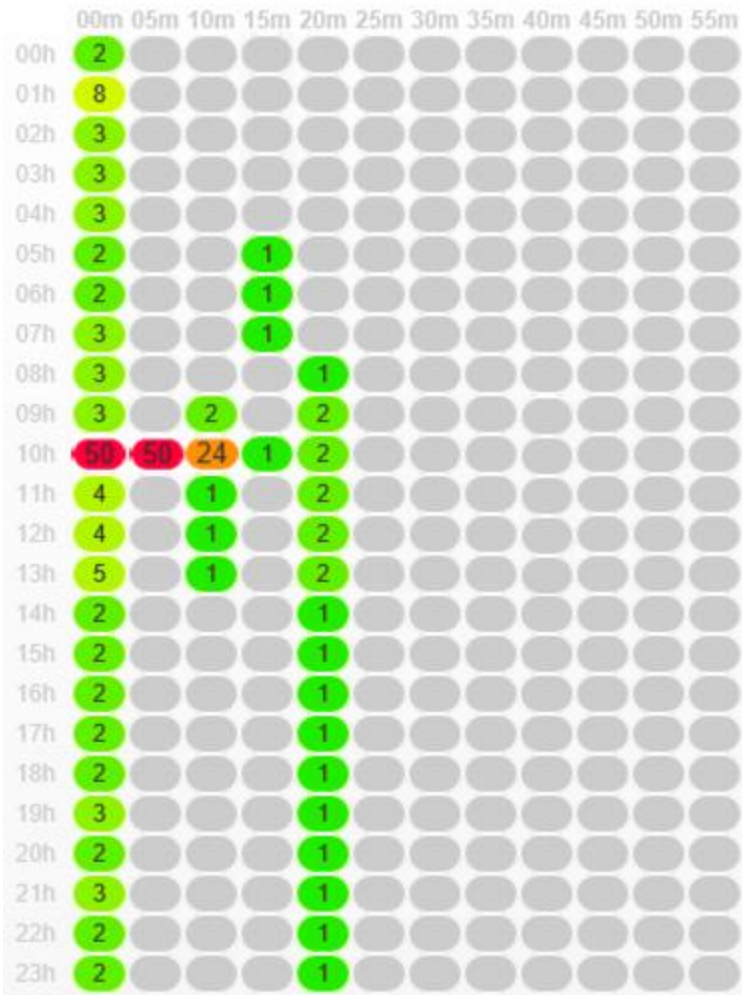
3. Include more results by decreasing the **Min duration** filter.
4. Explore the results to find the longest workflows, who can potentially have more impact on the server and database resources (CPU, RAM, network, IOPS, and so on).
5. Take appropriate actions:
  - Advise marketing users to split the longest workflows to reduce processing time.
  - Start a deeper analyze on specific workflows and specific activities (such as JavaScript, import, export, and so on) to isolate the issues and solve them more easily.

### Use the HeatMap to improve workflow planning

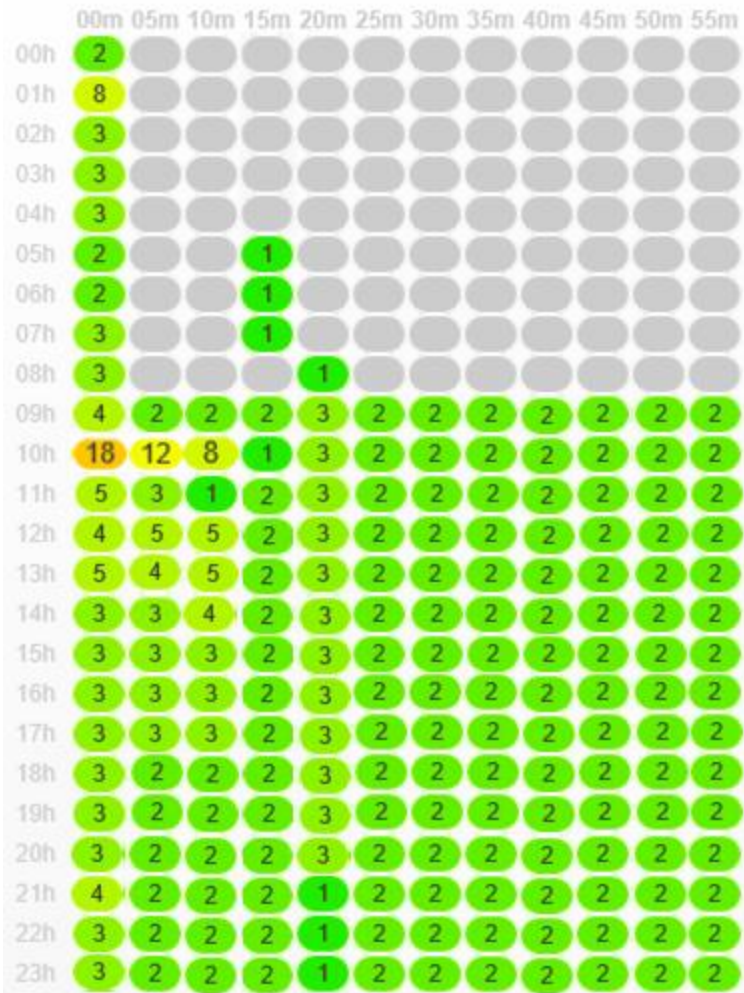
The example below shows how planning can be more efficient and how performance can be improved when using the Adobe Campaign Workflow HeatMap.

In this case, many users are complaining about workflow performance. You need to check what is slowing down the activity and how to solve the problem.

1. Go to **Monitoring** and click the **Workflows** link to display the **Campaign Workflow HeatMap** page.
2. Set the **Min duration** filter to 5 minutes.
3. Set the **Workflow type** filter to **Marketing**.
4. From the HeatMap grid, observe the following:



- Fifty long-lasting (more than 5 minutes) campaign workflows are running at 10am.
  - Most of them have a pending state (by default, the concurrency limit is set to 20).
  - The pending workflows need to be manually restarted every day.
  - Performance is low.
5. Instead of having fifty workflows starting at 10am, distribute the workflows' starting times evenly throughout the rest of the day.
  6. Go back to the **Campaign Workflow HeatMap** page and click the **Reload data** button.
  7. Now observe the following:



- Only eighteen long-lasting campaign workflows are still running at 10am.
- No more workflows are in pending state (the concurrency limit is still set to 20).
- Workflow starting times are evenly distributed throughout the day.
- No more users are complaining about performance issues.