



# Manual for modules “resource\_planning” and “resource\_planning\_report”

Extensions to the existing open source ERP-System  
odoo 13.0

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## Table of Contents

A	Introduction.....	3
B	Installation.....	4
C	Functionality.....	7
1.	Assigning Resources .....	7
2.	Editing assigned Resources .....	9
3.	Deleting Resources .....	10
4.	Overview.....	10
5.	Settings.....	12
6.	Reporting.....	15

## A Introduction

Odoo ([odoo.com](https://www.odoo.com)) is an open source enterprise resource planning software salutation. This is the manual for the modules “resource\_planning” and “resource\_planning\_report” for Odoo.

With the module “resource\_planning” you can assign employees to projects and display the assignments grouped as pivot table and graphics. With the module “resource\_planning\_report” you can export the tables as PDF files. In the following we will refer to "the module" for both modules for simplicity.

This manual advises system administrators how to install the module and advises the regular Odoo user how to use its functionalities. It is assumed that the user has at least basic knowledge of Odoo.

The module builds on the existing modules “Project” and “Employees”. In order to be able to use the module, the projects and the employees must be registered in the corresponding modules.

The module was developed on behalf of Abilium Gmbh ([abilium.com](https://www.abilium.com)) as part of the “Software Engineering Internship” at the University of Berne during spring semester 2020. The module is released under the LGPL license.

## B Installation

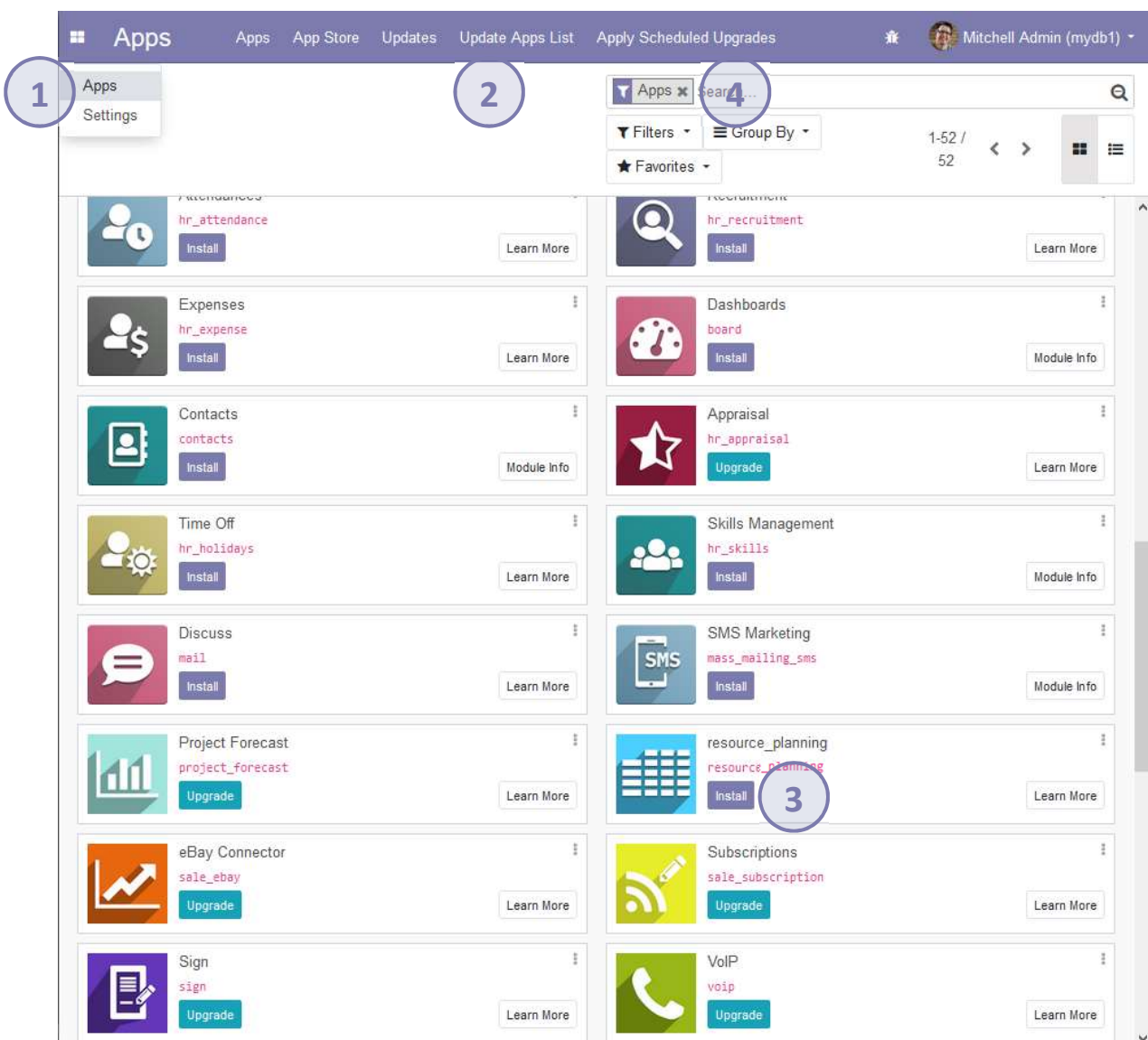
To install the module, Odoo must already be installed. The installation instructions for the current version of Odoo can be found here: <https://www.odoo.com/documentation/13.0/setup/install.html>.

The module comes in the form of two folders "resource\_planning" and "resource\_planning\_report", which must be copied into the "addons" folder of Odoo.

Start your Odoo application.

- (1) Browse to the "Apps" module.
- (2) Click on "Update Apps List". Click on "Update" in the window that opens.
- (3) Search for "resource\_planning" and click on "Install".

Search for "resource\_planning\_report" and click on "Install". **Note:** You will probably have to remove the "Apps" (4) filter in the search window first before you find the module.

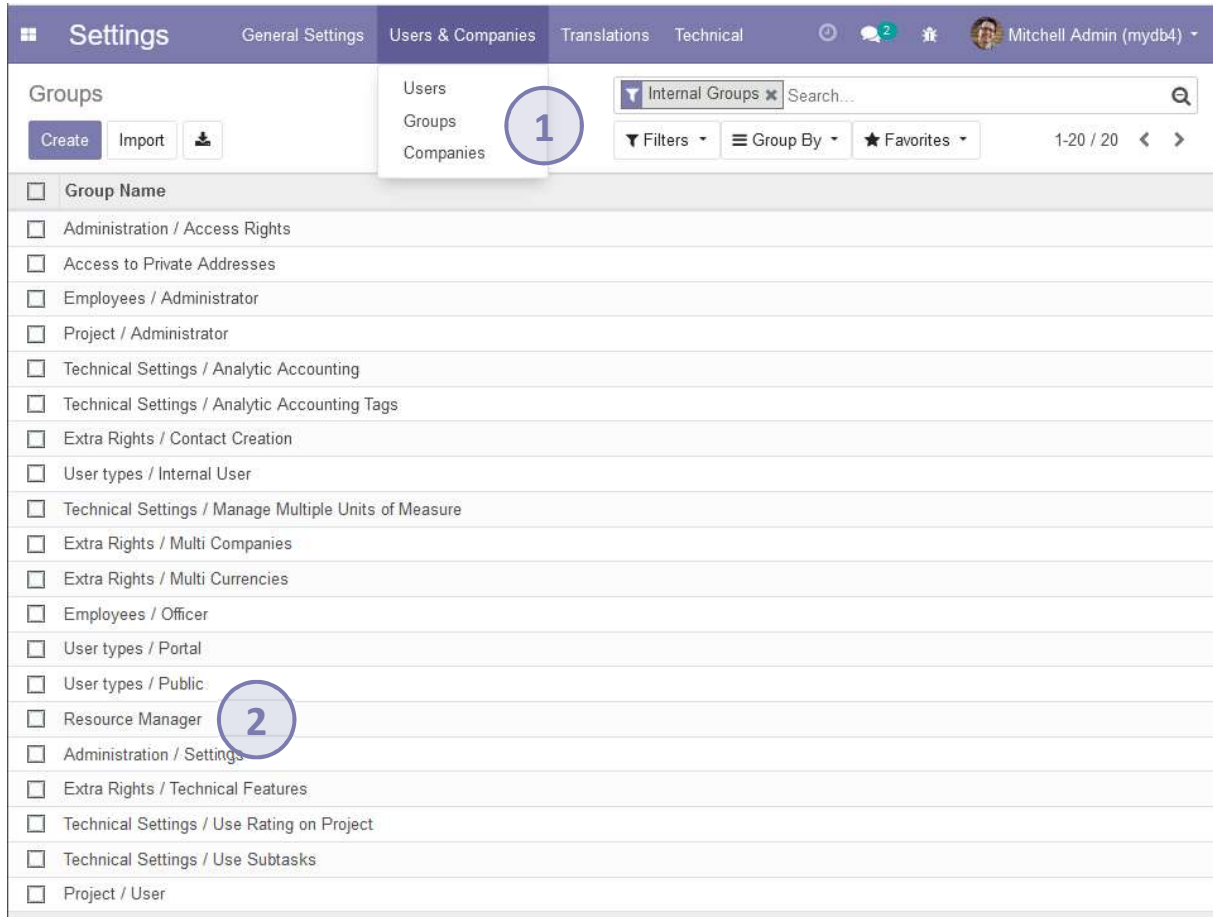


Now the module is installed.

Only users of the group “Resource Manager” can access the module. To add a user to the group “Resource Manager”, browse to the “Settings” module.

(1) In the tab “Users & Companies”, click on “Group”.

(2) Click on “Resource Manger”.



(1) In the following window, you have to click on "Edit".

Then you can click on “Add a line” (appears near (2)). In the opening window, you can search and select all your users that you want to add to the group. Click on “Select” to confirm.

The screenshot shows the Odoo Settings interface. At the top, there's a navigation bar with 'Settings' and several sub-menus: 'General Settings', 'Users & Companies', 'Translations', and 'Technical'. The user 'Mitchell Admin (mydb4)' is logged in. Below the navigation bar, the page title is 'Groups / Resource Manager'. There are two buttons: 'Edit' (circled with a blue '1') and 'Create'. To the right of these buttons is an 'Action' dropdown menu and a pagination indicator '15 / 20' with left and right arrows. Below the buttons, there's a section for 'Application' and 'Share Group'. The 'Name' field is set to 'Resource Manager'. Below this, there are tabs: 'Users', 'Inherited', 'Menus', 'Views', 'Access Rights', 'Record Rules', and 'Notes'. The 'Users' tab is selected, showing a table with the following data:

Name	Login	Language	Latest authentication
Mitchell Admin	admin	English (US)	05/20/2020 14:41:37

Below the table, there's a button 'Add a line' (circled with a blue '2').

Now, all users of the group “Resource Manager” will find the module “Resource Planning” in their app list.

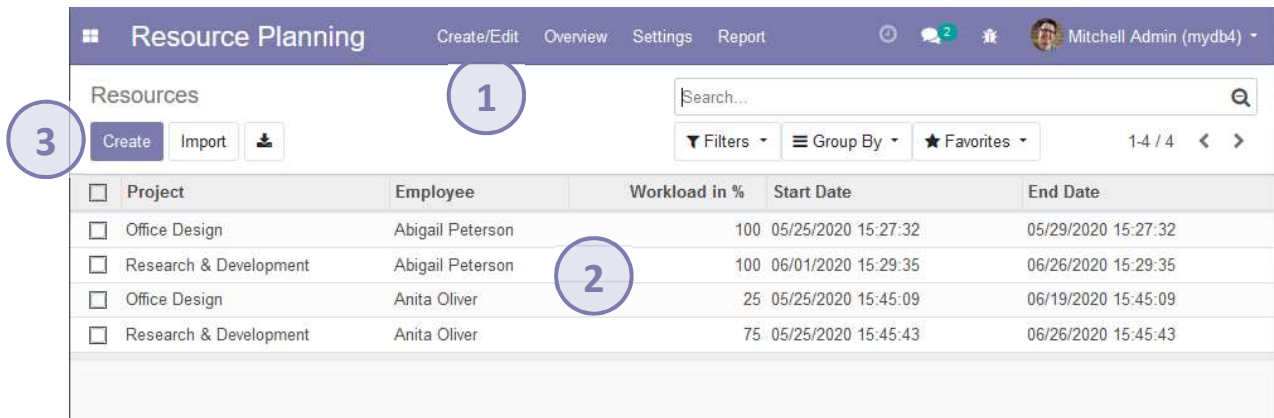
## C Functionality

### 1. Assigning Resources

When you browse to the module “Resource Planning”, you are automatically taken to the tab “Create/Edit” (1).

(2) Here you can see a list of all assignments made by you. At the beginning the list will be empty.

(3) To make a new assignment, click on "Create".



A window opens in which you can make the assignment.

(1) Under “Project” and “Employee” you will find all projects and employees that you have defined in the corresponding modules. The fields must not be left blank.

(2) Under “Workload in %” you can enter an integer between 0 and 100 indicating the workload of the selected employee in the selected project per week. The field must not be left blank. **Note:** The module checks whether the employee would have a workload of more than 100% in the selected period due to the assignment (taking into account all existing assignments). In this case the assignment cannot be made.

(3) Under “Dates” you have to define the start and the end date of the assignment. The fields must not be left blank. The end date has to be after the start date.

If you click the check box “Next week”, then the start and end date is replaced with the Monday and Friday of the following week, respectively.

(4) Click on “Save” to save or on “Discard” to discard your input.

The screenshot shows the 'Resource Planning' module interface. At the top, there's a header bar with 'Resource Planning' and navigation links: 'Create/Edit', 'Overview', 'Settings', and 'Report'. The user 'Mitchell Admin (mydb4)' is logged in. Below the header, the page title is 'Resources / New'. A callout '4' points to the 'Save' and 'Discard' buttons. The form has two tabs: 'Resource' (selected) and 'Update only'. Under the 'Details' section, there are three fields: 'Project' (callout 1), 'Employee' (callout 2), and 'Workload in %' (set to 0). The 'Dates' section includes a 'Next Week' checkbox, 'Start Date' (callout 3), and 'End Date'. A calendar widget is open for May 2020, showing a grid of dates. Callout 4 points to the date '20' in the calendar. The calendar has a header with navigation arrows and a table of dates.

#	Mo	Tu	We	Th	Fr	Sa	Su
18	27	28	29	30	1	2	3
19	4	5	6	7	8	9	10
20	11	12	13	14	15	16	17
21	18	19	20	21	22	23	24
22	25	26	27	28	29	30	31
23	1	2	3	4	5	6	7

For the module it is not important on which exact day an assignment is, but in which calendar week. In this module, Monday is considered the first day of the week, Sunday the last (according to ISO 8601).

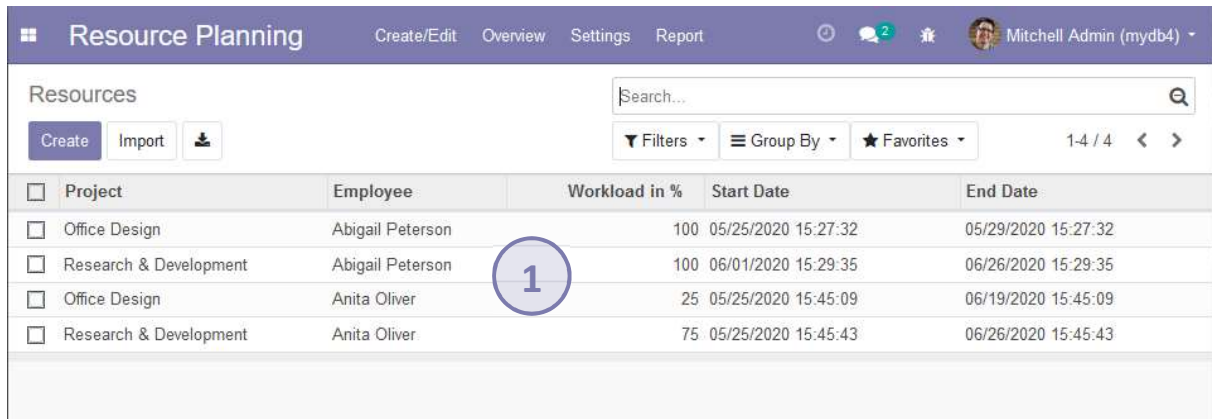
**Note:** If you click in the field “Start Date” or “End Date”, a calendar pops up where you can select the date (4). The week format (first day of the week) of the calendar displayed depends on the user's selected language, e.g. Monday for "German (CH)/German (CH)" and Sunday for "English (US)". Under "Settings" – "Translations" – "Languages", you can edit each language and set the "First Day of Week". Under "Settings" – "General Settings" – "Users" – "Manage Users" each user can be selected and under "Preferences" – "Language" the language can be set.



## 2. Editing assigned Resources

In the tab “Create/Edit” you can edit an existing assignment.

(1) In the list of assignments, click on the assignment you want to edit.



Project	Employee	Workload in %	Start Date	End Date
Office Design	Abigail Peterson	100	05/25/2020 15:27:32	05/29/2020 15:27:32
Research & Development	Abigail Peterson	100	06/01/2020 15:29:35	06/26/2020 15:29:35
Office Design	Anita Oliver	25	05/25/2020 15:45:09	06/19/2020 15:45:09
Research & Development	Anita Oliver	75	05/25/2020 15:45:43	06/26/2020 15:45:43

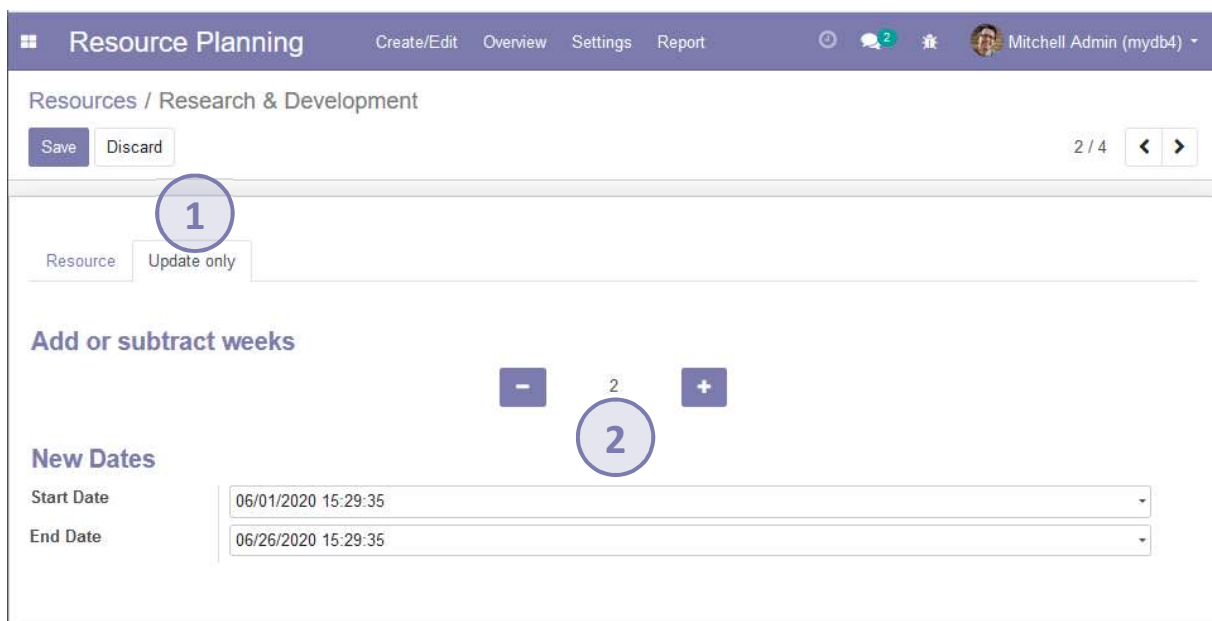
A window will open where you see the information of the assignment. Click on “Edit”.

Now you can edit all the information as described in the “Assigning Resources” section of this manual. Click on “Save” to save your changes.

(1) Furthermore, you can open the tab “Update only”.

(2) There you can add or subtract a week to the end date by pressing the “+” or “-” button, respectively. You can add or subtract multiple weeks by pressing the buttons multiple times.

**Note:** Still, the end date must be after the start date.



Resources / Research & Development

Save Discard 2 / 4

Resource Update only

**Add or subtract weeks**

- 2 +

**New Dates**

Start Date 06/01/2020 15:29:35

End Date 06/26/2020 15:29:35

**Note:** If you adjust the workload, it will be adjusted for all the weeks of the selected assignment. If you only want to adjust the workload of a single week within an assignment over several weeks, there is an option in the “Overview” (see “Overview” below).

### 3. Deleting Resources

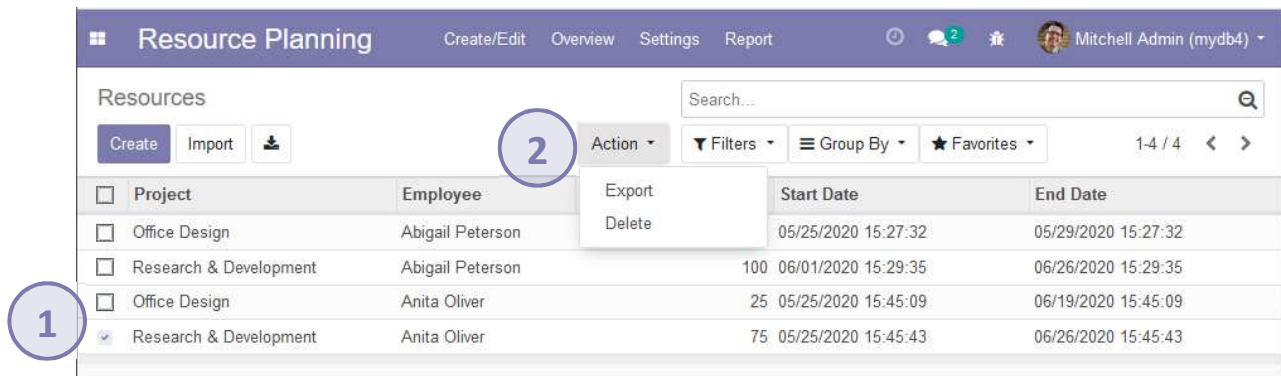
In the tab “Create/Edit” you can delete an existing assignment.

(1) In the list, click on the check box of each assignment you want to delete.

(2) The button “Action” appears. Click on it. Then click on “Delete”.

In the opening window, click on “Ok” to confirm the deletion.

**Note:** The deletion is final and cannot be reversed.



### 4. Overview

(1) You can view your assignments in an aggregated, organized format under the tab “Overview”.

There is an employee-centered and a project-centered overview. You select it by clicking on “Employee” or “Project”, respectively.

Both overviews (employee- and project-centered) are based on the same data. They differ in the order in which the data is aggregated: In the project-centered overview (2) the data is aggregated at the first level on the basis of projects, and at the second level on the basis of employees. In the employee-centered overview it is the other way round. By clicking on the “–” button, you can hide the second level. (The screenshot shows the project-centered overview.)

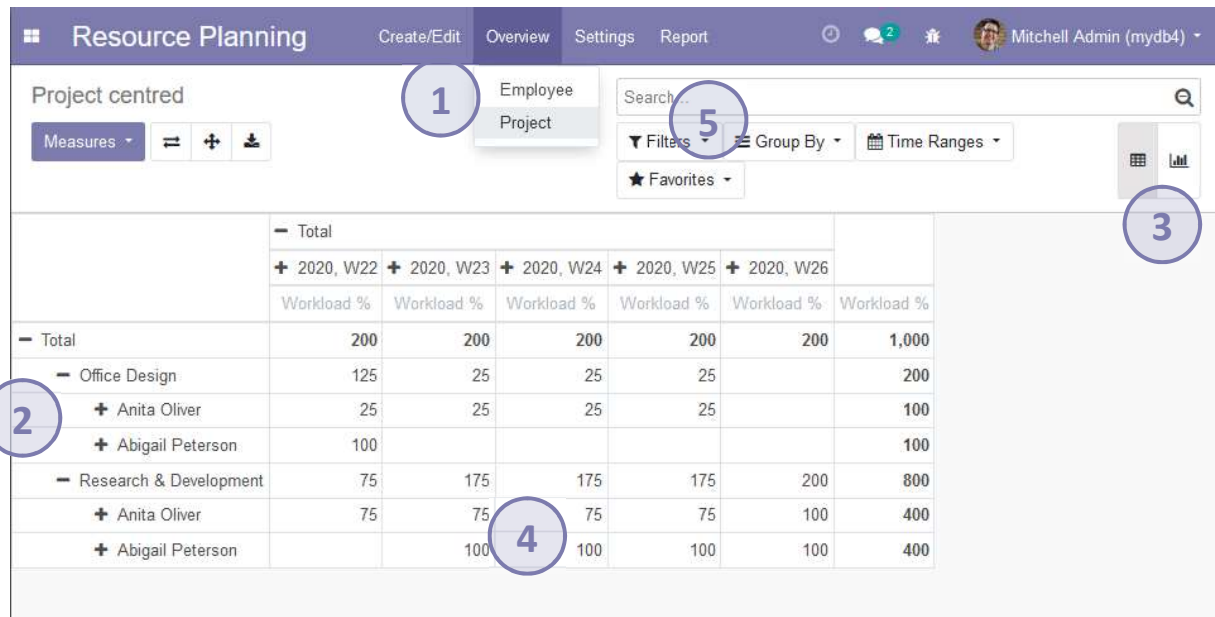
If you are interested in the workload of employees, choose the employee-centered overview. If you are interested in the work distributed over a project, choose the project-centered overview.

(3) In addition to the representation of the data as a pivot table, there is also a representation as a graph (more below). You can switch between the two representations with the according buttons.

(4) In the pivot table you see the aggregated workload per employee per project per week. By clicking on a cell, you can adjust the workload of a specific employee for a specific project in a specific week. After you click on the cell, click on the list item in the opening window. After clicking on “Edit”, you can adjust the workload. Click “Save” to save the adjustment.

(5) You can filter the table by clicking on “Filters”. If you select “Future Resources”, only assignments with end dates after the current date will be shown. If you select “Resources ending in coming 2 months”, only assignments with end dates in the two months after the current date will be shown. If you select “custom timespan”, only assignments with end dates in the following X weeks will be shown. X can be selected in the “Settings” (see below).

**Note:** You can select several filters at once. Odoo allows adding further custom filters and groupings.



(1) In the project-centered graph you see the work assigned to the projects per week. (The screenshot shows the project-centered graph.) It is shown as a bar chart where the bars represent the projects.

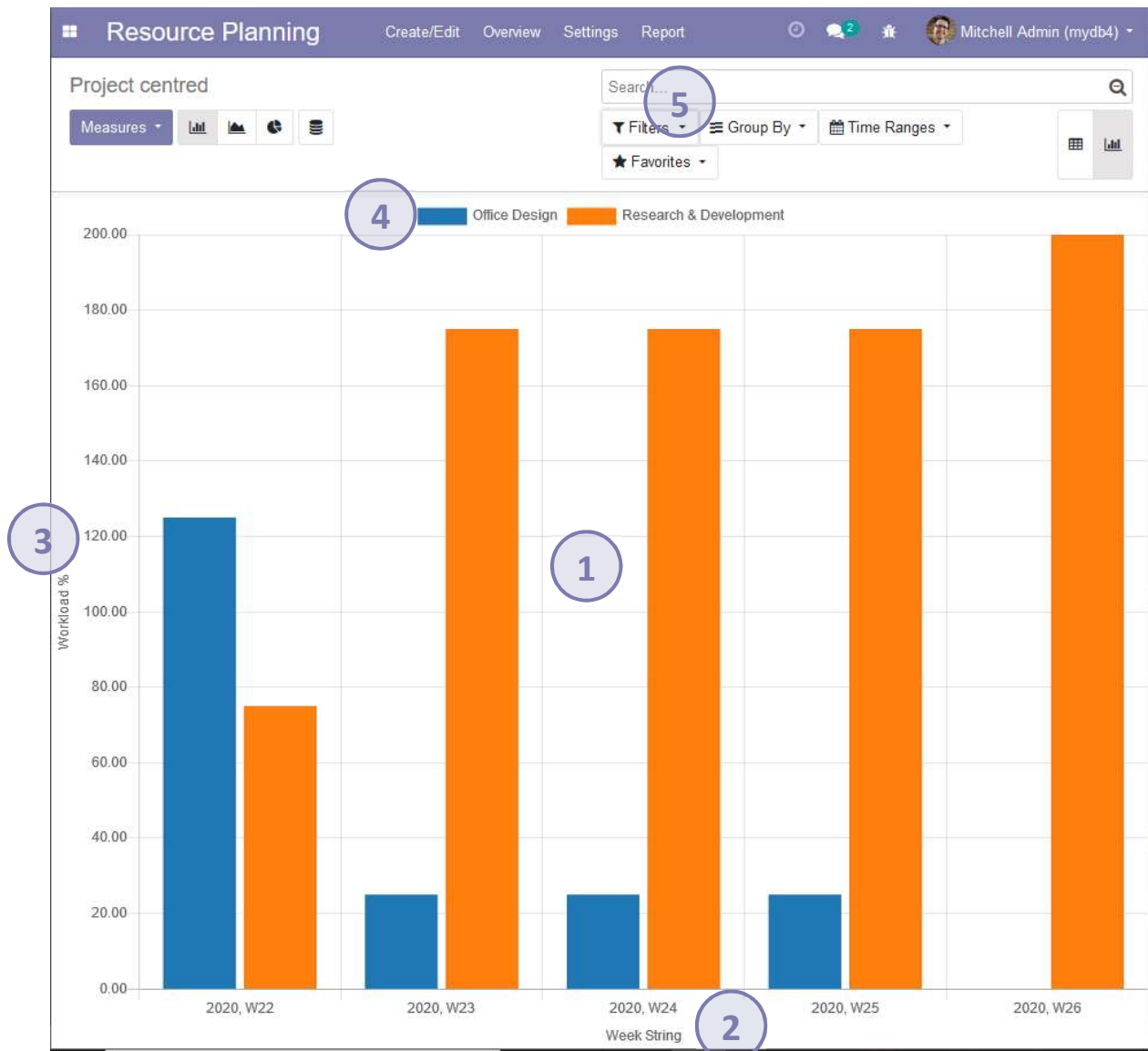
(2) The weeks are shown on the X-axis.

(3) The Y-axis shows the total amount of work assigned to a project.

Similarly, the employee-centered graph shows the work assigned to the employees per week.

(4) If you click on an element in the legend, you can show or hide it in the graph.

(5) Just like the pivot table you can filter the graph.

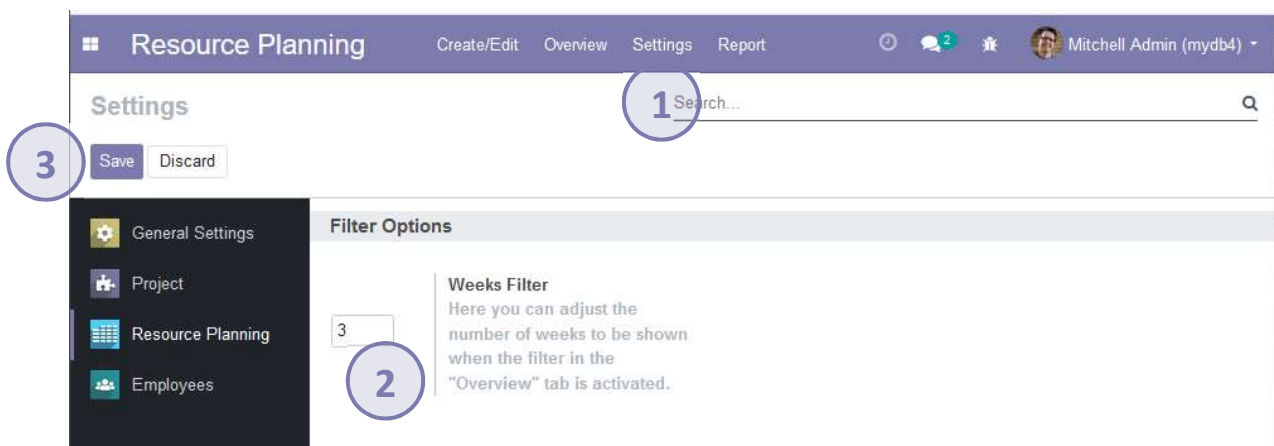


## 5. Settings

(1) In the tab “Settings” you can adjust the “custom filter” (see “Overview” above).

(2) Adjust the number of weeks. **Note:** The default setting is “8”.

(3) Click on “Save” to save your input.



**Note:** Only users of the group “Administration / Settings” can access the setting.

In order for the “custom filter” to update itself automatically, it is recommended that you perform the following steps:

(1) Got to settings and at the end activate developer mode.

(2) Under settings in the tab “Technical” click on “Scheduled Actions” (under “Automation”).

The screenshot displays the Odoo Settings application. At the top, a navigation bar includes tabs for 'General Settings', 'Users & Companies', 'Translations', and 'Technical'. The 'Technical' tab is currently selected. On the left side, a sidebar menu lists various settings categories: 'General Settings', 'Project', 'Resource Planning', and 'Employees'. The main content area is divided into several sections. The 'In-App Purchases' section includes 'Odoo IAP' with a 'View My Services' link. The 'Integrations' section lists 'Collaborative Pads', 'Google Drive', 'OAuth Authentication', 'Gengo Translations', and 'Geo Localization', each with a checkbox and a brief description. The 'Developer Tools' section at the bottom contains links to 'Activate the developer mode (with assets)', 'Activate the developer mode (with tests assets)', 'Deactivate the developer mode', and 'Load demo data'. On the right side, a vertical list of settings categories is visible, including 'Digest Emails', 'Phone / SMS', 'SMS', 'SMS Templates', 'Phone Blacklist', 'IAP', 'IAP Accounts', 'Actions', 'Reports', 'Window Actions', 'Server Actions', 'Configuration Wizards', 'User-defined Defaults', 'User Interface', 'Menu Items', 'Views', 'Customized Views', 'User-defined Filters', 'Tours', 'Database Structure', 'Decimal Accuracy', 'Models', 'Fields', 'Fields Selection', 'Model Constraints', 'ManyToMany Relations', 'Attachments', 'Logging', 'Automation', 'Scheduled Actions', 'Reporting', 'Paper Format', 'Sequences & Identifiers', and 'External Identifiers'. The 'Scheduled Actions' option under the 'Automation' category is highlighted with a red circle and the number '2'. A red circle with the number '1' is also present near the 'Settings' header.

Click on “Create”.

The form should be filled out in the following way:

- (1) Action Name: “Update Filter” (You may use another, meaningful name for it.)
- (2) Model: “Week”, Execute Every: “1 Days”, Active: checkbox checked
- (3) Action To Do: “Execute Python Code”
- (4) Under “Python Code” add the following code:

```
week_delta=model.is_week_in_period()
today= datetime.datetime.today()
this_week= today- datetime.timedelta(today.weekday())
weeks=env['week.model'].search([])
weeks.set_is_week_in_period(this_week, week_delta)
```

**1 Update filter**

<b>Model</b>	Week	<b>Action To Do</b>	Execute Python Code <b>3</b>
<b>Scheduler User</b>	Mitchell Admin		
<b>Execute Every</b>	1Days		
<b>Active</b>	<input checked="" type="checkbox"/>		
<b>Next Execution Date</b>	05/13/2020 16:18:53		
<b>Number of Calls</b>	-1		
<b>Priority</b>	5		
<b>Repeat Missed</b>	<input type="checkbox"/>		

Python Code Security Help

```
# Available variables:
# - env: Odoo Environment on which the action is triggered
# - model: Odoo Model of the record on which the action is triggered; is a void recordset
# - record: record on which the action is triggered; may be void
# - records: recordset of all records on which the action is triggered in multi-mode; may be void
# - time, datetime, dateutil, timezone: useful Python libraries
# - log: log(message, level='info'): logging function to record debug information in ir.logging table
# - Warning: Warning Exception to use with raise
# To return an action, assign: action = {...}

week_delta=model.is_week_in_period()
today= datetime.datetime.today()
this_week= today- datetime.timedelta(today.weekday())
weeks= env['week.model'].search([])
weeks.set_is_week_in_period(this_week, week_delta) 4
```

**Note:** The time under “Next Execution Date” is in UTC.

To test, click on the “Run Manually” button.

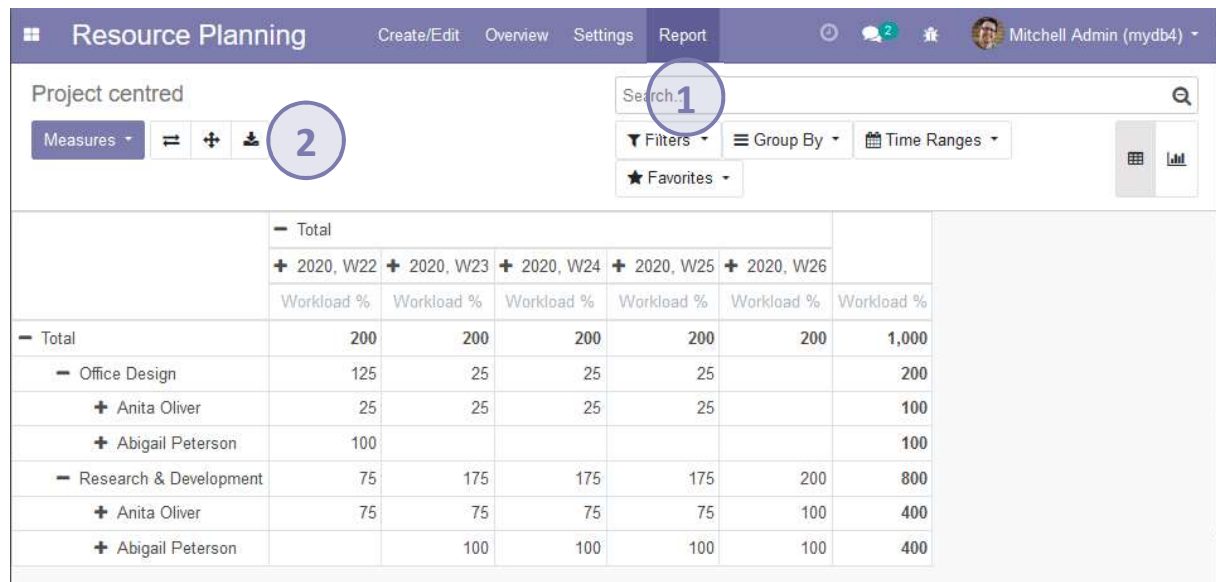
Click on “Save”. Make sure it actually is in the list of scheduled actions.

## 6. Reporting

(1) You can export the assignments for a certain period as a PDF file by clicking on the “Report” tab.

**Note:** The tab is only shown, if the module “resource\_planning\_report” is installed as well (see “Installation” above).

**Note:** Additionally, in the Overview the selected overview can be exported as an Excel file by clicking the according button (2). As this is a standard function of Odoo, it will not be further discussed here.



	Total					
	+ 2020, W22	+ 2020, W23	+ 2020, W24	+ 2020, W25	+ 2020, W26	
	Workload %	Workload %	Workload %	Workload %	Workload %	Workload %
— Total	200	200	200	200	200	1,000
— Office Design	125	25	25	25		200
+ Anita Oliver	25	25	25	25		100
+ Abigail Peterson	100					100
— Research & Development	75	175	175	175	200	800
+ Anita Oliver	75	75	75	75	100	400
+ Abigail Peterson		100	100	100	100	400

(1) In the opening window, select the start and the end week. In the report all assignments between the start and the end week will be shown (start and end week included).

**Note:** The first time you use this function, you may be asked to configure your document layout.

(2) Click on “Get Report”. It may take a few seconds to create the file. Depending on your browser and browser setting, you will be asked, if or where you want save the file, or the file be automatically saved in your default “Downloads” folder.

