



Libreplan, a quick-start guide

Jeroen Baten

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Jeroen Baten

LibrePlan, the missing manual

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jbaten@libreplan-enterprise.com

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"Project management is the replacement of accidents by errors" © M. Brand

Preface

About the author

I have been heavily involved in Open Source software since 1997. Today that sounds rather old, to have started something in the former century. I became a promotor of Open Source software and wrote 7 books about it, all in Dutch. Four of these books were LPI^[1] books ([\[LPI-101\]](#), [\[LPI-102\]](#), [\[LPI-201\]](#) and [\[LPI-202\]](#)) and two had a more managerial focus ([\[Lihb\]](#) and [\[OSbbeo\]](#)).

Some time ago I was looking for a project of my own to start spending considerable time with. I was looking for a promising, Java based, web application with a promising product and, preferably, a small community. Cor Nouws, a good friend of mine and a long-time LibreOffice zealot, pointed me to LibrePlan, an Open Source project management program.

It didn't take too long for me to become enthusiastic about it. It had everything I was looking for, and more!

To get acquainted with the program I had to dive in and first do a translation of the program strings to the Dutch language. It was my first experience with the Transifex^[2] website and, truth be told, the task of starting to translate some 2000 strings looked rather daunting. But I dug in anyway. I made contact with the team using IRC and developer forums and introduced myself. I must admit, the response I got from them was very friendly and confirmed to me that I had found my project.

After the translation I introduced the program at my workplace and we started to use LibrePlan. Bugs we (rarely) found were quickly squashed and my enthusiasm grew more and more.

At some point it became clear to me that there was still one thing missing in this almost perfect world of project management tooling. A good book about LibrePlan.

Now I am not saying this book is perfect, far from it. Actually I ask you to help me make it better. If you find errors, omissions or you have questions or tips, please email me at jeroen@jeroenbaten.nl and I will correct it as soon as possible and upload a new version of this book footnote [Thank God for the invention of Printing-on-Demand].

To all programmers (Windows and Linux alike) I would like to say, please read the book "The Art of Unix Programming" [\[TAoUP\]](#). It could change your world.

A small history of LibrePlan

The history of the project can be read on Wikipedia^[3]. It was initially developed by the Fundación para o Fomento da Calidade Industrial e Desenvolvemento Tecnolóxico de Galicia, a subsidiary of the Ministry of industry of the Xunta de Galicia.

LibrePlan started its life first as a program called NavalPlan. It was initially created "to improve management of the production of the companies of the Galician naval auxiliary sector". LibrePlan was designed to respond to the needs of these companies to aid in the organizational complexity and integration with production processes in the naval sector. However, it grew way beyond the initial focus towards a much more general applicability.

It is written in Java using the ZK development library and it is licensed under the Affero General Public License license

Thanks

I owe a great debt of gratitude to Marleen, my lovely wife, to endure a once again writing husband, and the extreme focussing that comes with it.

I would also like to thank my daughters Miloe, Dorel, Jelijn, Anouschka en Tamara for the very same reason.

But I guess I couldn't have done this without the help from the LibrePlan team, so thanks to Javier Morán Rúa, Paco Alías, Manuel Rego, Lorenzo Tilve and all the other guys who have helped me out at numerous occasions. Muchos Gracias!

[1] Linux Professional Institute

[2] <http://www.transifix.com>

[3] <http://en.wikipedia.org/wiki/LibrePlan>

Chapter 1. The why and how of Project Management

Before we begin exploring the wonderful world of LibrePlan let's take some time to talk about what project management is and why we need it at all?

It all starts rather innocent. You have some idea of something you would like to accomplish. That could be a party for friends or building a small garden shed. Anyway, you have set yourself a certain goal. Now to reach that goal, you have to do stuff. If it is a party for friends, you need to invite people, get to the store to buy food and drinks. If your goal is building a garden shed, you need some building materials and some tools. And, last but not least, someone who will build the damn thing.

The above examples are relatively small and you are probably very capable of organising these small projects using maybe a small piece of paper and a pen.

But when a project becomes larger, more people get involved, more materials are needed and the ultimate goal seems daunting a small piece of paper just doesn't cut it anymore.

That's when a project needs careful planning and a way to monitor the results.

1.1. First and smart steps

As we saw earlier, a project is something to accomplish a certain goal. So the "goal" of a project is important. The better you can describe your goal, the better you see the steps to take to reach that goal.

A good way to describe a goal is using S.M.A.R.T. terms.

The "S" stands for "Specific". Is your goals specific enough. Is it clear, unambiguous? Can you tell someone exactly what result is expected? Why is this important? Who is involved? Where is this happening? "We are increasing customer satisfaction" is a vague goal. So is "let's have a party!". A better example is "we are going to increase customer satisfaction from 85% to 95% based on your standard customer satisfaction survey".

A specific goal will usually yield answers to the five "W" questions:

- What: What do I want to accomplish?
- Why: Specific reasons, purpose or benefits of accomplishing the goal.
- Who: Who is involved?
- Where: Identify a location.
- Which: Identify requirements and constraints.

The "M" stands for "Measurable". Can you describe your goal in terms that are measurable? How much? How many? In other words: "How will I know when it is accomplished?"

The "A" stands for "Attainable". Is your goal realistic and attainable? Attainable means that a goal is

not extreme. "Our team of HR employees is going to climb mount Everest" is an extreme goal and hardly attainable (unless your HR team consists of very skilled mountain climbers). Also beware of defining a goal that is very easily attainable because then nobody will feel motivated enough to do their best to achieve it. When you can describe for yourself how to accomplish your goal it is probably attainable.

The "R" stands for "Relevant". It is important to choose a goal that matters. And it is also important to realise to whom it matters. Does it matter to your boss, or your team, or your customers? You will find that those to whom something matters are also the people you can use to knock down obstacles or get more support. If a goal is relevant, it can drive the team, department or organisation forward. One other question is: "is the goal in alignment with other goals?". You can check the relevance by answering these questions:

- Does this project seem worthwhile to you or your supporters?
- Is this the right time to do this? Too soon? Too late?
- Does this match other efforts/needs?
- Are you the right person to do this project?

The "T" stands for "Time-bound". It is very important to attach a time frame to a project. Committing to a deadline helps the team to focus their efforts on completion of the goal on or before the due date. It is important to have a clear deadline to prevent the goal from being overtaken by the day-to-day crises that are so common in many organizations. A time-bound goal is intended to establish some sense of urgency. A time-bound goal will usually answer the following questions:

- When?
- What can I do six months from now?
- What can I do six weeks from now?
- What can I do today?

1.2. Hard versus soft skills

If you have a technical background the world is relatively simple. Something works, or it is broken. And if something is broken, there are things you can do to fix it.

If you are involved in project management then things are not so simple. People cooperate, or they don't, or they help reluctantly or really enthusiastically. Or you get the money to reach your goal, or you get just enough to keep afloat, or you get no money at all. Either way, you have a project to manage. So you could inform the one who assigned you to this project that the amount of money is not realistic. Or you try to make the most of it.

If you are a good computer system administrator, or car mechanic, you have good hard skills. If you now how to communicate with people in a way that they are more inclined to see things your way and want to help you reach your goals, you have good soft skills. And, to be brutally honest, most highly skilled technicians have rather poor soft skills. So one important tip: if you have a technical background spend some time developing your soft skills. Most people are not by default "against"

you. If you start thinking that or you find that people are stonewalling you, it is time to develop your soft skills and then try again.

Did you know that it is actually possible to "hack" people? Suppose you start a request with the sentence "Can you please help me?". If the other person responds with a "yes" he has already mentally signed a small contract that he is inclined to help you. So if the next sentence is your request there is a good chance that they will do what you ask.

Please do not, under any circumstance, underestimate the importance of soft skills!

1.3. Project Management Methodologies

To help you organise your project a lot of project management methodologies exist. They help you in organising your project but ultimately this does not make your goal magically "happen". Only people together with tools can do that. But a project management methodology does bring clearance to a project. It helps in dividing a goal into sub-goals, who to assign a work package to and how to find out how much time and money it will take or, in the end, took.

There are a lot of project management methodologies in the world and this book is not about teaching you any of them. But a small outline of a project management methodology ^[4] can be helpful so here goes:

1. Start by making a project brief. Write down the answers to all the s.m.a.r.t. questions. Think about and describe the various ways to reach your goal. Like there are more ways that lead to Rome, there are also more ways to reach a certain goal. With every goal, try to establish the cost and benefits. In the end, you will probably choose the "cheapest" way to reach your goal. This could be cheap as in money, but if people are scarce then a scenario that does not need a lot of people could be the cheapest one for you. When you're done, get approval from your sponsor (in Prince2 called the "executive").
2. When you know which scenario you would like to follow, describe that one in a project initiation document or PID. Be as specific as possible. Describe your planning (who is doing what when). If necessary describe important milestones during the project. Describe what and who you need. These are your resources. This can be people, tools, materials, money, or whatever you need to reach your goal. Define project margins (as a rule of thumb: 10%). As soon as you exceed some limit by more than its margin, you have to think of ways to act upon them, inform your sponsor/executive and have him/her decide how to respond based on the alternatives you have cooked up.
3. Start the project and assign work to people. Monitor the progress. Realise that most people use a logarithmic scale to report their progress. So they will very soon tell you they are halfway but it will take forever to go from 90 to 100 percent. So try to get a good sense of the progress yourself. Also monitor the amount of money spent already.
4. When you have reached your goal take some time to deliver the result. That way it is clear to everyone that the project is finished and the goal has been reached. Make sure the results are engraved in the organisation otherwise all your efforts have been in vain.
5. Write a "lessons learned" report so people could learn from earlier experiences. On the other hand, don't assume that this will actually make a difference in the future.

1.4. Project Management software

To help you organise your project a lot of project management methodologies exist. And to help you administer your project a lot of project management software is available. Some good, some great, some er... not so great. Some priceless (like open source software :-), some cheap, some expensive.

Probably you have heard of MS-Project. Maybe you have heard of Onepoint Project. Maybe you have heard of very large project management systems like Primavera and Planisware.

There are a lot of open source projects that claim to be about project management but most of them just don't, except for a few exceptions.

The basic functionality of project management software encompasses at least the following list:

- Enter a list of tasks, often called the Work Breakdown Structure or WBS.
- Be able to assign resources to tasks.
- Be able to see the utilisation of resources.
- Be able to see the tasks organised in a Gantt chart.
- Have people enter time spent on tasks for billing or progress reporting purpose.
- Be able to track money spent.
- Some report capabilities to put the progress on paper.

You will see that LibrePlan fulfills a lot of these requirements, but more on that in the next chapter.

[4] We use the PRINCE2 methodology here as an example.

Chapter 2. Introducing LibrePlan

As you may have gathered by now, LibrePlan is a project management tool. It allows you to manage your projects and has a rather unique set of features, especially when you take into account that LibrePlan is open source software.

The core developers are all working at a company called Igalia, based in A Coruna, Spain.

Let's have a look at what it can do:

- Define projects (duh).
- Add tasks to a project in a WBS (Work Breakdown Structure).
- The ability to store tasks in containers.
- Add requirements to tasks. A requirement could be a specific type of machinery to handle the task, or a specific skill the person doing the task should have.
- Assign resources to a task, either manually, or automatically, based on the defined requirements.
- See the resource utilisation. Is there capacity left on a resource (human or machine) for an extra workload?
- See the amount of money spent already and the monetary budget of the project.
- Be able to plan resource allocation in detail. Eg. spend 4 hours today and 3 hours tomorrow on a certain task.
- Configure a "connector" to the Jira bug report program.
- Configure a "connector" to the Timn Enterprise time registration program.
- Schedule synchronisation with Jira or Timn using their connectors and the built-in job scheduler.
- Enter the progress of a task. This is separate from the time spent on a task.
- See the tasks assigned to a resource and be able to enter time spent.
- Generate reports to see the current project status.

In the next chapter we will have a look at how to obtain LibrePlan and setting it up.

Chapter 3. The first steps



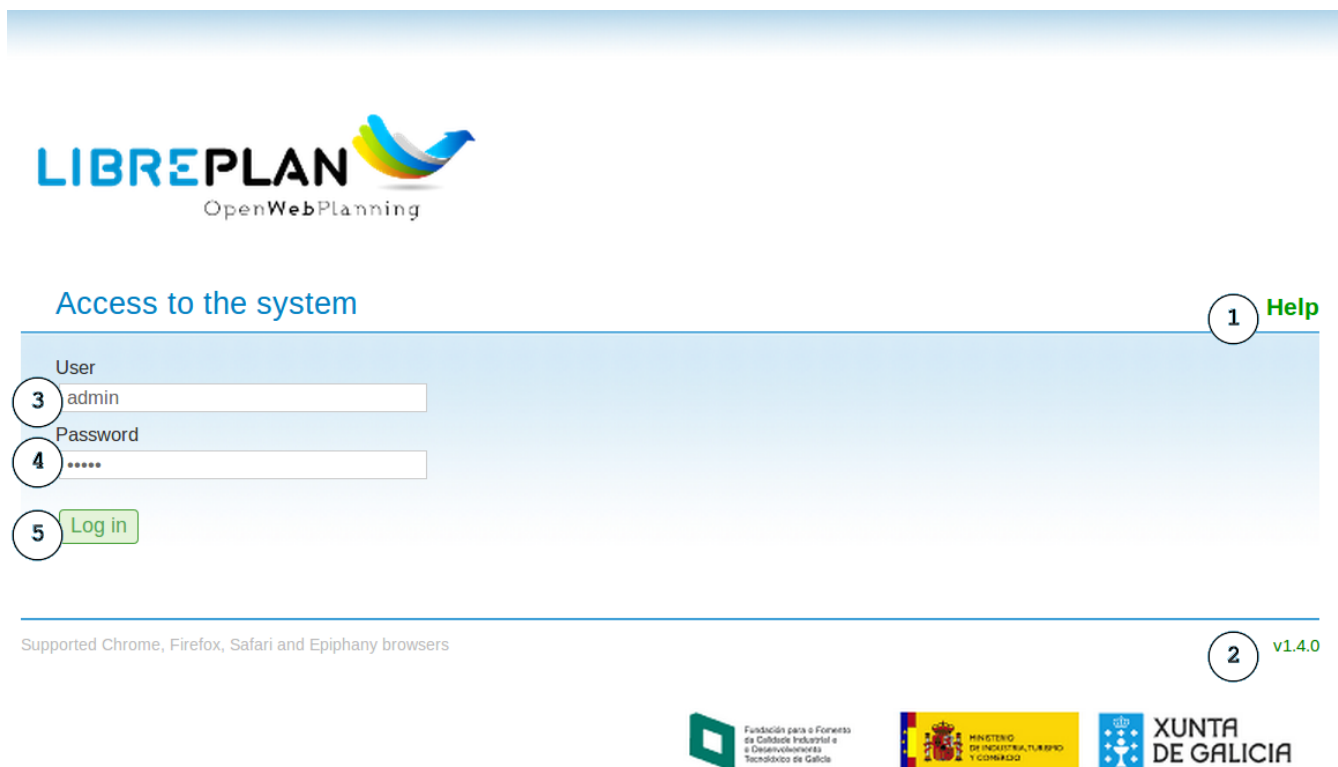
This first chapter is not of real use to users who have worked with a computer before. If you know your way around computers a bit you can jump straight to the next chapter.

To start using LibrePlan you have to enter the location of the LibrePlan in the location-bar at the top of your browser-window. If LibrePlan has been setup within your organisation, than probably your system administration department can help you with this.

An example of such a location could be:

```
http://servername.company.com:8080/libreplan/
```

If you entered the correct location, you will see an image that looks like to following:

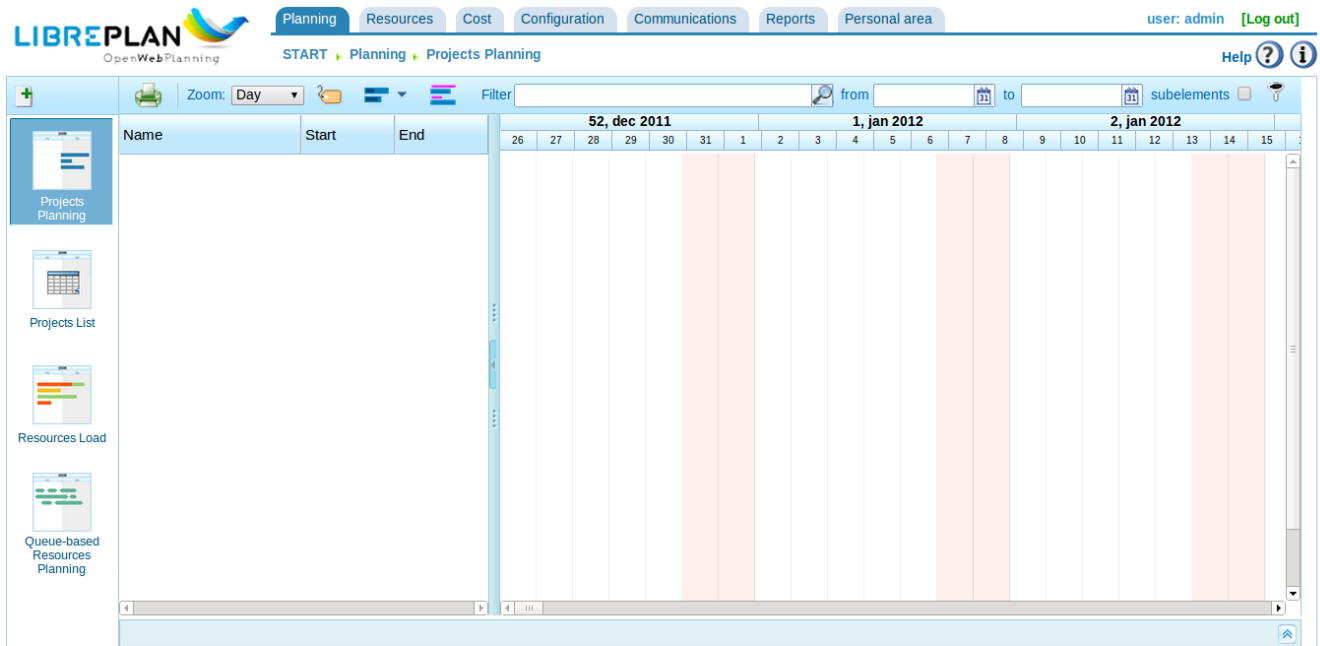


To be able to start using the program you have to have a user-id and a password. Normally these will be supplied by the system administration department. If you are starting to use LibrePlan for the first time you could try the user-id *admin* with the password *admin*.

1. As you can see in the upper right corner, even before you have successfully logged into the program, there is already help present.
2. Please take note of the LibrePlan version number that you are using. It is shown in the lower right corner. This is the only place where you can actually see which version you are using.
Please note: This book is based on version 1.4.1.
3. In the text input-box below the "User" text, you can enter your username.

4. In the text input-box below the "Password" text, you can enter your password. As you can see only dots are shown for every character you type.
5. When you move your mouse to the "Log in" button and click on it, the login-sequence starts.

After successful logging onto the system, you should see a screen similar to the one shown below:

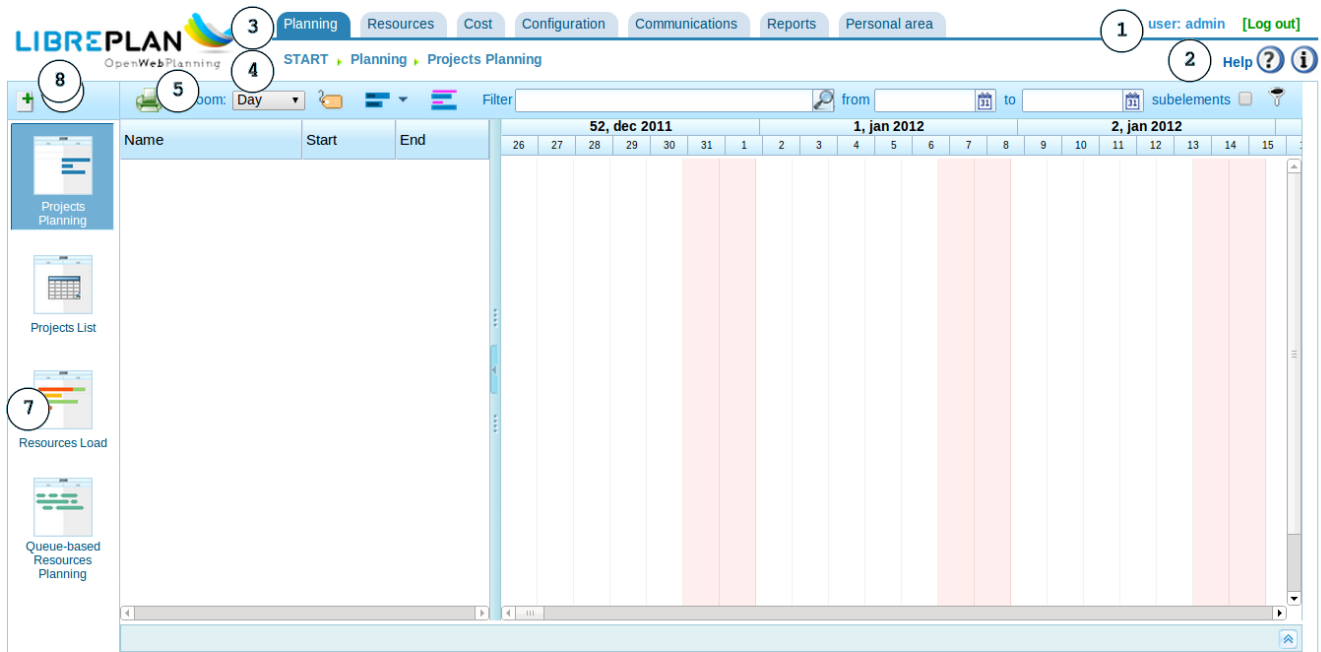


The admin's account password remains the default one. This is insecure. [\[Change the password\]](#)

Congratulations, you have successfully logged on. In the next chapter we will show you how to work with LibrePlan.


Chapter 4. The main window

After logging into LibrePlan you see the main screen or main window of LibrePlan, and it looks very similar to the picture depicted below:



The admin's account password remains the default one. This is insecure. [\[Change the password\]](#)

Now let's have a closer look at the layout of this screen.

1. In the upper right corner is the text [Log out]. If you click on that the program will log you out and you will exit the application.
2. As you can see, help is still available. Actually, there are two ways to get help. You can click on the blue "Help" link and the browser will open the help file for you. You can also put your mouse pointer over the  and a separate window with help information will appear. In all fairness, don't get your hopes up yet. The help in LibrePlan is a subject still in need of some TLC. Still, it can be a valuable source of information for a newbie.
3. To the right side of the LibrePlan logo you see the omnipresent menu-system. If you click on any of the items ("Planning", "Resources", etc) a sub-menu will show up in which you can make a selection.
4. Below the menu is what we call a "bread crumb trail"^[5]. It currently shows you "START → Planning → Projects Planning". This line essentially shows you all the time where you are in the program.
5. Below the "Bread Crumb Trail" there is a row of icons. We will get to them later. For now it is enough to know that you can switch the time-resolution of the displayed projects. To the right of the "Zoom:" text you can select the time-resolution you'd prefer. Do you want to see an overview per year, month, week or day?
6. The column to the right side of the window is populated with the most important parts of the program. It currently shows you the following icons:



This is a listing of all projects in a Gantt-chart layout.



If you would click on this icon you get a listing of all existing projects in a table/listed layout.



An important part of project planning is knowing if there are resources you can use to fulfil a certain task. That's what this resource-window is there for. Parts that are marked in orange mean there is a more than 100% allocation of a resource. That is (usually) not desirable.



Besides the usual human resources that are involved in a project there is the change you have more queue-bases resources like some sort of machinery. You guessed it! That's what this icon is there for.



To start a new project you have to click on the "+" icon that you see in the upper left corner of the screen.



These 4 icons you see on the left side of the screen give you access to the four most important parts of LibrePlan. We call them "Gantt", "Task", "Resource-allocation" and "queue-based resource-allocation".

7. Adding a new project and adding resources to it is the subject of the next chapter. For now, sit back and have a last good look at the main screen of the LibrePlan program. It will never look so empty again.
8. When clicking on the *help* text in the upper right part of the screen you will be presented you with the following windows on top of the LibrePlan main window:

LibrePlan: User documentation



Following document contains necessary help for using LibrePlan, the opensource web application for project planning.

This document is divided in three main sections:

First, global goals and behaviour.

Second, basic entities to understand the minimum concepts to use LibrePlan.

Finally, complete processes description to create orders, projects, project planning, resources assignment, advance assignment and result extraction.

1. [Introduction](#)
2. [Criteria](#)
3. [Calendars](#)
4. [Progress](#)
5. [Management of resources](#)
6. [Orders and order elements](#)
7. [Task planning](#)
8. [Assignment of resources](#)
9. [Work reports](#)
10. [Tags](#)
11. [Materials](#)
12. [Quality forms](#)
13. [Users](#)
14. [Cost management](#)
15. [Reports](#)
16. [LDAP Configuration](#)
17. [About](#)



LibrePlan basically has 2 different modes of operation. These are "Normal mode" and "Project mode". Each mode is suited to a particular purpose. The "Normal mode" is for navigating through all different projects, the "Project mode" is for navigating within one, and only one, project. The following chapters will cover the basics of each of these two modes.

In the next chapters we will show you a lot of the possibilities that exist in LibrePlan.


[5] See [http://en.wikipedia.org/wiki/Breadcrumb_\(navigation\)](http://en.wikipedia.org/wiki/Breadcrumb_(navigation)) for more information

Chapter 5. My first project

In this chapter you will make your first project in LibrePlan. To do this you have to complete three separate tasks.

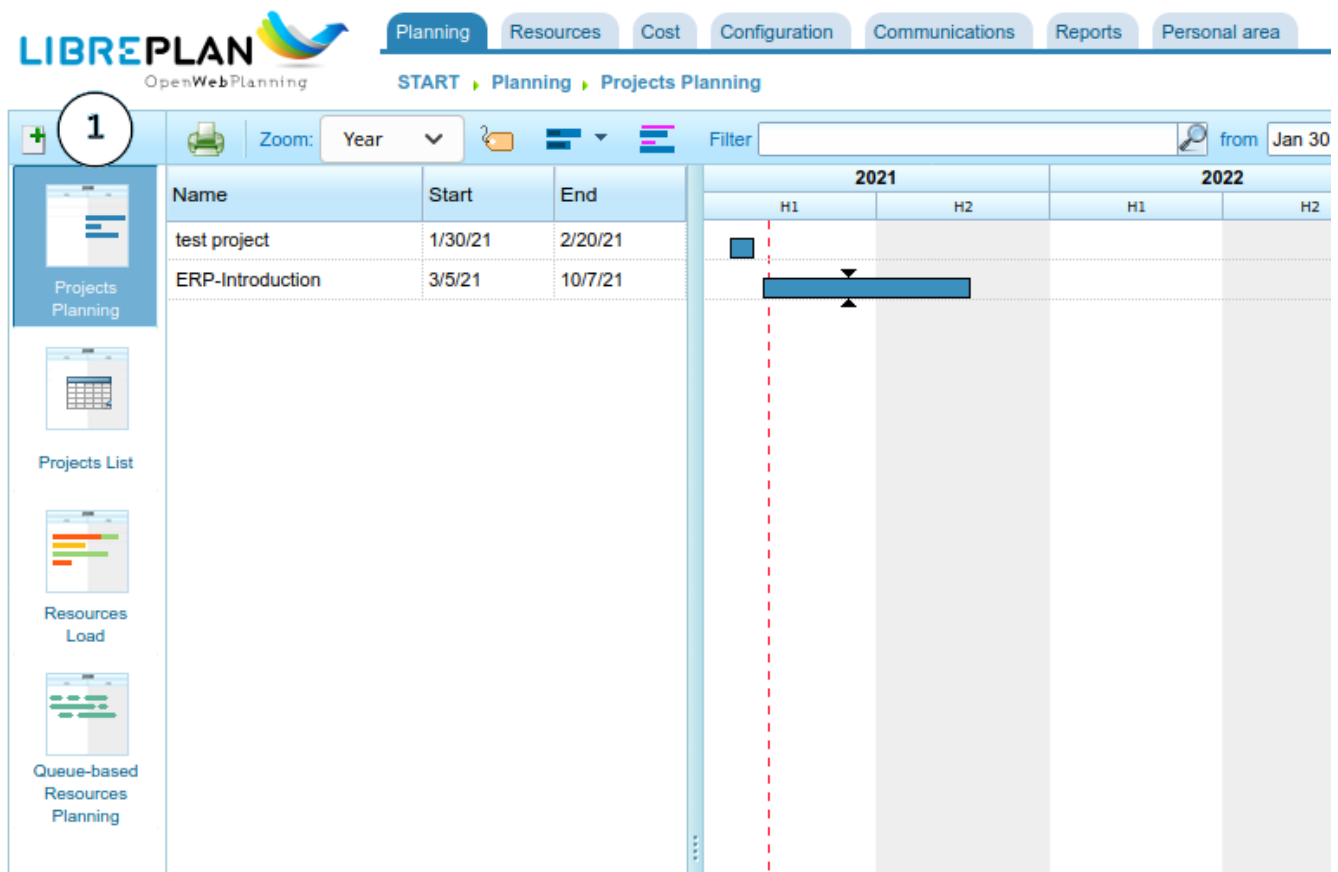
1. Adding a new project.
2. Adding tasks to a project.
3. Moving tasks around where needed to get a project planning.

5.1. Adding a project

The first task, adding a project, is initiated by clicking on the "+" () icon that is located in the upper left corner of the application window and which is clearly marked with a 1 in the picture shown below.

At this very moment you switch from Normal to Project mode.

Now the application window changes as shown below:



Here you can enter some basic information about the project:

- The name of the project to distinguish it from all the other projects.
- The start-date of the project.
- The deadline of the project. You only enter a date here if your project has a definitive **deadline** and you want your planning of tasks to occur backwards from this deadline date.

- Customer. If you have customers defined in the program you can select them here.
- Calendar. If you enter tasks, should they use a specific calendar? Do your people work 40 hours per week, or 20? Or are they present for 40 hours but with a yield of 70% (meaning 25 hours productive use). There is a lot more on calendars later in this book.

For now we only enter our project name of choice and click on the *Accept* button. In the upper left corner of the application window a small text appears saying "Processing".

Create new project	
Name	First project
Template	<input type="text"/>
Code	ORDER0057 <input checked="" type="checkbox"/> Generate code
Starting date	6-Mar-2021 <input type="text"/>
Deadline	<input type="text"/>
Customer	<input type="text"/>
Calendar	Default
<input checked="" type="button" value="Accept"/> <input type="button" value="Cancel"/>	

Next we need to add tasks to the project

5.2. Adding tasks

After clicking on the Accept-button like we just did, we get to see the WBS-screen as shown below.

WBS is an abbreviation of **W**ork **B**reakdown **S**tructure and it contains a list of all tasks that have to be done in this project The cursor is automatically located in the text-entry field next to the words "New task" so we can immediately start to enter our first task.



We can also switch to this screen by clicking on the WBS icon on the left (The second one from the top)

For this example we type the text "Task 1" as a description of what needs to be done and after that we press the "Tab" key on the keyboard. The cursor jumps to the next text-entry field and here we can enter the number of hours we think it will take to complete this task. After we have entered a random number (although 84682672983462934632946 is a random number, my advice would be to keep it between 1 and 100) and after that hit the Enter key on the keyboard. Now a line will appear with the information of our task. For this particular exercise I ask you to add a few more tasks in the same way. A different description off course and some variation in number of hours is advised.

The result will look somewhat similar to the picture shown below:

LIBREPLAN OpenWebPlanning

Planning Resources Cost Configuration Communications Reports Personal area

user: admin [Log out]







START » Planning » Project Details » First project










Help ? i

Task with options Filter

WBS (tasks) General data Cost Progress Labels Criterion Requirement Materials Task quality forms Authorizations

New task Hours Add Add From Template

Selected node:      

Scheduling state	Code	Name	Hours	Budget	Must start after	Deadline	Op.
	ORDER0057-0001	Task 1	8	0 €			 
	ORDER0057-0002	Task 2	16	0 €			 
	ORDER0057-0003	Task 3	8	0 €			 

Project Scheduling

Project Details

Resources Load

Advanced Allocation

Dashboard

MonteCarlo Method

To prevent us from losing valuable data we now click on the Diskette-like icon on the upper left side of the application window. As said before, it is best to "Save early, save often".

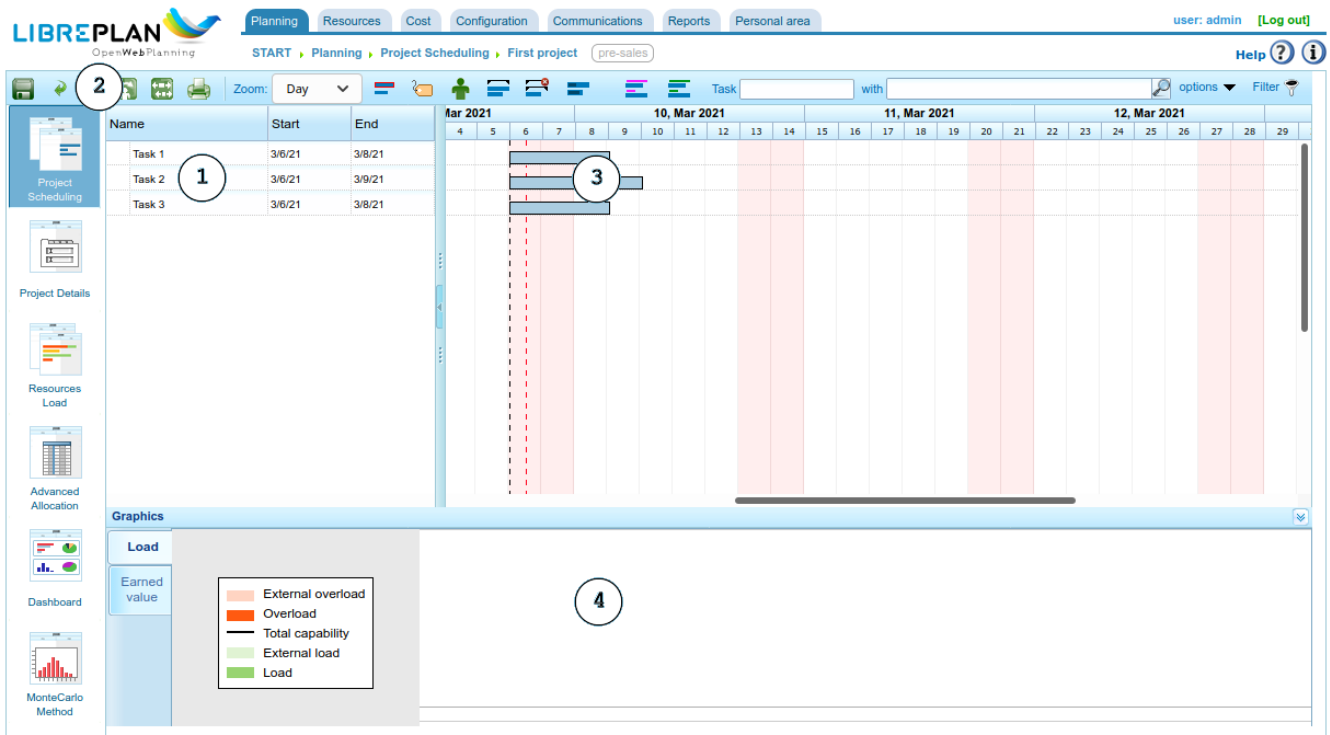


While we are at it, please note the curved arrow-icon on the right side of the just mentioned Diskette-like icon. That one takes us out of Project mode back into Main mode, but not just yet. First we will continue to work on our project.

5.3. Planning tasks

Now that you have entered a couple of tasks it would be nice if we can somehow tell that, for example, we want the second task to start when the first task is finished. To do this we switch to the Gantt view of our project to actually plan our project.

Switching to the Gantt-view of this project is accomplished by clicking on the Gantt-icon on the left (The one at the top).



As we have done before I now give you a small rundown of what you see:

1. Here you see the tasks you have just entered.
2. The icons to the left are an indication for the fact that you are in Project-mode. You can save your project data or throw your work away and return to the Main mode by clicking on the curved-arrow icon.
3. Here you see your tasks in a Gantt chart.



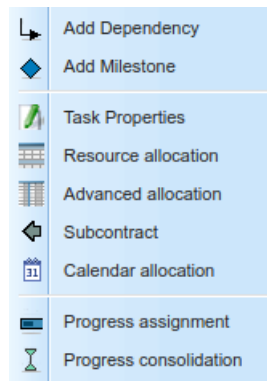
If you think that your tasks are displayed too small for your liking you can zoom in using the "zoom:" option that you can access in the bar above the tasks shown.

4. Here you could see the amount of resource allocation. Since there are no resources assigned yet nothing is shown. Since you have not allocated a resource yet, nothing is shown.

Let us start by ordering a couple of tasks. Suppose "Task 2" can only start after "Task 1" is finished. This is called a "Dependency". Actually in project management terms it's a "Finish-to-Start" dependency.

To enter a dependency you move your cursor to "Task 1" in **the Gantt part of the application window**.

We now click with the right side mouse button on the task and a new pop-up menu will appear.



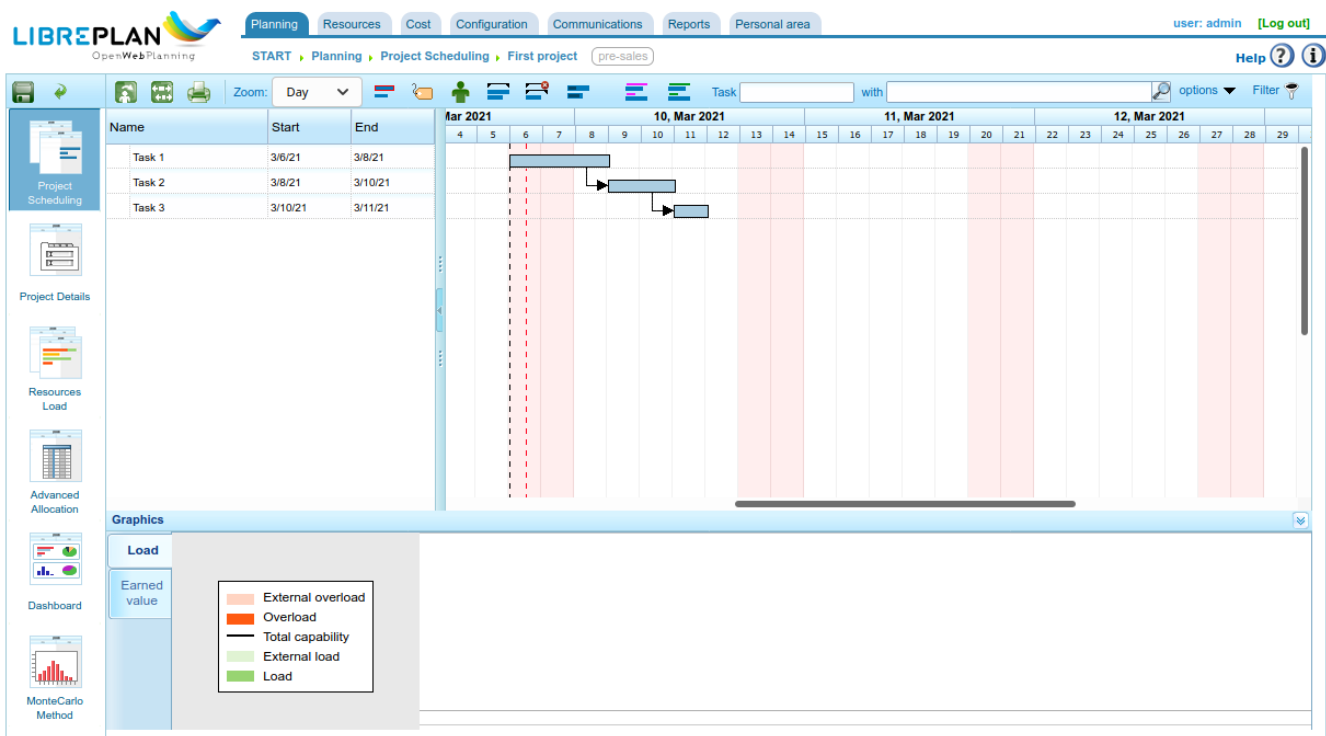
We choose the pop-up menu option 'Add dependency' and click after that on "Task 2".

Now the dependency between "Task 1" and "Task 2" is shown as a "end-to-start" dependency indicated by an arrow.



If so desired you can change what kind of dependency it is by clicking with the right side mouse button you can choose to use another kind of dependency. Most of the time you will want to assign a "Finish-to-Start" dependency.

After successfully entering a dependency we repeat our former steps to add a dependency to "Task 2" and "Task 3". A picture like the one shown below will pop up:



You have successfully made it to the end of this chapter. In the next chapter you are going to assign resources to your tasks so you can divide the load amongst the workers.

Chapter 6. Working with resources

Off course it is nice to see the individual tasks of a project nicely lined up in a Gantt chart. But it gets really interesting if we can assign resources to do these tasks. One of the advantages of doing this is that we, later on, can see if there is capacity left to do other work or other projects.

LibrePlan has fancy features in this particular area:

- Resources can be either people, or machines.
- Resources can work in a queue-based fashion. More on that subject later on.
- Resources can be assigned to multiple projects at the same time. Usually only humans can do this.
- Resources can be assigned to a task automatically or manually.
- Resources can be assigned to tasks based on certain criteria.

6.1. Defining resources

To use a resource in a planning process it has to exist first. This can be done via the menu option *Resources* → 'Workers' or *Resources* → 'Machines'. What choice you make depends on if you want to assign humans or machines to a task.

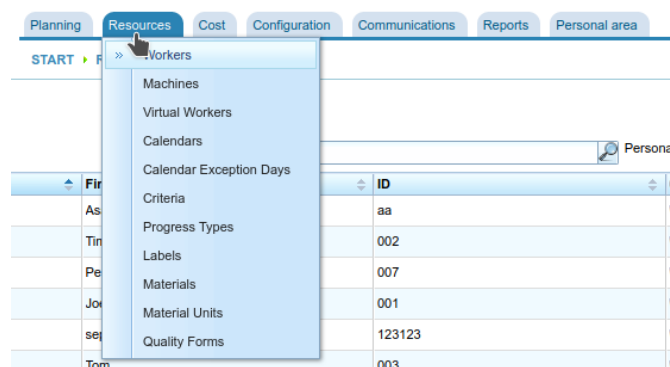


Figure 1. Resource menu

To start this process we first create a couple of human resources. To do that we click in the menu on *Resources* → 'Workers'. Now the following data-entry windows will appear:

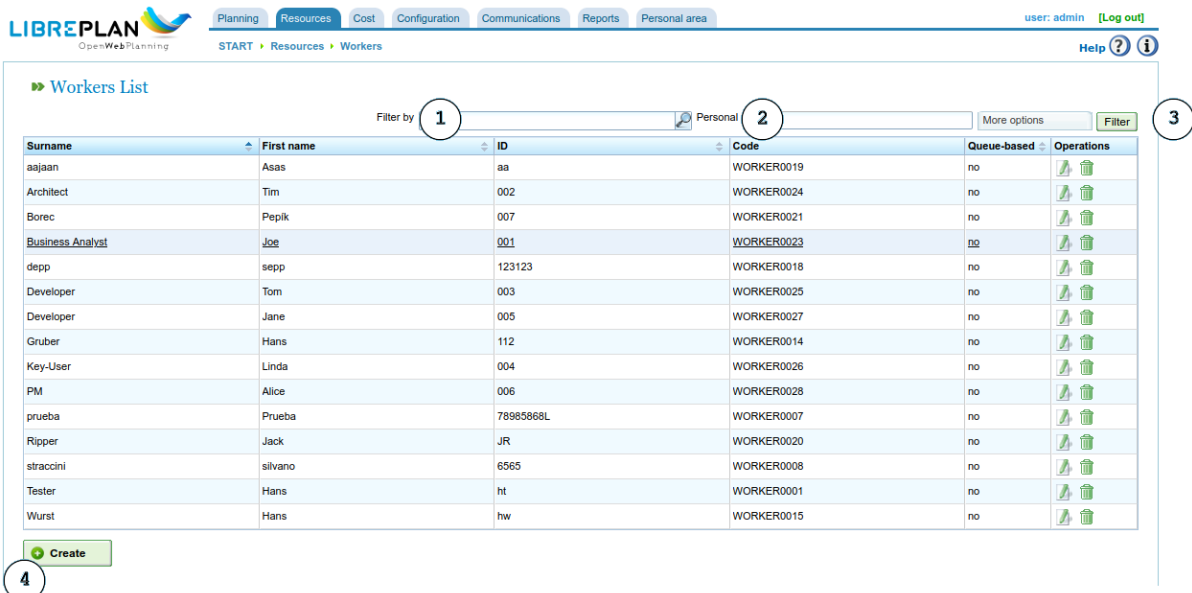


Figure 2. Resource window

Let's have a close look at the individual parts of this screen:

1. Here you can choose a particular criterion on the bases of which a selection of the available resources will be shown.
2. Here you can enter a part of the name of the resource and again a selection of available resources will be shown. If you click here, an extra part of the menu will become visible where you can enter start- or end date. This way you can search for resources that will be available at that time. That does however not mean that they are not yet allocated.
3. With this button you activate the filter part and a search will start based on the filter you entered.
4. And with this button you can create a new resource.

When you click on the *Create*-button you will be presented with the next windows:

Figure 3. Resource screen

Again, let me try to clarify what you see here:

1. Code: Every resource has its own unique code. It is shown here. This code can be auto-generated so let's not give it to much thought at the moment.
2. Generate code: If you want to assign your own code to a resource, please uncheck this item and you can enter your own code.
3. First name: First-name of the employee/worker.
4. Last name: Last-name of the employee/worker.
5. ID: A unique employee-ID. I usually put someones email-address (the part before the domain name) in here, but can could also use the actual employee-id that has been assigned by the personal department.
6. Type: The resource-type. More on this subject in the next paragraph.

6.2. Resource types

As I mentioned before, LibrePlan is capable of using to very different resources. Either *queue-based* or *non-queue-based*.

A queue-bases resource is one who can only do one task at a time and one task only. This type of resource can only start a new task when the former task is finished. The best analogy is with a regular printer. It can only print one print job at a time and can only start a new job when the old one is finished.

A non-queue-based resource is a resource that can be assigned more than one task at a time. A normal human being is such a type of resource. You can assign it multiple tasks and it can work on these tasks within a time frame. It will not work in these simultaneously but during a regular workday, it can work on more than one task.



Older versions of LibrePlan (prior to 1.3) used the terms *Limiting* and *non-limiting*. With *limiting* a queue-based resource was mend.

6.2.1. Resource criteria

One of the best parts of LibrePlan is its ability to assign resources based on one or more criteria. You assign certain criteria to a resource and LibrePlan will assign resources (both workers and machines) to a task based on the criteria that exist for this particular task.

» Create Worker: James

Personal data	Assigned criteria	Calendar	Cost category assignment										
<div> New 1 Add 2 Show only current satisfied criteria <input type="checkbox"/> </div> <table border="1"> <thead> <tr> <th>Criterion name</th> <th>Starting date</th> <th>Ending date</th> <th>Current</th> <th>Operations</th> </tr> </thead> <tbody> <tr> <td>CATEGORY :: Senior worker 2</td> <td>Mar 6, 202 3</td> <td>4</td> <td><input checked="" type="checkbox"/></td> <td>5</td> </tr> </tbody> </table> <div> Save Save & Continue Cancel </div>				Criterion name	Starting date	Ending date	Current	Operations	CATEGORY :: Senior worker 2	Mar 6, 202 3	4	<input checked="" type="checkbox"/>	5
Criterion name	Starting date	Ending date	Current	Operations									
CATEGORY :: Senior worker 2	Mar 6, 202 3	4	<input checked="" type="checkbox"/>	5									

Figure 4. Assigned criteria

Suppose you want to add the criterion "Junior worker" to a particular resource. This is what you would do:

1. First go to the "Assigned criteria" tab and click on the "Add" button. An empty line will be added

to the list of criteria for this particular resources.

2. Now you can click on the magnification glass in the first column and you choose a criterion from the list. How this list came to be is handled in the system management section of this book. For this example we choose "Junior worker".
3. Optionally you can enter a start- and/or end-date. So starting what date will this resource fulfill this criterion and until what date. A start-date could be after someone completed a course, and an end-date could be when someone runs out of his or her's certification period or when the hiring period (of men or machine) ends. (of men or machine)
4. And off course you can always delete a criterion.

6.2.2. And we're walking....

I ask you now to enter a couple of resources and assign some criteria. Just 2 human resources will do for this first exercise.

6.3. Assign resources to tasks

Now that you have created a couple of resources you can assign these to tasks, or have them assigned to tasks automagically by LibrePlan.

- First switch to project planning by clicking in the menu on *Planning* → 'Company view', or click on the *Planning* icon you see on the left side of the screen (the one at the top).
- Double-click on the bar that symbolises the duration of the project and the familiar Gantt layout will be shown again.
- Right-Click with the mouse cursor on one of the tasks and choose the option *Resource allocation*. Now the next window will appear:

Edit task: Task 1

Task properties | **Normal resource allocation**

Task Information

Criteria	Type	Hours
	WORKER	8
Total estimated hours:		8

Recommended allocation 1

Allocation configuration

Planned start: 3/6/21 Planned end: 3/8/21
Planned workable days: 1

☒ Calculate Workable Days 2
☐ Calculate Number of Hours
☐ Calculate Resources per Day

Allocations

Select criteria or resources 3 Add Advanced search 4 ended view

Name	Hours	Resources Per Day	Op.
	Non Consolidated	Non Consolidated	
Total 5	0	0	

Apply tab changes

Figure 5. Assign resources

Again there are several things to take note off. They are:

1. Click on "Recommended Allocation" so LibrePlan can give a suggestion as to the resource best

qualified for the job at hand. Because we have not yet entered any criteria for this task a *generic all workers* will be chosen. In other words, all workers are qualified for this job.

2. The "Total" of "Non Consolidated" hours show the total amount of hours that needs to be assigned. Under "Resources per day" we can enter the amount of people that will work on this task. If we enter the amount of "2" and click on "Apply Tab changes" this new number will be used.
3. You can choose how resources are assigned to a task. There are a couple of methods available:
 - a. The number of workdays will be calculated based on the number of hours for the task with the option "Calculate Workable Days".
 - b. Or calculate the number of hours based on the planned number of days.
 - c. Or calculate the resources per day based on number of hours spread across planned number of days.

So you have a big influence on how tasks are planned and divided amongst the available resources.

4. Here you can enter a criterion to narrow down the search for a suitable resource.
5. Or you choose "Advanced search". More on this in the next paragraph.

Advanced search

When you choose "Advanced search" you will get a new window with the following contents:

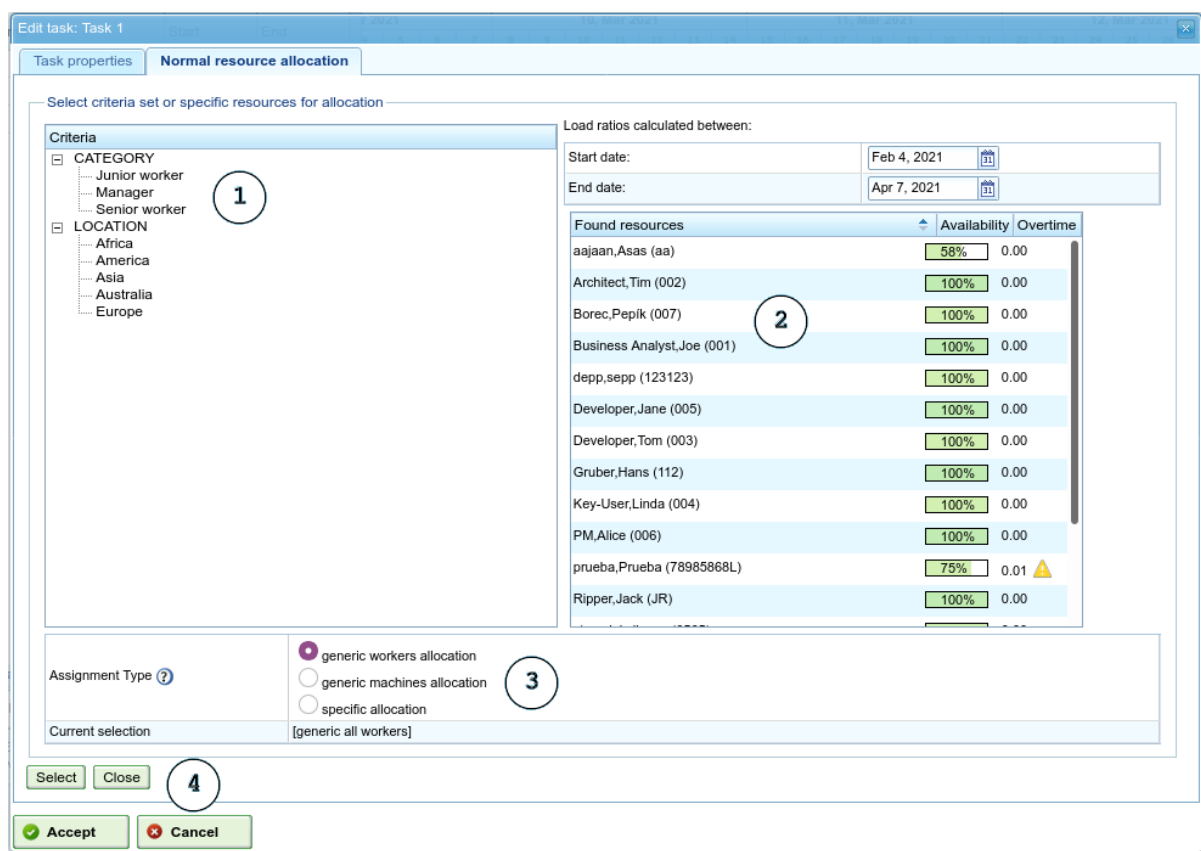


Figure 6 shows the "Advanced search" window. It is titled "Edit task: Task 1" and has two tabs: "Task properties" and "Normal resource allocation". The "Normal resource allocation" tab is selected. The window is divided into several sections:

- Criteria:** A tree view on the left showing "CATEGORY" (Junior worker, Manager, Senior worker) and "LOCATION" (Africa, America, Asia, Australia, Europe). A circled "1" is next to the "Senior worker" category.
- Load ratios calculated between:** A section on the right with "Start date:" (Feb 4, 2021) and "End date:" (Apr 7, 2021).
- Found resources:** A table listing resources with their availability and overtime. A circled "2" is next to the "Borec,Pepik (007)" row.
- Assignment Type:** A section at the bottom with three radio buttons: "generic workers allocation" (selected, circled "3"), "generic machines allocation", and "specific allocation".
- Current selection:** A text field showing "[generic all workers]".
- Buttons:** At the bottom, there are "Select", "Close", "Accept", and "Cancel" buttons. A circled "4" is next to the "Select" button.

Figure 6. Advanced search

You'll notice the following items:

1. A list with all the available criteria. If you click on one of these criteria you will see that in section 2 de shown list of resources is refreshed with only those who have this criterion defined.
2. A list with resources. Here you can choose one (or by holding down the "Ctrl" key multiple) resources.
3. Select if you want a regular resource, a queue-based resource, or manually select one specific resource.
4. Click on "Select" to finalise your choice.

6.4. Defining criteria earlier on

Off course it would be nice if we could define task-criteria earlier on in the process. For instance per task in the WBS screen. Fortunately you can and it's done like this:

1. Switch to the WBS screen.
2. Click at the right side of a task line on the "Edit" icon.
3. Switch to the "Criterion Requirement" tab and select those criteria that apply.

Edit task : Task 1

Details Cost Progress Labels **Criterion Requirement** Materials Task quality forms

Assigned criterion requirements

Add

Criterion name	Type	Operations
----------------	------	------------

Total hours task

Total hours task: 8

Hours Group

Add

Code	Type	Hours	%	Fixed %	Operations
ORDER0057-0001-0001	WORKER	8	100.00	<input type="checkbox"/>	<div> Add Criterion Add Exception </div>

Criteria Requirement

Criterion name	Type	Operations
----------------	------	------------

Back

Figure 7. Adding criteria

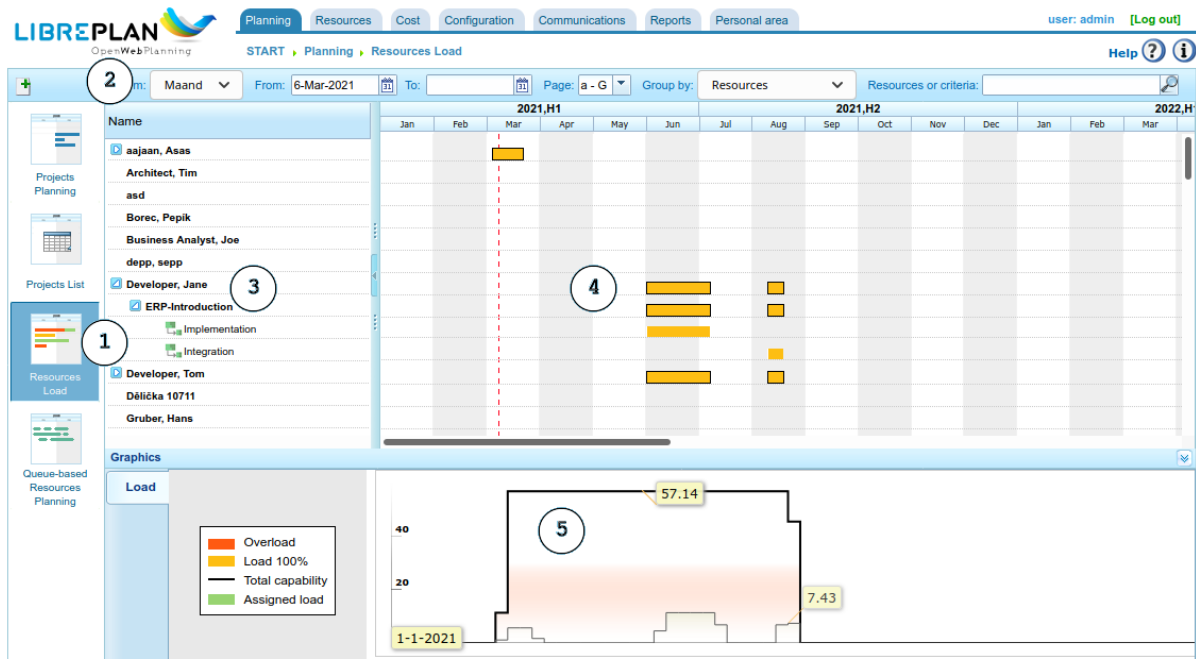
But the question remains: "Why should you assign resources to a task?" What's the purpose. We will show that to you in the next chapter.

Chapter 7. The resource perspective

After assigning a resource to a task we would like to get insight on the load we have put on our resources. Who is doing what? Has anybody a load more than his availability?

7.1. Human resources

All will become clear when we look at the *resources* screen. You can reach this via the third icon from the top in the column on the left, or via the menu *Planning* → 'Resources load'. The resulting screen should look similar to the one shown here:



The explanation of the numbered bullets is as follows

1. You can reach this screen by clicking on this icon in the column on the left.
2. You can select the granularity of your view. Either weekly, monthly, quarterly or yearly.
3. We are zooming on on the load on the resource "Developer, Jane".
4. The color orange is to indicate that somebody is allocated for 100% of his/hers availability. This also takes into account the contract of this resource and any holidays he/she has reserved. .
5. Here you can see the overall work load of all resources during the shown period. The thick black line is a sum of the total available resources within your company. The thin black lines are the actual allocated resources. If the thin line is shown above the thick line than you have over assigned resources (also indicated with a red colored area).

In the resource view you can also filter on the name of a resource to see only that specific load.



The default filter is on resources whose name starts between "A" and "G". You can select the option "All" to show all resources, but this is not the default behaviour.

7.2. Machine resources

Below the resources perspective view icon on the left you see a Queue-based resource allocation Planning perspective.

It is very similar to the earlier shown resources load perspective but mend for machines who can only work on one single task at a time and are only available for additional work after having finished all prior tasks.

Chapter 8. Advanced usage

In this chapter we will discuss a couple of things that we consider "Advanced usage".

8.1. Advanced assigning

When you open a project in the "Project planning" view, and from that project you open a task, rightclick on it and select i "Advanced allocation" you can tune the assignment of resources to this task. E.g. Have someone work 4 hours on this project in Wednesday, and 2 hours on Thursday.

If you want to do advanced assignment with one project but for every task, there is an "Advanced allocation" screen for that too. You will find it as the fourth icon from the top in the iconpanel on the left.

8.2. Project dashboard

When you have opened a project you can see a "Dashboard" icon as the fifth icon from the top in the iconpanel on the left. It displays a lof of information regarding the status of this project.

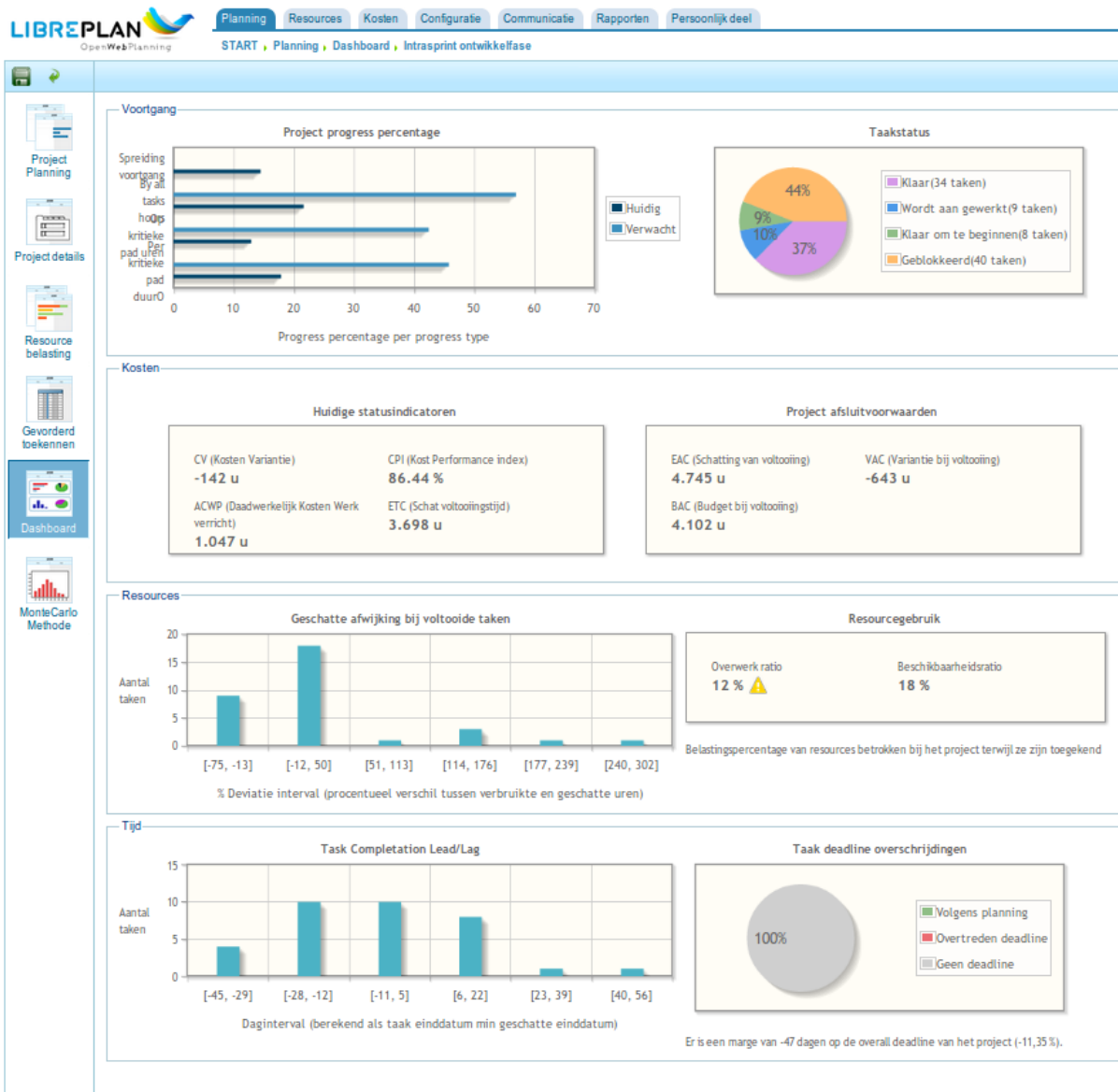


Figure 8. Project dashboard

This dashboard is divided into 2 sections. One at the top for "Progress" information and one below for "Cost" information, displaying the following information:

- Progress percentage per progress type.
 - Expected and actual progress of tasks.
 - Overview of the status of tasks. How many are ready, how many are not ready yet, Overzicht van de status van taken. Hoeveel zijn er al klaar, hoeveel nog niet, etc..
- Cost.
 - Current state indicators.
 - CV (Cost Variance)
 - ACWP (Actual Cost Work Performed)
 - CPI (Cost Performance Index)
 - ETC (Estimate to Complete)
 - Project closing provision.

- EAC (Estimate At Completion)
- BAC (Budget At Completion)
- VAC (Variance At Completion)
- Resources
 - Estimation Deviation on Completed Tasks
 - Resource Usage
 - Overtime Ratio
 - Availability Ratio
- Time
 - Task Completion Lead/lag
 - Task deadline violations (There is a margin of X days with the project global deadline (Y %).)

8.3. Monte Carlo method

The Monte Carlo method is an analyses method to predict the duration of a project. After entering a lot of variables (most will be calculated and presented to you) a calculation can be done after which a curve is presented with the most likely duration of the project.

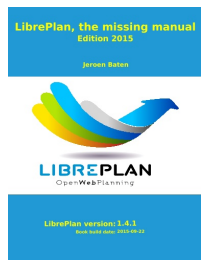
For more information <http://quantmleap.com/blog/2010/07/project-risk-management-and-the-application-of-monte-carlo-simulation/>

LibrePlan Enterprise commercial services

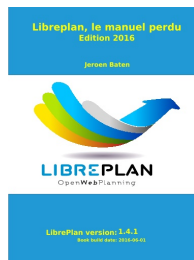
Books

There is a lot that LibrePlan can do. Much more than we can put in a quick-start guide. If you like to know everything there is to know, the following books are available:

English: LibrePlan, the missing manual



French: LibrePlan, le manuel perdu



Both book are for sale on the <https://lulu.com> website.

Training, Support and Customization work

If you like commercial services, like training, support and customization, please contact LibrePlan Enterprise BV via our email address sales@www.libreplan-enterprise.com or visit our website at <https://www.libreplan-enterprise.com>.

We have been supporting LibrePlan since 2014 and will continue to do so.



Business Address:

Frisolaan 16
4101 JZ Culemborg
the Netherlands

Email: Sales@libreplan-enterprise.com

Phone: +31 648 519 096

Timezone: CET

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