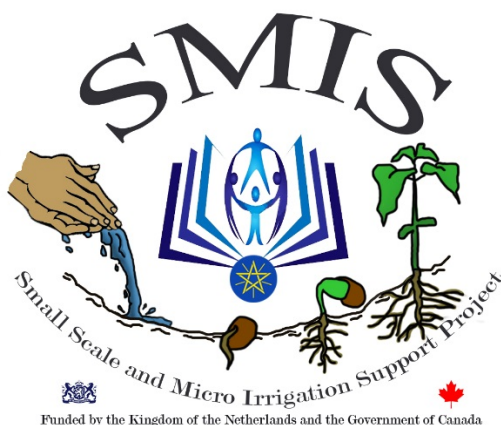


# **Project Management Training**

## **ProjectLibre Tutorial**

**For the**

**Small Scale and Micro Irrigation Project (SMIS)**



**Prepared by**

**Amhara SMIS Team in cooperation with  
Government PIT members**

**Version 1.1 – October 3, 2016**

Page intentionally left blank

# TABLE OF CONTENTS

---

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
<b>2</b>	<b>Creating your first project.....</b>	<b>2</b>
2.1	DOWNLOADING, INSTALLING AND RUNNING PROJECTLIBRE .....	2
2.2	CREATING YOUR FIRST PROJECT .....	2
2.3	ADDING YOUR FIRST TASK .....	3
2.4	CONNECTING THE TASKS .....	4
2.5	EXERCISE .....	5
<b>3</b>	<b>ProjectLibre Calendar Options .....</b>	<b>6</b>
3.1	EXCLUDING DAYS AT CALENDAR.....	7
3.2	INCLUDING DAYS AT CALENDAR.....	7
3.3	DEFINING YOUR OWN CALENDAR .....	8
3.4	USING THE CALENDAR OPTIONS .....	8
3.5	DEFINING A CALENDAR FOR EACH RESOURCE.....	9
<b>4</b>	<b>Task Breakdown, Resources .....</b>	<b>11</b>
4.1	BREAKING DOWN TASKS .....	11
4.2	USING RESOURCES FOR A PROJECT .....	13
4.3	EXERCISE 2 .....	15
<b>5</b>	<b>Assigning resources, calculating costs .....</b>	<b>16</b>
5.1	PROJECTLIBRE USER INTERFACE REMINDER .....	16
5.2	ASSIGNING RESOURCES AT TASKS.....	16
5.3	RESOURCE ALLOCATION .....	20
5.4	PROJECT COSTS CALCULATION .....	21
5.5	EXERCISE 3 .....	23
<b>6</b>	<b>Project Baseline, Progress monitoring, Reports .....</b>	<b>24</b>
6.1	WHAT IS A PROJECT BASELINE? .....	24
6.2	CREATING A PROJECT BASELINE WITH PROJECTLIBRE.....	24
6.3	PROGRESS .....	25
6.4	REPORTS .....	27
6.5	PROJECT DETAILS REPORT.....	28
6.6	RESOURCE INFORMATION – DEFAULT .....	29
6.7	RESOURCE INFORMATION – EARNED VALUE.....	29
6.8	TASK INFORMATION – CONSTRAINT DATES .....	29
6.9	TASK INFORMATION – COST.....	30
6.10	TASK INFORMATION – DEFAULT.....	30
6.11	TASK INFORMATION – EARNED VALUE .....	30
6.12	TASK INFORMATION – TRACKING .....	31
6.13	WHO DOES WHAT – TASKS ASSIGNED.....	31
<b>7</b>	<b>Wrap-up .....</b>	<b>32</b>

## ACRONYMS

---

SMIS    Small-Scale and Micro Irrigation Support Project

SSI     Small-scale Irrigation

# 1 INTRODUCTION

---

[ProjectLibre](#) is now probably the best open source project management tool available. It is created by the former founders of OpenProj and is catching up a lot lately. At the following article, we will create a sample project with ProjectLibre and show its basic functions.

Nearly all data are entered in tables as rows (like Excel) and after all these data are entered all the diagrams, Gantt and WBS are generated automatically for you. Most of the times, you will not have to draw the diagrams yourself, all you have to do is focus at your project and at entering the correct data.

The tutorial you have before you is based on an internet-based tutorial, which can be found at:

<http://project-management.com/projectlibre-tutorial-part-1/>

While strictly speaking copyright is applicable, the objective of the tutorial is to reach as many people as possible, and because internet connections are limited in Ethiopia, the SMIS project has prepared this off-line version. The examples and screen dumps have been updated as the figures in the original tutorial are of too low a quality to clearly read.

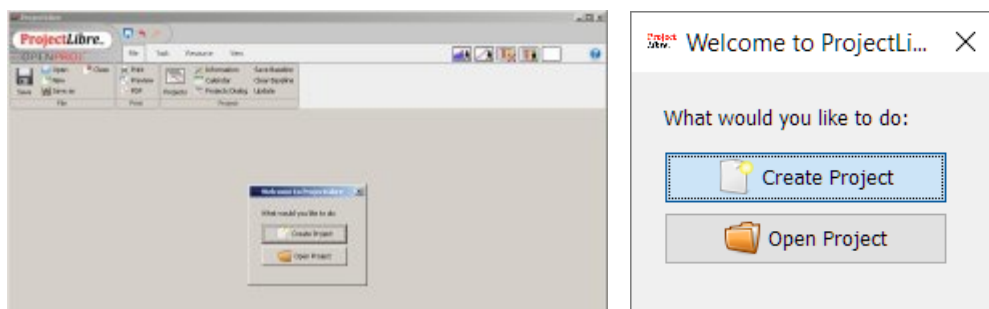
We like to acknowledge ProjectManagement.com as original authors of this tutorial and encourage everyone to visit their website.

## 2 CREATING YOUR FIRST PROJECT

---

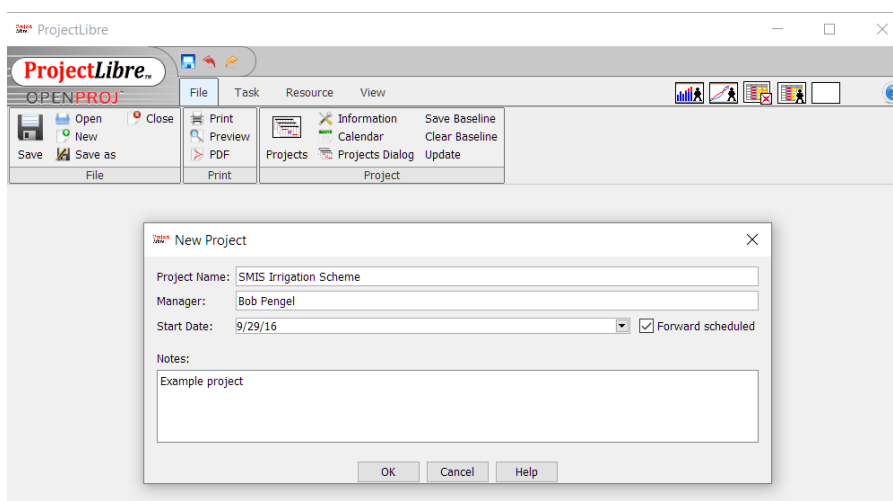
### 2.1 Downloading, installing and running ProjectLibre

If you have a Windows machine, you can download the .msi file at <http://sourceforge.net/projects/projectlibre/>. If you are on a Mac or Linux, you can browse the latest version at <http://sourceforge.net/projects/projectlibre/files/ProjectLibre/>. Here you can download the .dmg file for ProjectLibre for Mac, .deb, .rpm and .tar.gz for Linux. I assume that you are able to download and install software on your machine. So, after downloading, installing and running ProjectLibre, you should be able to see the following:



### 2.2 Creating your first project

After clicking on 'Create Project' you must enter some very basic project details about it. At the following screen:



**Project Name:** The project's name

**Manager:** Who manages the project (enter your name)

**Start Date:** When does the project begin (enter today's date)

**Notes:** Some notes about the project

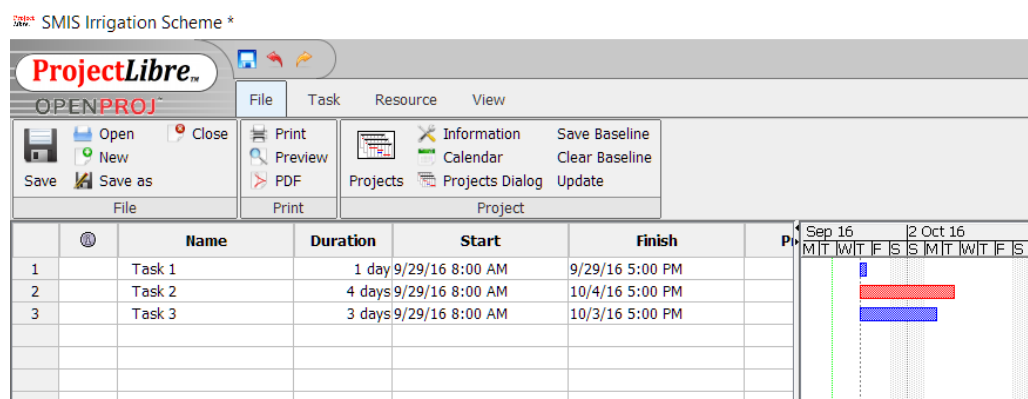
**Forward scheduled:** Keep this option checked. If 'Forward Scheduled' is checked, then you have a start date for your project and according to the tasks that you enter, the projects end date is recalculated. This is usually the case for irrigation engineering projects. (We select this option

## CREATING YOUR FIRST PROJECT

now). If 'Forward Scheduled' is unchecked, then you enter the project's finish date/deadline and the project must end at the specific date (eg for a project involving a scheduled event at a hotel).

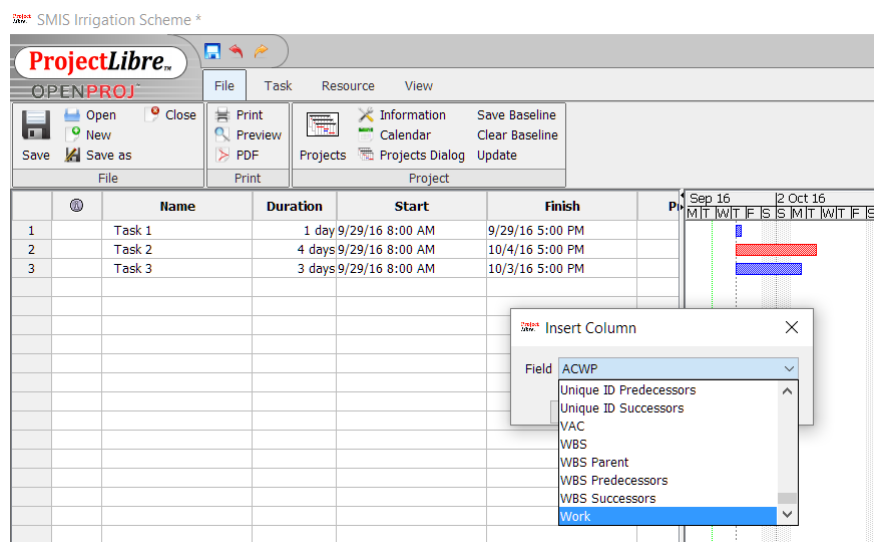
### 2.3 Adding your first task

After you have created the project you can add your first task. On the table on the left, you can add the Task's 'Name', 'Duration' and 'Start' (finish is calculated automatically). You can practice changing the 'Duration' from 1 day to 20 days to see that the chart on the right changes.



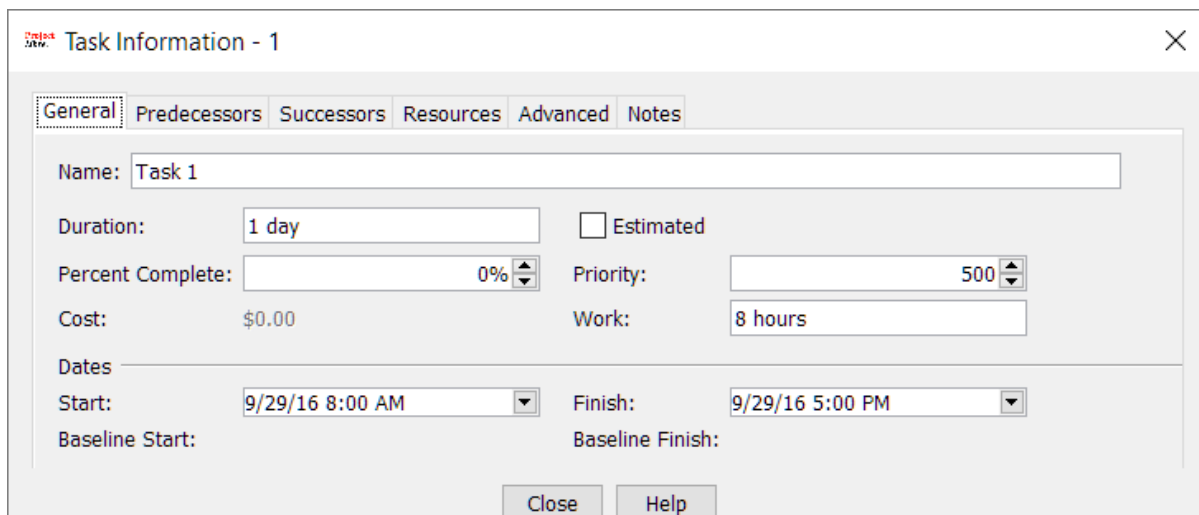
On the right of ProjectLibre is where you can see the project's Gantt diagram (we will get back to this later).

Since it is normal that you would want to be able to see how many hours the task would take, you can right click on column 'Duration', click 'Insert column' and then choose 'Work'.



Now you should be able to see your task's total hours. After showing the total project's work hours, double-click on the tasks record to see some options. For example: double click on 'Task 1' text.

## CREATING YOUR FIRST PROJECT



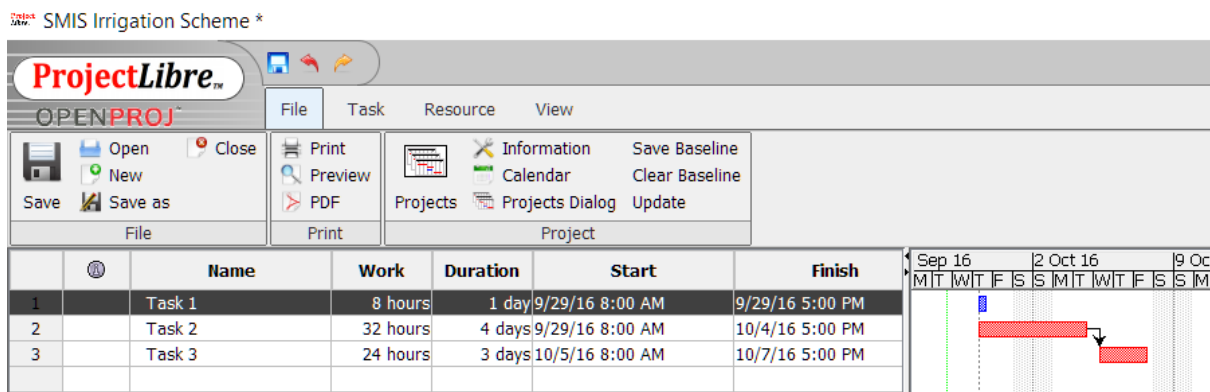
As you can see you can see some of the task's options:

'Duration' and 'Work' represent the task's duration. 'Start' represents the task's start and 'Finish' is calculated automatically. You can click on 'Estimated' if you are not sure about the task's duration. A question mark will be shown near the 'Duration'. We will get on the other tabs (Predecessors, Successors, Resources and Advanced) in a later part of the tutorial.

### 2.4 Connecting the tasks

One of the most fundamental actions that you will do when planning a project is connecting some tasks (some tasks might be dependent on some others).

Drag and drop the second task to the third task using the bars in the Gantt chart. Your tasks are now dependent on each other and they are displayed in red. The blue task bar (Task 1) means that the project duration is not dependent on it. As you can image you can visualize your project's critical path this way.



	Name	Work	Duration	Start	Finish
1	Task 1	8 hours	1 day	9/29/16 8:00 AM	9/29/16 5:00 PM
2	Task 2	32 hours	4 days	9/29/16 8:00 AM	10/4/16 5:00 PM
3	Task 3	24 hours	3 days	10/5/16 8:00 AM	10/7/16 5:00 PM

Do not forget to save your project regularly!



## ***CREATING YOUR FIRST PROJECT***

### **2.5 Exercise**

Do the above tasks again, try to do it without looking at the tutorial:

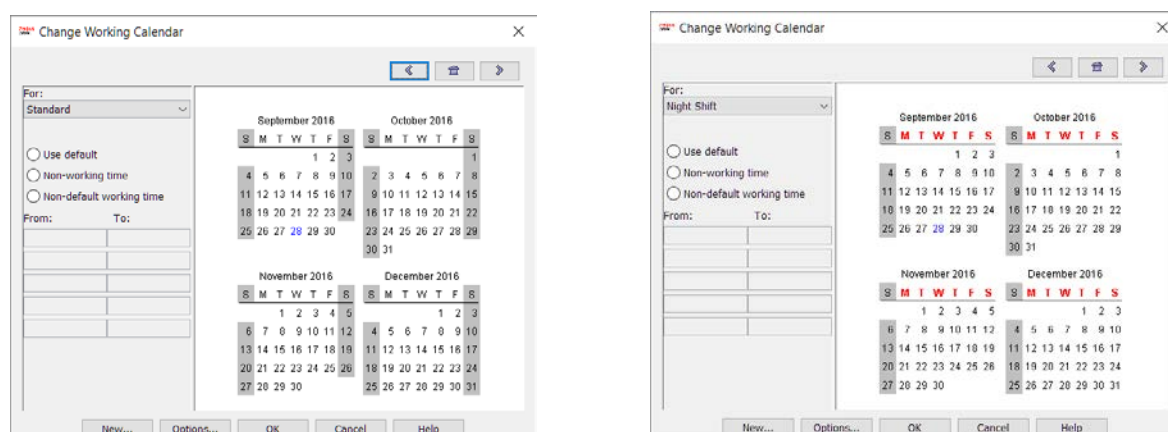
- Create a new project
- Add at least 3 tasks (or more)
- Connect at least 2 tasks.

### 3 PROJECTLIBRE CALENDAR OPTIONS

With ProjectLibre you have many calendar options. You can define your own working and non-working days, and different calendars for different resources. Let's start with the basics and edit your standard calendar.

Note: it is important to set the calendar options before you start preparing your project. If holidays are added or changed afterwards you might see that the Gantt diagram does not look ok now where there is task dependency. If such a problem occurs click on the connection arrow and ok in order to fix the connection. Something else that you must pay attention to is that sometimes days might not be correctly recalculated. You should close the project and reopen it if something looks strange to you, or if the bars in the Gantt chart do not change. Still, the best option is to define the calendar before you start entering your project.

Click on the 'Calendar' button on top. It should be available whether you are at the File, Task and Resource section of ProjectLibre. You will see that the available days have white background while the non-available days have gray background. At the standard calendar the non-available days are the weekends (Saturday and Sunday) (see below left).



Select For "Night Shift" on top left and see the changes. As you will notice, at Night Shift calendar the Saturdays are available for work (see above right). You can try selecting '24 Hours' too to see what happens.

Now, select 'Standard' again and let's make some changes. You will notice that below Calendar choice are three options:

Use default: Use the calendar's default option for this day

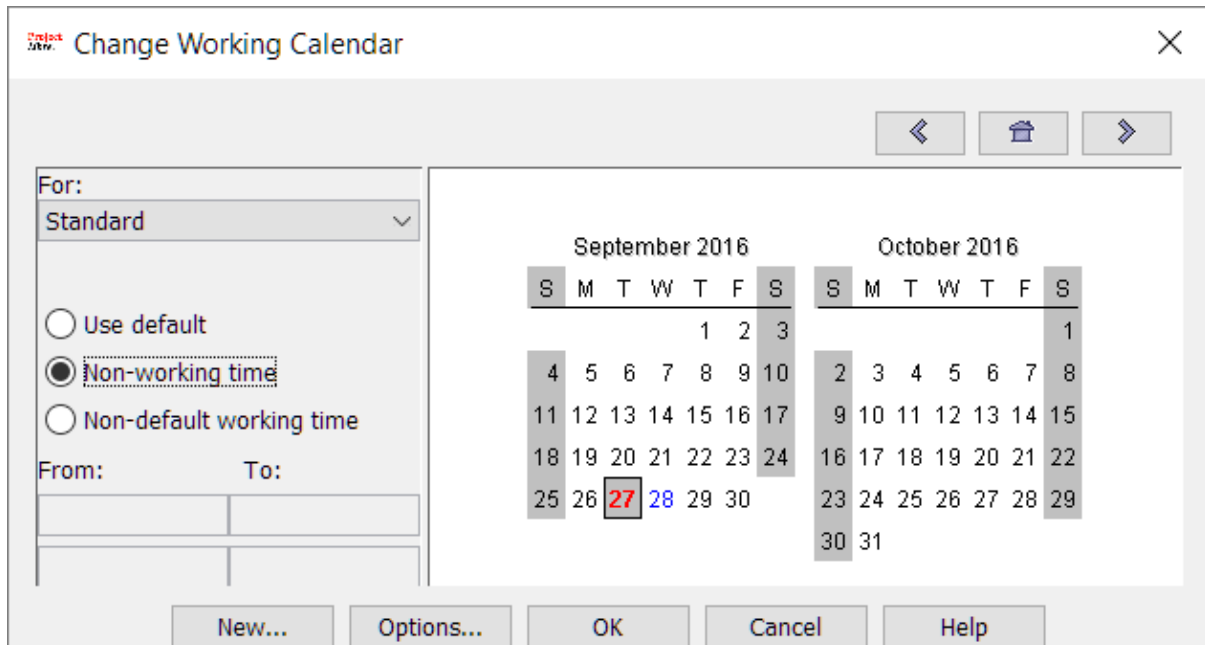
Non-working time: Ignore the calendar's default option for this day and make this a non-working day

Non-default working time: Ignore the calendar's default option for this day and make this a working day

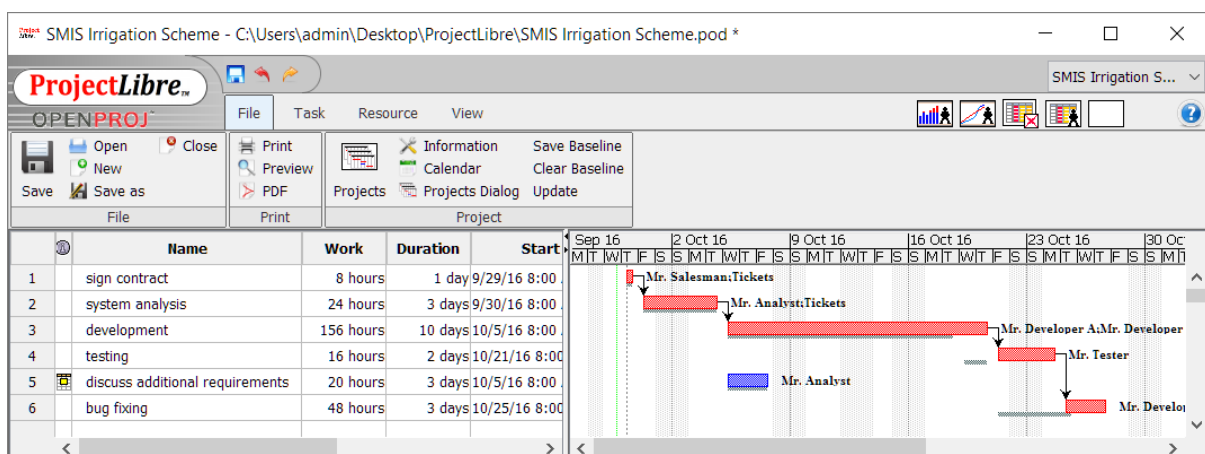
## CALENDAR OPTIONS

### 3.1 Excluding days at calendar

One of the most common changes that people want to apply at the calendar is to exclude National Holidays from the calendar. Click on a day (e.g. 27th of September, Meskel) and then select 'Non-working time'

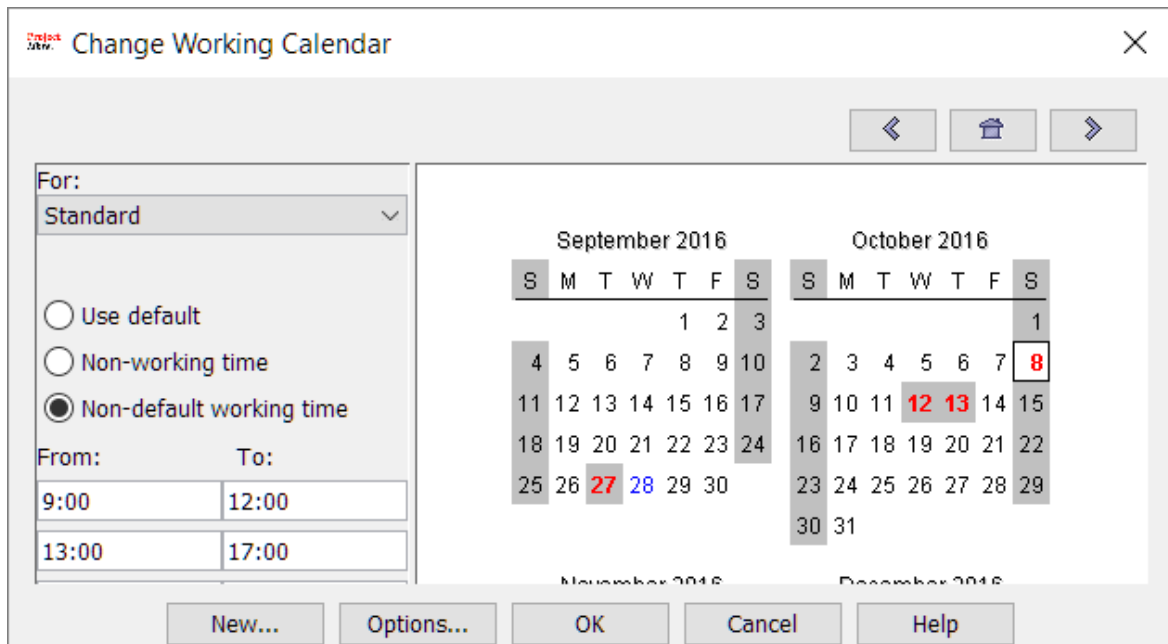


You will see that the day is now red with a gray background. The red color means that there is a special rule for this day and the gray background means that this day is not a working day. Add 12 and 13 October too as holidays to see what happens. The days are now gray in the Gantt chart just like the weekend days.



### 3.2 Including days at Calendar

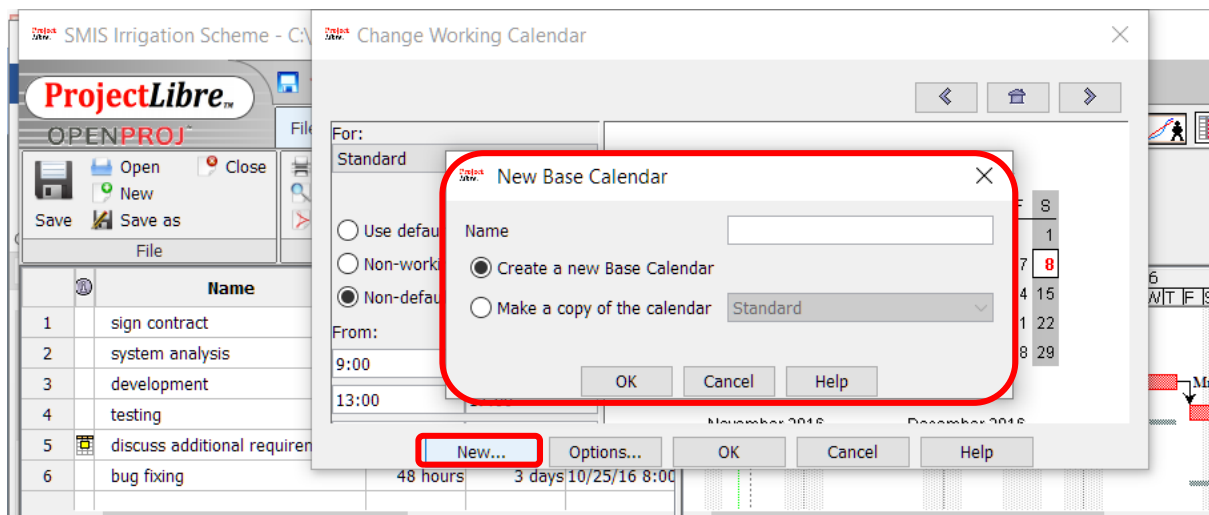
Similar to the previous instructions, by clicking on a weekend day (say, October 8th 2017) and selecting 'Non-default working day' you can set this day as a working day. Also, by selecting this option, you can set specific work hours for that day.



### 3.3 Defining your own Calendar

Note: This is not really recommended unless you know exactly what you are doing.

By clicking on 'New' at the bottom of the calendar window, you can create your own calendar that you can use. This might be useful if you have specific workhours for different teams, or resources. Your new calendar can be completely new or based on an existing calendar of yours.



### 3.4 Using the Calendar options

After defining your calendar options, you can set your new calendar or define the task's calendar at the task's details. Double-click on a task and then click 'Advanced'. There is the option 'Task Calendar'. You can choose the Calendar that this task will use there. Also, you can choose to ignore the Resource calendar or not (we will talk about this in a while)

## CALENDAR OPTIONS

Task Information - 3

General Predecessors Successors Resources Advanced Notes

Name: development

WBS:  ☐ Display task as milestone

Constraints

Constraint Type: As Soon As Possible Constraint Date:

Deadline:

Type: Fixed Units ☒ Effort Driven ☐ Ignore Resource Calendar

Task Calendar:

Earned Value Method: % Complete

Close Help

### 3.5 Defining a calendar for each resource

Instead of defining a calendar for a task, you can define a calendar for a resource. Click on 'Resources' on the top menu and then on the 'Resources' button on the left to view your available resources. Double-click on a resource. At the 'Resource Information' dialogue you can see the 'Base Calendar' option. You can leave that option unchanged or change it to any other calendar (ProjectLibre's or your own). After changing that option, if you click on the button on the right you can make further customizations.

ProjectLibre

SMIS Irrigation Scheme - C:\Users\admin\Desktop\ProjectLibre\SMIS Irrigation Scheme.pod \*

Resource Information

General Costs Resource Availability Tasks Notes

Name: Mr. Salesman Initials: S

E-mail Address:  Group:

RBS:  ☐ Generic

Type: Work Material Label:

Base Calendar: Standard

Close Help

Change Working Calendar

For: Mr. Salesman

Based on Standard

☐ Use default

☐ Non-working time

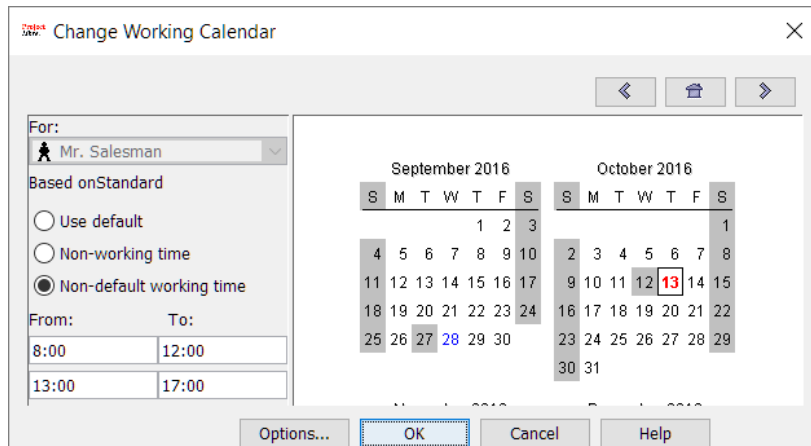
☐ Non-default working time

From:  To:

Options... OK Cancel Help

## CALENDAR OPTIONS

If you have defined the 13<sup>th</sup> of October as a national holiday, then you will see it as gray here. For the purposes of the tutorial, we will make this resource available. You can go on and click on 13<sup>th</sup> October and select 'Non-default working time'. Now, for only this specific resource, the calendar is changed and shows red on a white background.



Note: This option should not be used too often, if at all, as it makes the project very complex.

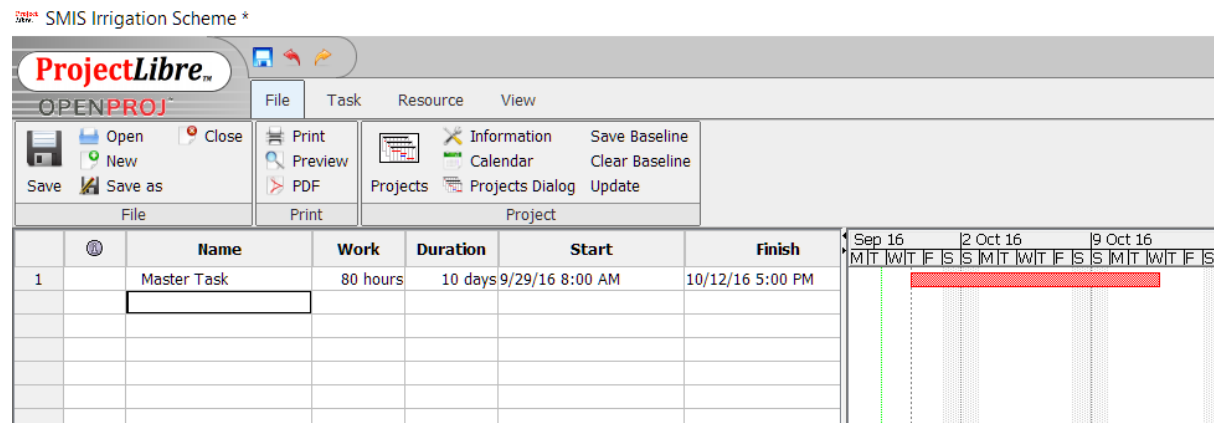
I hope that after this tutorial you have a better understanding of how Calendar works for ProjectLibre.

## 4 TASK BREAKDOWN, RESOURCES

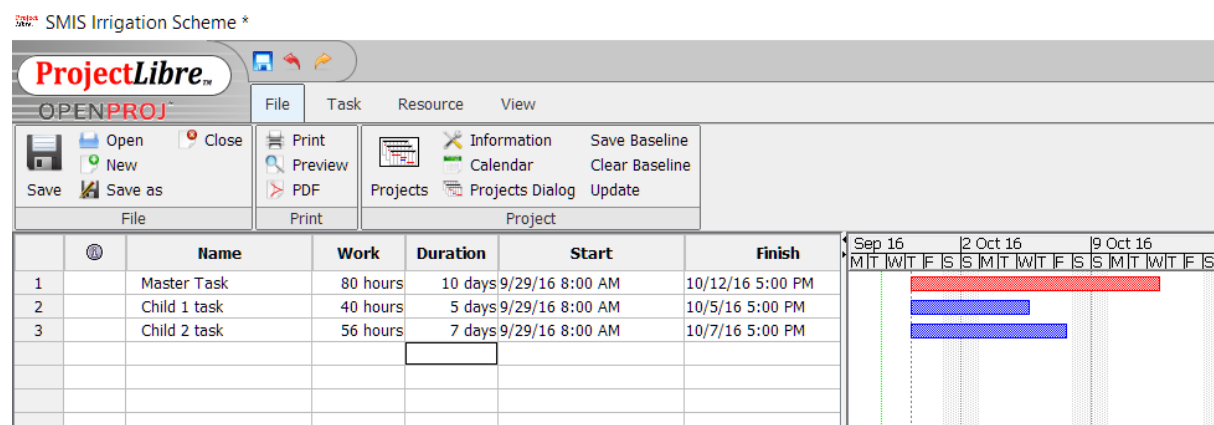
At the first part of the tutorial we described how to create your first [ProjectLibre](#) project and add your first tasks. At this part of the tutorial, we are going to see how to add subtasks and how ProjectLibre handles resources.

### 4.1 Breaking down tasks

Let's start by adding a master task. Add a task with a duration of 10 days as at the image below.



After adding the task lets breakdown this task to other tasks. Add another task called 'Child task 1' with a duration of 5 days and another task called 'Child task 2' with a duration of 7 days.



We now have three tasks independent from one another. As you have noticed, the first one is red. This is because it is the most critical one. Meaning that the project duration is dependent on that. Anyway, let's connect 'Child task 1' and 'Child task 2' with 'Master task'. If you right click on 'Child task 1' you will see some options.

## TASK BREAKDOWN, RESOURCES

SMIS Irrigation Scheme \*

	Name	Work	Duration	Start	Finish
1	Master Task	80 hours	10 days	9/29/16 8:00 AM	10/12/16 5:00 PM
2	Child 1 task	40 hours	5 days	9/29/16 8:00 AM	10/5/16 5:00 PM
3	Child 2 task	56 hours	7 days	9/29/16 8:00 AM	10/7/16 5:00 PM

You can understand what New, Delete, Cut, Copy and Paste do.

We are going to use the 'Indent' option for now. So, right click on 'Child task 1' and 'Indent'. Do the same for 'Child task 2'.

SMIS Irrigation Scheme \*

	Name	Work	Duration	Start	Finish
1	Master Task	96 hours	7 days	9/29/16 8:00 AM	10/7/16 5:00 PM
2	Child 1 task	40 hours	5 days	9/29/16 8:00 AM	10/5/16 5:00 PM
3	Child 2 task	56 hours	7 days	9/29/16 8:00 AM	10/7/16 5:00 PM

You can see immediately the following:

- Both child tasks are 'enclosed' to Master task.
- Master task look has changed
- Master task duration has automatically changed.

Congratulations on making it possible to breakdown 'Master task'!

Let's make things a little bit more complicated now. Below 'Child task 2' add 'Child for child 2' and 'Child for child 2b'. Add a duration of 2 days for the first, and 8 days for the second. Also, link the two tasks as we have shown at the previous ProjectLibre tutorial part (making the 'Child for child 2' completion a prerequisite for 'Child for child 2b'). Then select both tasks (hold Ctrl key pressed and click on number 4 and 5) and then click 'Indent'. The result should look like the following picture:



## TASK BREAKDOWN, RESOURCES

SMIS Irrigation Scheme \*

	Name	Work	Duration	Start	Finish
1	Master Task	120 hours	10 days	9/29/16 8:00 AM	10/12/16 5:00 PM
2	Child 1 task	40 hours	5 days	9/29/16 8:00 AM	10/5/16 5:00 PM
3	Child 2 task	80 hours	10 days	9/29/16 8:00 AM	10/12/16 5:00 PM
4	Child for child 2	16 hours	2 days	9/29/16 8:00 AM	9/30/16 5:00 PM
5	Child for child 2b	64 hours	8 days	10/3/16 8:00 AM	10/12/16 5:00 PM

Also, instead of using the mouse to Link and Unlink tasks and right click in order to indent you can use the following buttons located on the top toolbar, see red outline. Make sure the tab 'Task' is selected.

SMIS Irrigation Scheme \*

### 4.2 Using resources for a project

Since you got a pretty good idea about how you can handle tasks, break them down and connect them, we can now move on to the resources section of a project. Click on Resources at the top (and if necessary select Resources at top left, see red outline) menu and you should see the following image:

SMIS Irrigation Scheme \*

	Name	RBS	Type	E-mail Address	Mat

Now go on and add the following resources as in the image, Mr Analyst (type=Work) and 0.5 kg coffee (type=Material).

## TASK BREAKDOWN, RESOURCES

SMIS Irrigation Scheme \*

ProjectLibre

OPEN PROJ

File Task Resource View

Resources

Views

Clipboard

Resource

	Name	RBS	Type	E-mail ...	Material Label	Initials	Group	Max. Units	Standard Rate	Overtime Rate	Cost Per Use	Accrue At	Base Calendar
1	Mr. Analyst		Work			A		100%	\$10.00/hour	\$15.00/hour	\$0.00	Prorated	Standard
2	Coffee 1 kg		Material			C			\$5.00		\$0.00	Start	

The important elements here are:

**Type:** It can be either material or work

**Standard rate:** Rate of use per hour

**Overtime rate:** If the resource is used at a time different than normal working hours (overtime).

Then use this rate

**Cost per Use:** This is for contract jobs or for materials. If you hire someone and you pay him a fixed amount to do the task, then you can use this item instead of standard rate. Also, if you consume some resources then you have to use this item too.

**Accrue at:** 'Prorated' means that costs are calculated when the task is planned, 'Start' means when the task starts and 'End' when the task ends. Until you have more experience please use 'Prorated' now.

**Base calendar:** We will get to this at a later part of the tutorial.

If you double-click on any resource row you can click on the 'Costs' tab, see below.

SMIS Irrigation Scheme \*

ProjectLibre

OPEN PROJ

File Task Resource View

Resources

Views

Clipboard

Resource

	Name	RBS	Type	E-mail ...	Material Label	Initials	Group	Max. Units	Standard Rate	Overtime Rate
1	Mr. Analyst		Work			A		100%	\$0.00/hour	\$0.00/hour
2	Coffee 1 kg		Material			C			\$5.00	

Resource Information

General Costs Resource Availability Tasks Notes

Name: Mr. Analyst

Cost rate tables

A	B	C	D	E
EffectiveDate	Standard Rate	Overtime Rate	Cost Per Use	
1/1/70 12:00 AM	\$10.00/hour	\$15.00/hour	\$0.00	
1/1/17 12:00 AM	\$11.00/hour	\$16.00/hour	\$0.00	

Accrue At: Prorated

Close Help

## **TASK BREAKDOWN, RESOURCES**

Now you can define different cost rules for different dates. If a resource charges a different amount for a specific job, you can take advantage of the ABCDE tabs, and define different rates. Also, at the 'Resource Availability' tab, you can define when this resource will be available.

As in Task data entry, at resources, you can also have child resources. So, you can add a resource and 'Indent' it in order to show where it belongs. Example: several persons can form one survey team. Notice however that the master's rates are not auto calculated. You have to enter the rates yourself. It is up to you how you are going to handle resources break down.

That's it for now. Save your project. At the next part of the tutorial we are going to describe how to assign resources to tasks and how project costs are calculated.

### **4.3 Exercise 2**

Do the above tasks again, try to do it without looking at the tutorial:

- Create a new project
- Add tasks
- Indent at least 2 tasks
- Link indented tasks
- Add resources
- Add costs to resources

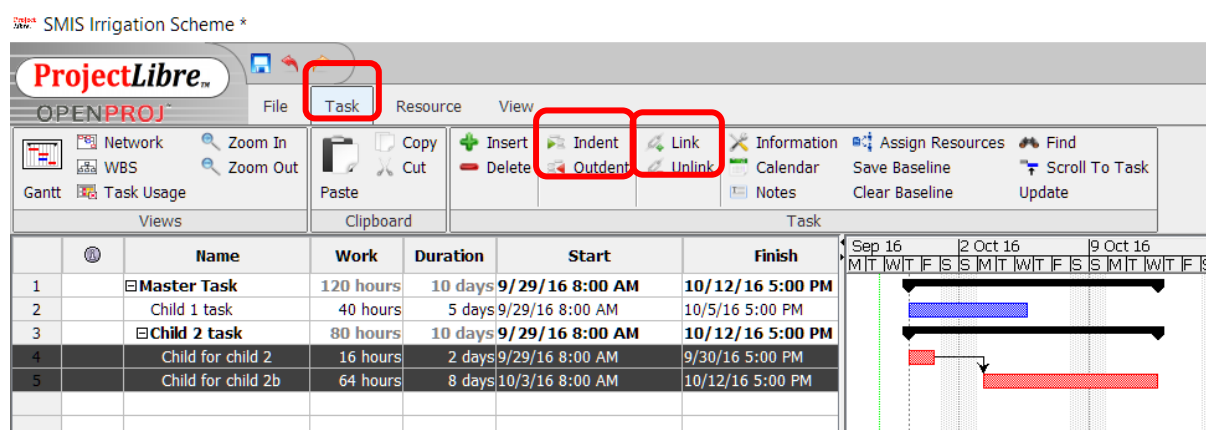
## 5 ASSIGNING RESOURCES, CALCULATING COSTS

At the previous parts of the tutorial we saw how to create your first project, prepare a calendar, create and breakdown tasks and also how to create project resources. At this part of the tutorial we are going to see how we can assign resources to tasks and how to calculate project costs.

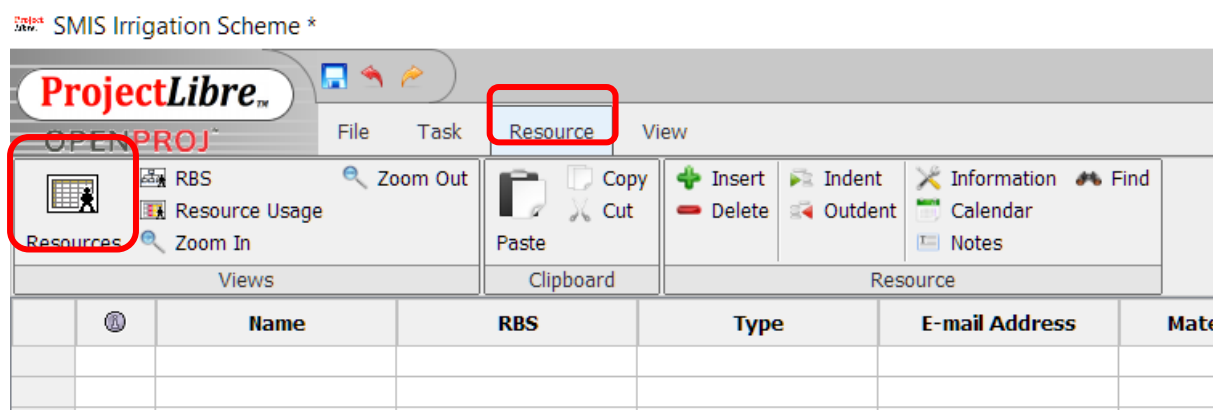
### 5.1 ProjectLibre user interface reminder

After opening your project to switch between resources do the following:

To view tasks click on 'Task' at the top menu and 'Gantt' button on the left:



To view resources click 'Resources' at the top menu and then the 'Resources' button on the left:



### 5.2 Assigning resources at tasks

#### Scenario

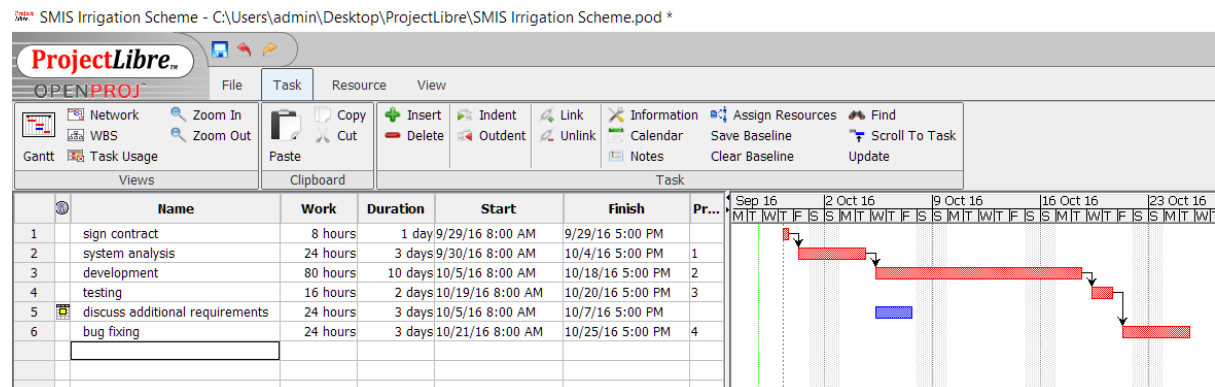
For this part of the tutorial we will have the following very simple scenario about a software project (only enter the names and the duration in days, do not enter any other data):

- Mr Salesman has to visit a client in order to sign the agreement by plane (1 day)
- Mr Analyst has to visit the client in order to discuss requirements by plane (3 days)
- Mr Developer A and Mr Developer B are going to develop the project (10 days)
- Mr Tester is going to test if the project works ok (3 days)
- Mr. Analyst will discuss additional requirements (3 days)

## ASSIGNING RESOURCES, CALCULATING COSTS

- Finally Mr Developer A and Mr Developer B are going to fix the project's bugs

Create the tasks as shown at the following image:



Now that we have created the project's tasks, let's add some resources. For the purpose of the project we are going to use the following resources:

### Material resources

- Tickets for airplane
- 0,5 kg of coffee

### Work (people)

- Mr Salesman
- Mr Analyst
- Mr Developer A
- Mr Developer B
- Mr Tester

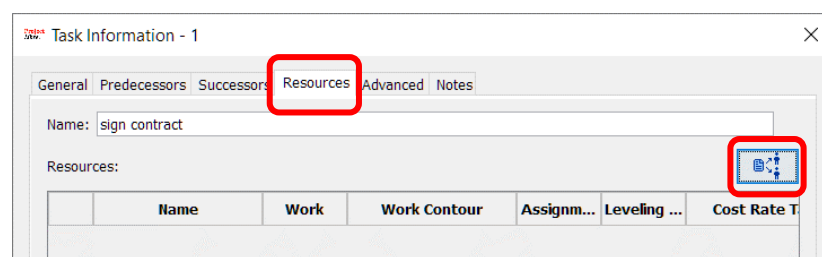
There is no need to add costs yet, only enter the name.

SMIS Irrigation Scheme - C:\Users\admin\Desktop\ProjectLibre\SMIS Irrigation Scheme.pod \*

ID	Name	RBS	Type	E-mail ...	Material Label	Initials	Group	Max. Units	Standard Rate	Overtime Rate	Cost Per Use	Accrue At	Base Calendar
1	Mr. Salesman		Work			S		100%	\$0.00/hour	\$0.00/hour	\$0.00	Prorated	Standard
2	Mr. Analyst		Work			A		100%	\$0.00/hour	\$0.00/hour	\$0.00	Prorated	Standard
3	Mr. Developer A		Work			DA		100%	\$0.00/hour	\$0.00/hour	\$0.00	Prorated	Standard
4	Mr. Developer B		Work			DB		100%	\$0.00/hour	\$0.00/hour	\$0.00	Prorated	Standard
5	Mr. Tester		Work			T		100%	\$0.00/hour	\$0.00/hour	\$0.00	Prorated	Standard
6	Coffee 0.5 kg		Material		Cof				\$0.00/hour		\$8.00	Prorated	
7	Tickets		Material		TX				\$0.00/hour		\$200.00	Prorated	

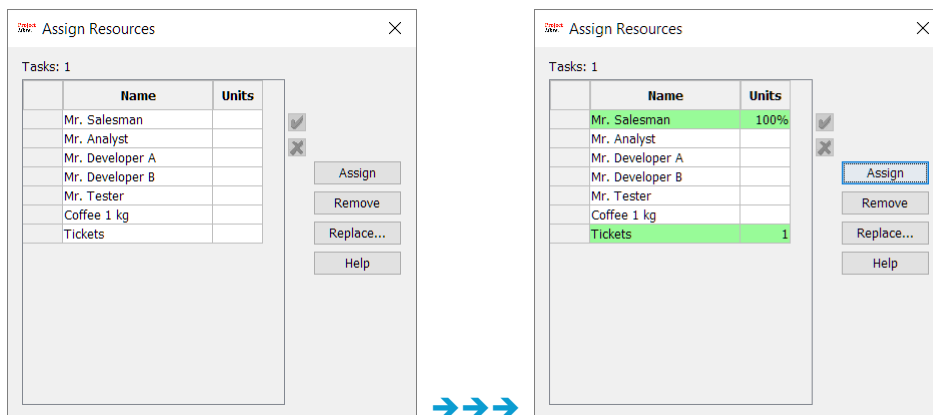
Congratulations! Now we have 2 material resources and 4 work resources available for use!

Now, go at the tasks list, double-click on the first task and then click on the 'Resources' tab.



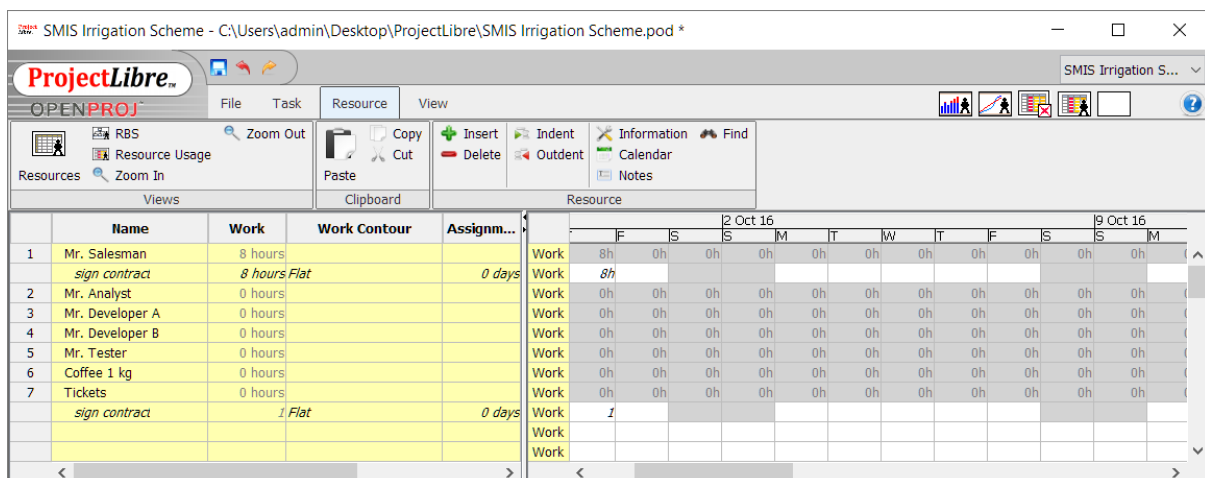
## ASSIGNING RESOURCES, CALCULATING COSTS

Then, click on the blue button with the two people – see red outline.



As you can see, you have the list of your project's resources available. You can Control+click to select multiple resources for a task. Control+click at 'Ticket for airplane' and 'Mr Salesman' and then click on 'Assign'.

You can close the windows and click on 'Resources' at the top menu and then 'Resources usage' on the left. Congratulations on your first resource assignment! As you can see on the left side of the project you can see where each resource is used and on the right side of the project you can see a detailed view of the resource usage per day.

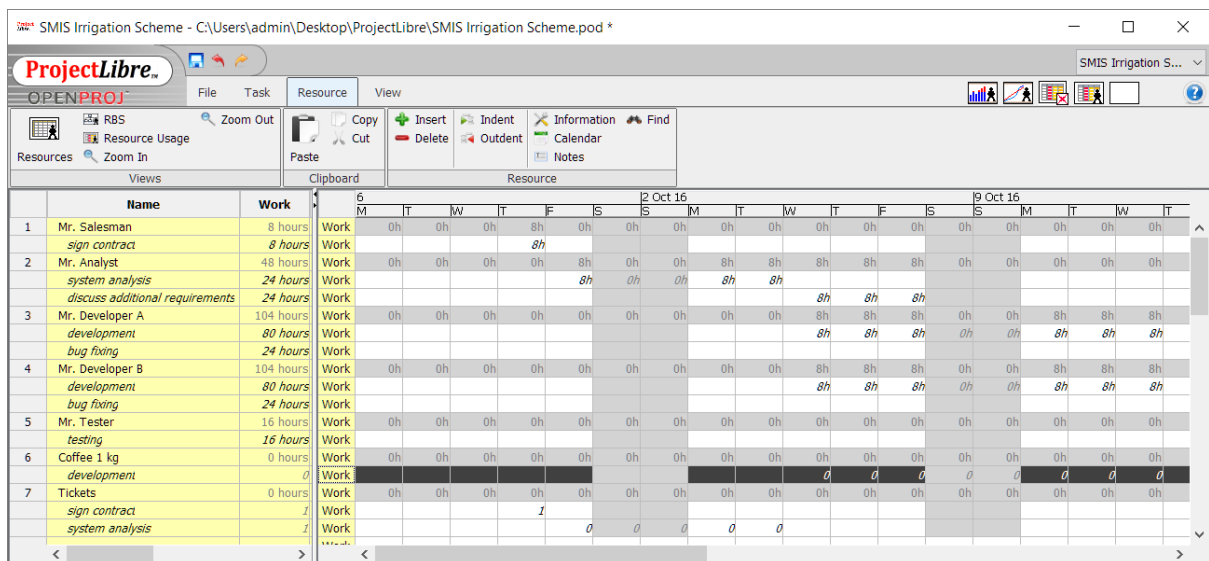


Now, go on and assign the following resources to the following tasks:

- System Analysis: Mr. Analyst, Ticket for airplane
- Develop project: Mr Developer A, Mr Developer B, 0,5Kg coffee
- Test project: Mr Tester
- Discuss additional requirements: Mr Analyst
- Fix bugs: Mr Developer A, Mr Developer B

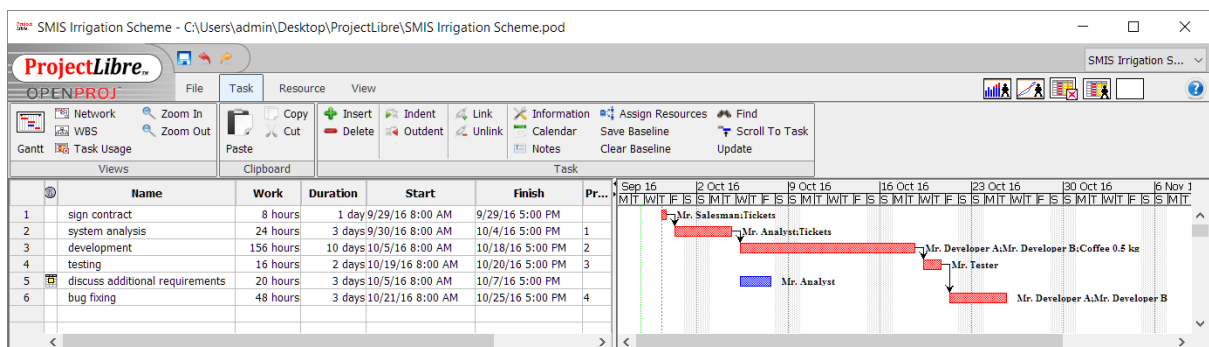
## ASSIGNING RESOURCES, CALCULATING COSTS

Your final Resource usage table should look like this:

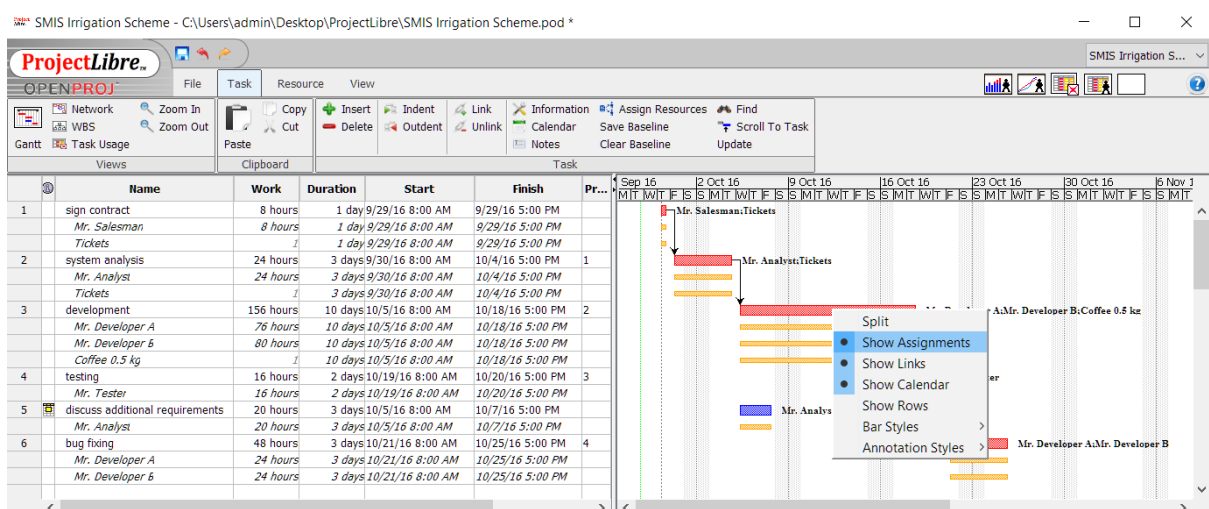


And yes you can go on and change the hours if you wish. Increase or decrease them.

On the Gantt chart the assigned resources show up too as text next to the bars:



By right-clicking the bars in the Gantt chart and selecting 'Show Assignments' the resources assigned to the tasks are shown under the tasks, including their duration.

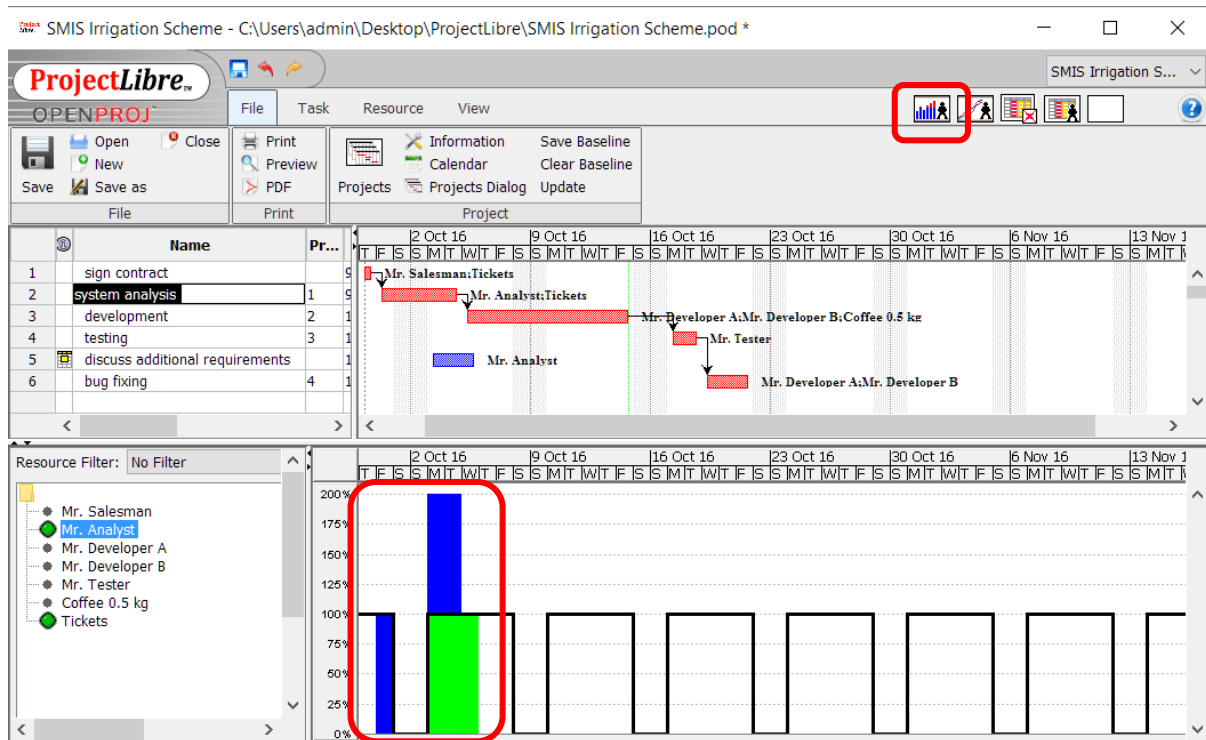




## ASSIGNING RESOURCES, CALCULATING COSTS

### 5.3 Resource allocation

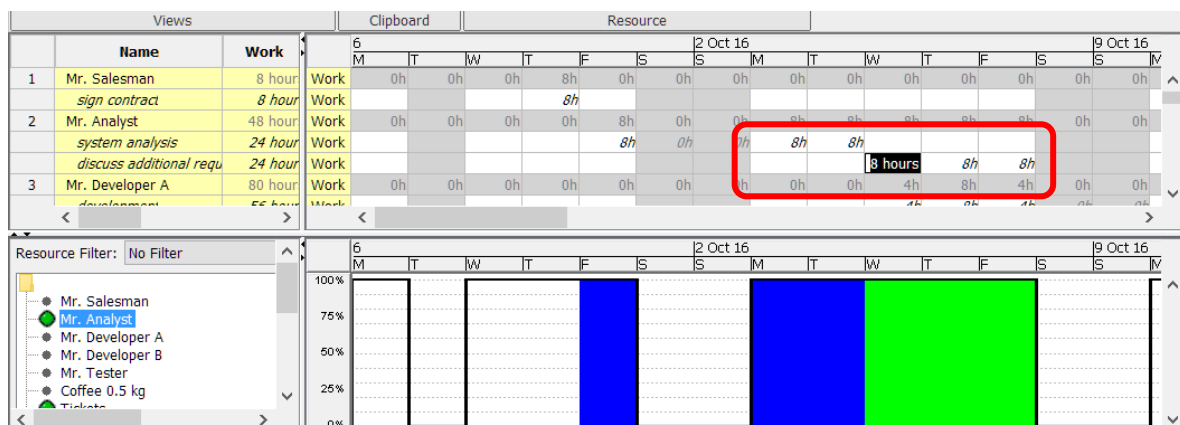
With the Gantt chart showing the assigned resources you can check the allocation of resources, for instance if Mr. Analyst is not assigned to two tasks simultaneously. A nice way to test this is to use 'histograms'. Press the 'Histogram' button on the right hand side of the top ribbon.



The above screen shows that Mr. Analyst is assigned to two tasks simultaneously, on Monday and Tuesday 3 and 4 October. The blue shows the selected task (system analysis), the green the other tasks in the same project that he is assigned to.

This problem can be resolved in two ways: making the start of the second task depending on the first task, so Mr. Analyst can go from system analysis to discussing additional requirements. This will shift task 5 to start by Wednesday October 5.

It is also possible to adjust the time for Mr. Analyst manually, by manually shifting the start date to October 5, or by changing the number of hours in the resource usage table:





## ASSIGNING RESOURCES, CALCULATING COSTS

Of course you can switch off the histogram view by clicking the 'histogram' button again.

### 5.4 Project costs calculation

Those were the basics about assigning resources at tasks. Since we are now confident about resources, we are going to estimate the total project costs. Some words about ProjectLibre costing features:

For each resource you can define:

- Effective date: From when do the following rates are valid
- Standard rate: Rate per hour for normal working hours
- Overtime rate: Rate per hour for overtime working hours
- Cost per use: Cost for resource usage independent of duration. You can combine Cost per use with Standard rate or Overtime rate.

*Notice: Although you can enter 'Overtime rate', I have not figured out how to actually use it.*

Normally you would use standard and overtime rate for your employees and cost per use for materials or contract jobs.

Also, for each resource you can define different rate tables (A to E). When assigning a resource to a task you can choose which rate table to use.

Okay, now let's go and add some costs. Click on the Resources table and add double-click each task to add the following:

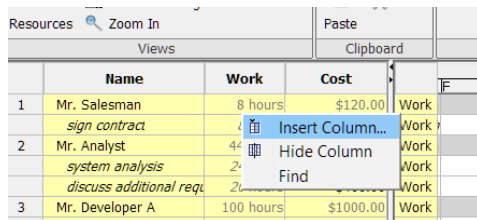
- Ticket for Airplane: Cost per use: 200
- 0.5Kg of coffee: Cost per use: 8
- Mr Salesman: Standard Rate: 15/hour
- Mr Analyst: Standard Rate:20/hour
- Mr Developer A: Standard Rate:10/hour
- Mr Developer B: Standard Rate:10/hour
- Mr Tester: Standard Rate:5/hour

The screenshot shows the ProjectLibre application window with the 'Resource Information' dialog box open for 'Mr. Salesman'. The dialog has tabs for General, Costs, Resource Availability, Tasks, and Notes. The 'Costs' tab is active, showing a table of cost rate tables (A to E). The table has columns for EffectiveDate, Standard Rate, Overtime Rate, and Cost Per Use. The data for table A is as follows:

EffectiveDate	Standard Rate	Overtime Rate	Cost Per Use
1/1/70 12:00 AM	\$15.00/hour	\$0.00/hour	\$0.00

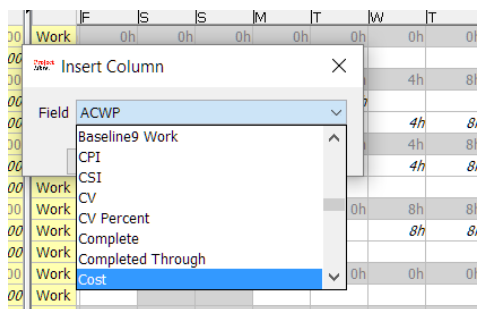
## ASSIGNING RESOURCES, CALCULATING COSTS

Now we want to see the estimated project cost. Go to Resource usage and Right click on the header "Work", then choose "Insert column"



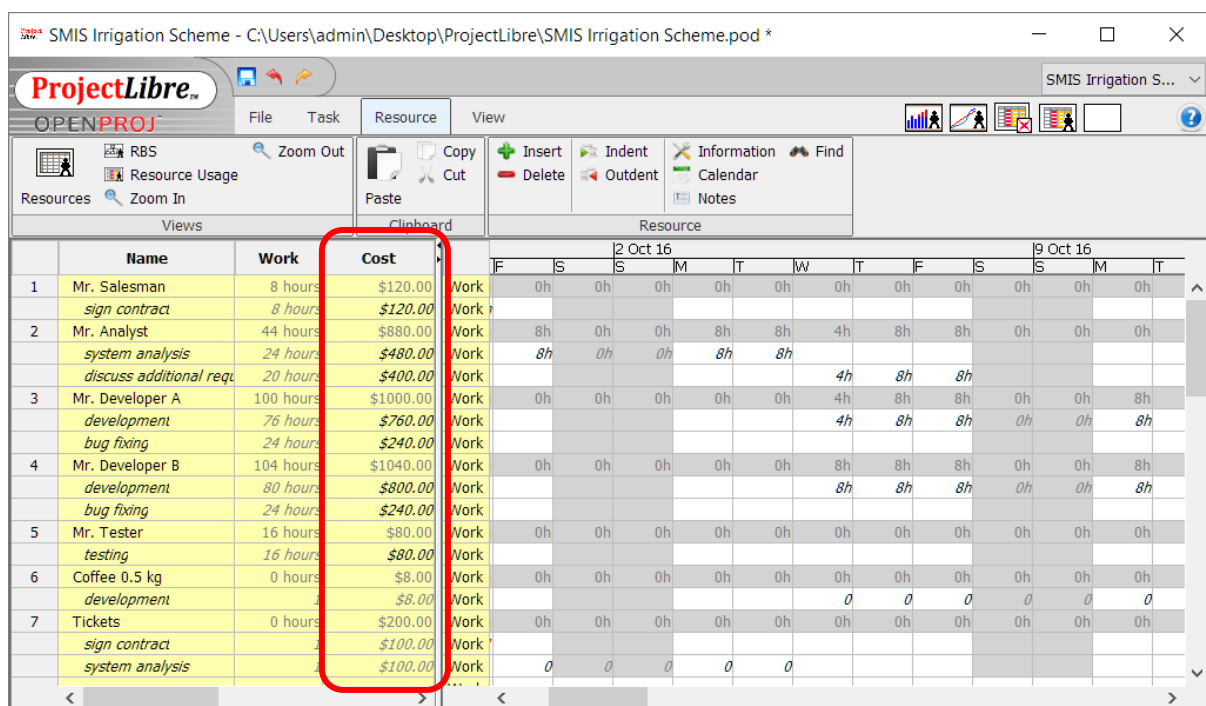
	Name	Work	Cost
1	Mr. Salesman	8 hours	\$120.00
	sign contract		
2	Mr. Analyst	44 hours	
	system analysis	24 hours	
	discuss additional requirements	20 hours	
3	Mr. Developer A	100 hours	\$1000.00

and choose 'Cost'



Field
ACWP
Baseline9 Work
CPI
CS1
CV
CV Percent
Complete
Completed Through
Cost

You should see the column with the cost per Resource-Task. If it is not at the location you wish you can easily re-arrange the columns by dragging.



	Name	Work	Cost
1	Mr. Salesman	8 hours	\$120.00
	sign contract	8 hours	\$120.00
2	Mr. Analyst	44 hours	\$880.00
	system analysis	24 hours	\$480.00
	discuss additional requirements	20 hours	\$400.00
3	Mr. Developer A	100 hours	\$1000.00
	development	76 hours	\$760.00
	bug fixing	24 hours	\$240.00
4	Mr. Developer B	104 hours	\$1040.00
	development	80 hours	\$800.00
	bug fixing	24 hours	\$240.00
5	Mr. Tester	16 hours	\$80.00
	testing	16 hours	\$80.00
6	Coffee 0.5 kg	0 hours	\$8.00
	development	0 hours	\$8.00
7	Tickets	0 hours	\$200.00
	sign contract	0 hours	\$100.00
	system analysis	0 hours	\$100.00

In ProjectLibre you also have the following options

### View cost per Task

Click on 'Task' on the top menu and then 'Task Usage' on the left and then right click on the columns to add 'Cost' column as we did before. You can now see how much each task costs.



## 6 PROJECT BASELINE, PROGRESS MONITORING, REPORTS

At the previous part of the ProjectLibre tutorial we saw how to assign resources to tasks and calculate project costs. At this part of the tutorial we are going to see briefly how to use project baseline, progress monitoring and reports.

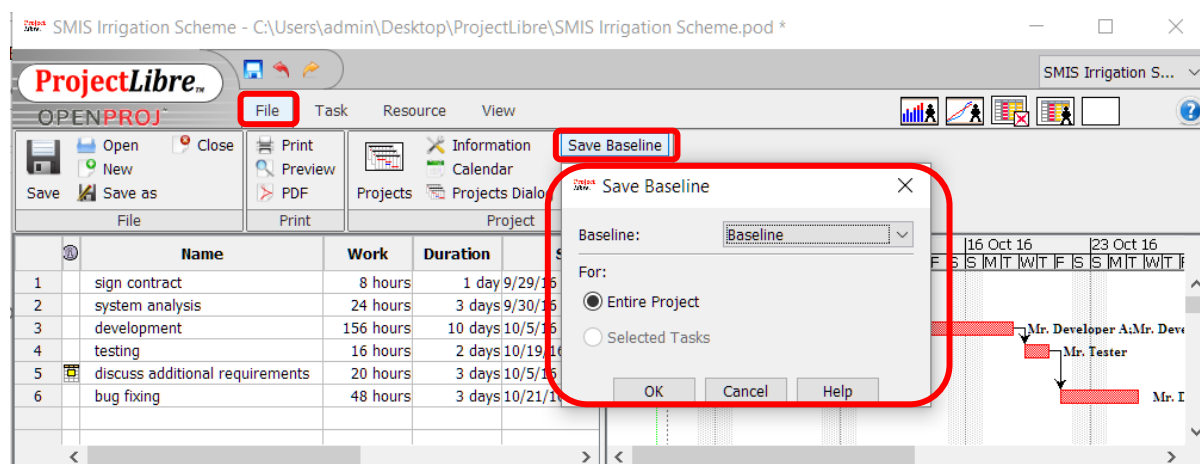
### 6.1 What is a Project Baseline?

A project baseline is the initial project plan which will be used as a reference in the future. It is used mostly to measure the real performance of the project against the initial schedule.

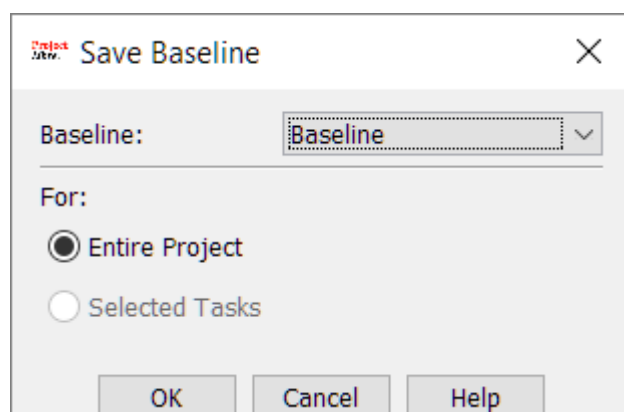
### 6.2 Creating a Project Baseline with ProjectLibre

When you have finished planning your project and before it begins it is a good time to save this 'snapshot' as a baseline.

Load your project and click on File at the menu on the top and then on Save Baseline button

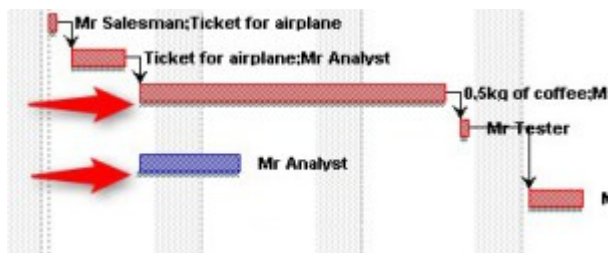


You will see a pop-up window with the following:

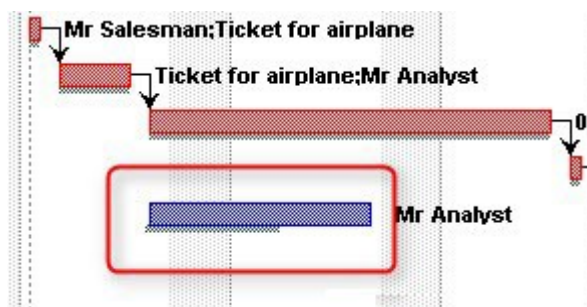


In a project you can have many baselines (up to 10). You can set the baselines at the most important project milestones or whenever there is a big change. Also, you can set the project baseline only for selected tasks of the project (you have to have some tasks selected for the option to be enabled). For the purposes of this tutorial you can go on and select 'Baseline'.

If you are careful enough, you will notice something like a shadow below each project task at the Gantt diagram. The 'shadow' is your baseline.



Even if you change a task, the shadow remains the same until you 'Save Baseline' again. You can go on and change a task to see what happens.



If you change a task after saving a baseline, you will notice that the 'shadow' remains intact.

### 6.3 Progress

To monitor progress – which is of course what we want to do with ProjectLibre – we have to update our project to include actual progress. It is recommended to do this at an agreed interval: this can be daily, weekly or monthly, depending on the type of project.

There are several ways to indicate progress.

#### Update tasks one by one

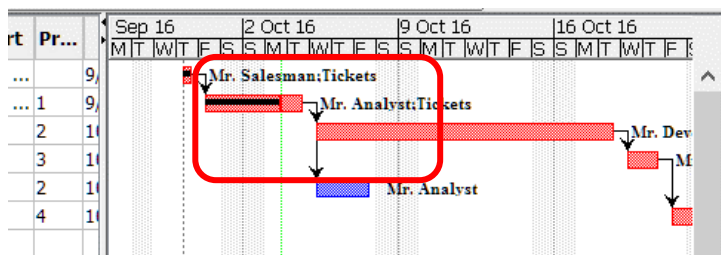
For this, show the columns "actual duration" and "actual start", see below:

The screenshot shows the ProjectLibre interface. The task list table has columns for Name, Work, Duration, Actual Duration, and Actual Start. The 'Actual Duration' and 'Actual Start' columns are highlighted with a red box. The Gantt chart on the right shows a task bar for 'Mr. Salesman:Tickets' with a red bar and a blue shadow bar below it.

	Name	Work	Duration	Actual Duration	Actual Start
1	sign contract	8 hours	1 day	1 day	9/29/16 8:00 ...
2	system analysis	24 hours	3 days	2 days	9/30/16 8:00 ...
3	development	120 hours	10 days	0 days	
4	testing	16 hours	2 days	0 days	
5	discuss additional requirements	24 hours	3 days	0 days	
6	bug fixing	48 hours	3 days	0 days	

Then enter the actual duration, or the time already spent on the task. The actual start is now set at the planned start, and in the Gantt chart a black line shows in the progress bar.

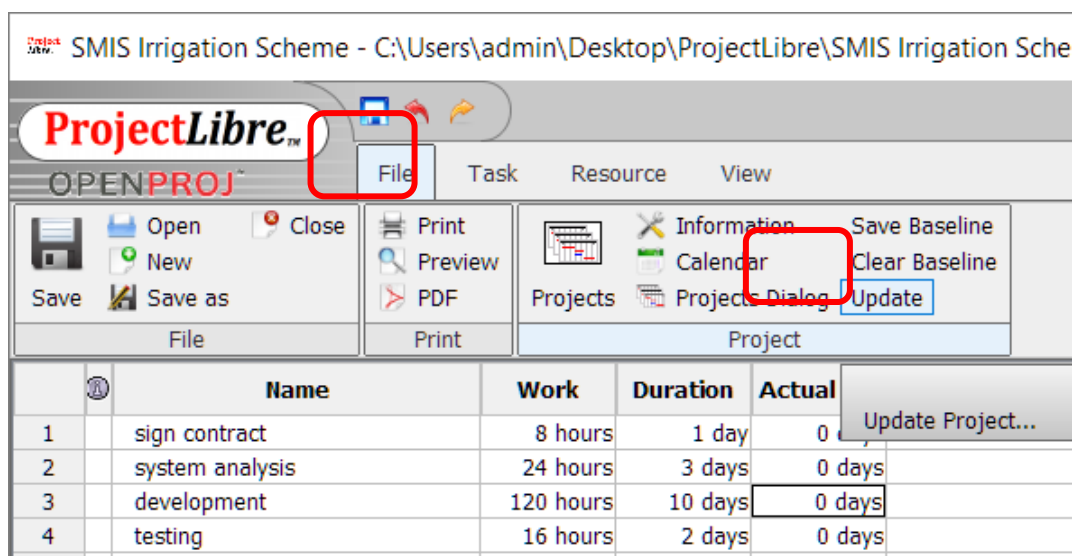
Alternatively, add column “actual work” (work completed in hours) or the column “percent work complete”, in %.



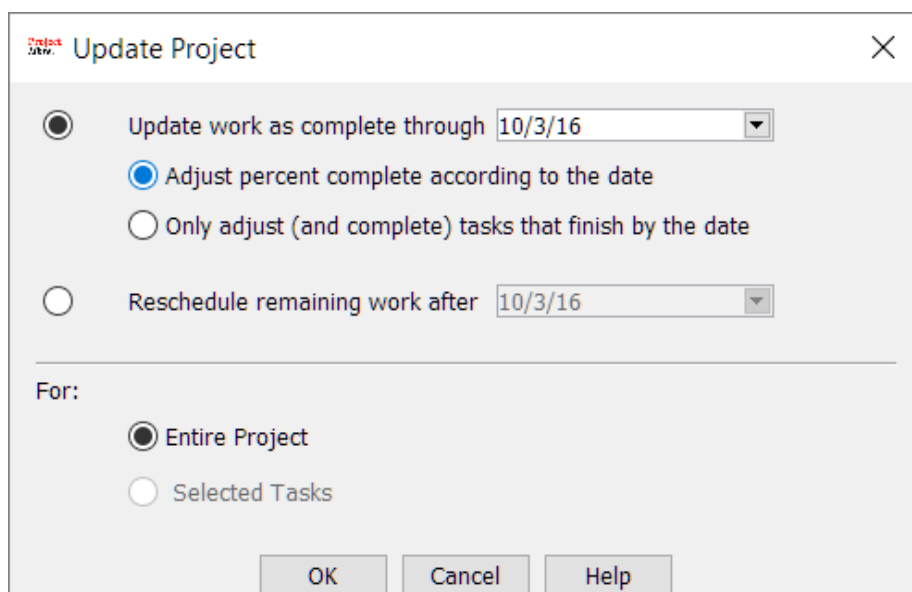
### Update based on date

If we assume that progress is according to plan, we can update the progress to show all tasks are completed up to the current date:

Select “File” and “Update” while showing the task / Gantt view.

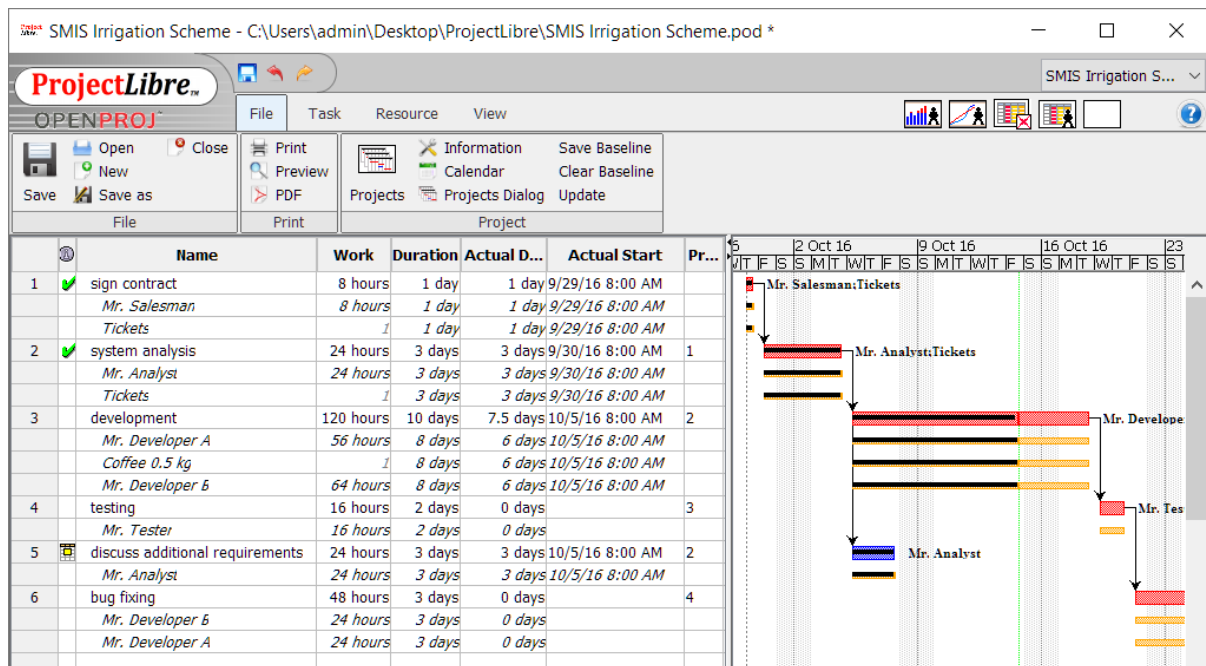


The following window shows:



Enter the date up to when you wish the project to show as completed. You can decide to adjust on a percent basis or only adjust (and complete) tasks that are finished by the date. We will adjust to a

%% basis. Let's assume it is the end of the third week (October 14). The result is the below view (remember how to show the assignment bars?).



## 6.4 Reports

Let's start with the reports. There are **four reports available in ProjectLibre**:

- Project Details
- Resource Information
- Task Information
- Who Does What

Each of the reports, except "Project Details" have various versions available:

### Resource Information

- Default
- Earned Value
- Earned Value – Cost
- Earned Value – Schedule
- Name

### Task Information

- Baseline
- Constraint Dates
- Cost
- Default
- Earned Value
- Earned Value – Cost
- Earned Value – Schedule
- Name



- Schedule
- Schedule (CPM)
- Schedule Variance
- Summary
- **Tracking**
- Work

### Who Does What

- Assigned Resources
- Basic Report
- Name and Id
- Resource Usage
- **Tasks Assigned**

The reports that are highlighted are the ones that we are going to describe later.

## 6.5 Project details report

The project details report, displays the following information:

**Dates:** Start, Finish, Actual Start and Actual Finish

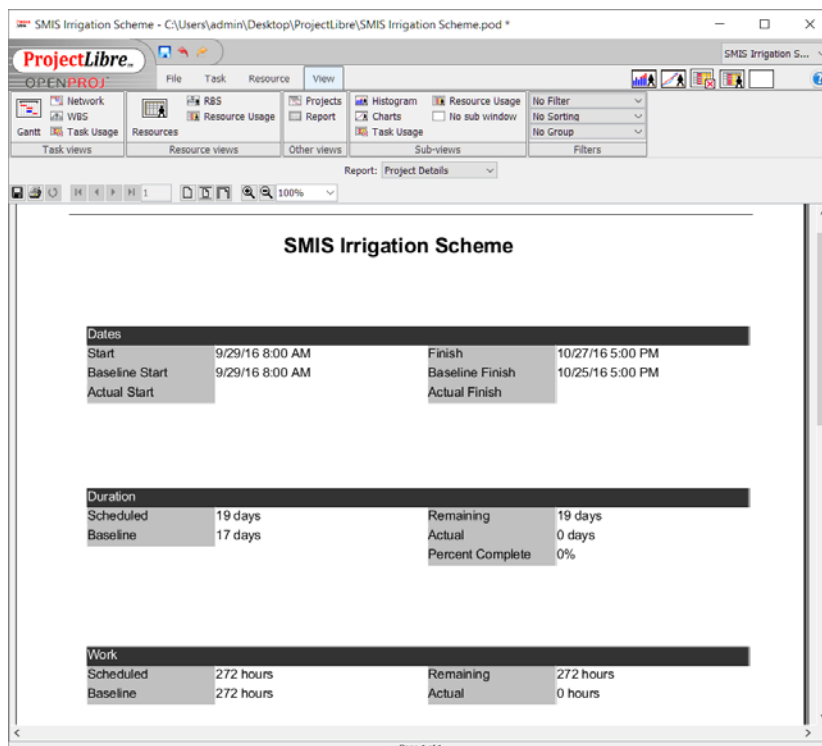
**Duration:** Scheduled, Remaining, Actual and Percent Complete

**Work:** Scheduled, Remaining and Actual

**Costs:** Scheduled, Remaining, Actual and Variance

Along with notes.

In order to view the report click on View, then 'Report' and then Report: Project Details'





### Some notes about ProjectLibre reports

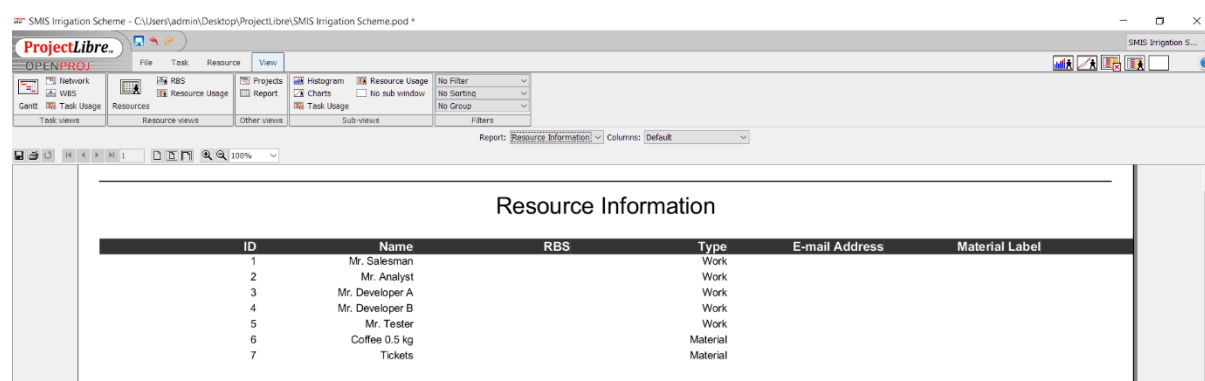
While the functions of the reports are limited, and at some reports, some filtering and sorting options might not work. You can always click on the little disk icon and export the report to an Excel file and do whatever you like with that. Also, you can zoom in, zoom out and move pages with the toolbar options.



### 6.6 Resource Information – Default

The Resource Information – Default report displays in a simple list all your resources with the following columns:

Name, RBS, Type, E-mail Address, Material Label



ID	Name	RBS	Type	E-mail Address	Material Label
1	Mr. Salesman		Work		
2	Mr. Analyst		Work		
3	Mr. Developer A		Work		
4	Mr. Developer B		Work		
5	Mr. Tester		Work		
6	Coffee 0.5 kg		Material		
7	Tickets		Material		

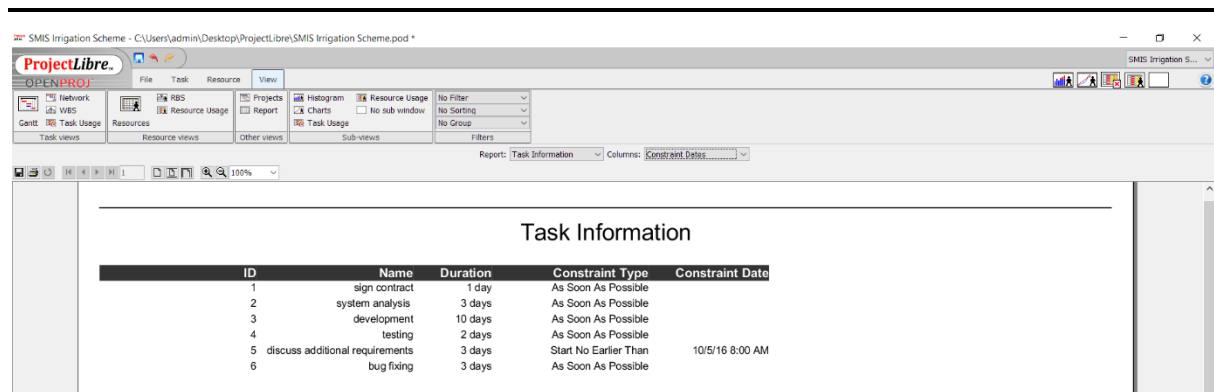
### 6.7 Resource Information – Earned Value

The Resource Information – Earned Value report, displays your resources along with various columns related to Earned Value (BCWS, BCWP, ACWP, CV, SV, EAC...)

### 6.8 Task Information – Constraint Dates

The Task Information – Constraint Dates report is very useful to check all the constraint dates at once as a checklist. You can use this report as a checklist regularly to check that everything is going according to plan.

## PROJECT BASELINE, PROGRESS MONITORING, REPORTS

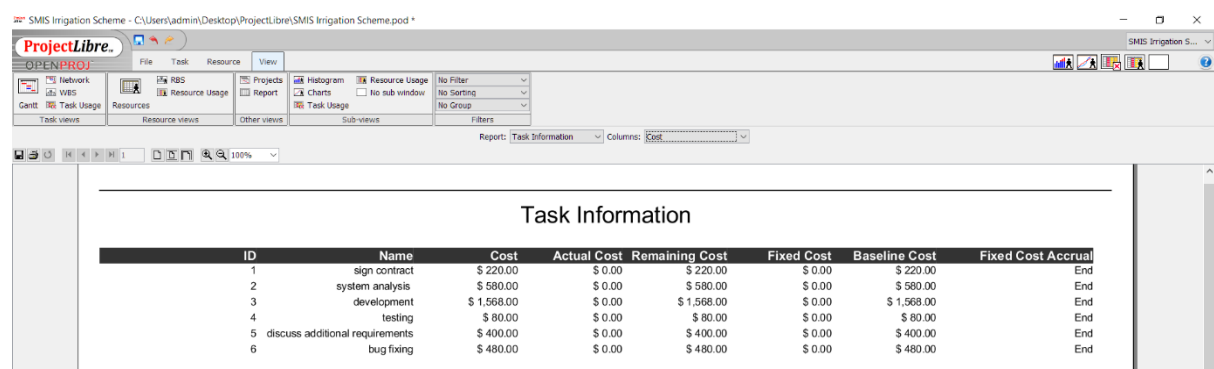


Task Information

ID	Name	Duration	Constraint Type	Constraint Date
1	sign contract	1 day	As Soon As Possible	
2	system analysis	3 days	As Soon As Possible	
3	development	10 days	As Soon As Possible	
4	testing	2 days	As Soon As Possible	
5	discuss additional requirements	3 days	Start No Earlier Than	10/5/16 8:00 AM
6	bug fixing	3 days	As Soon As Possible	

### 6.9 Task Information – Cost

The Task Information – Cost report might be one of your favorites. At this report, you can have a quick glance at every task cost, actual cost and remaining cost. It might be a useful report to export to Excel for extra filtering.

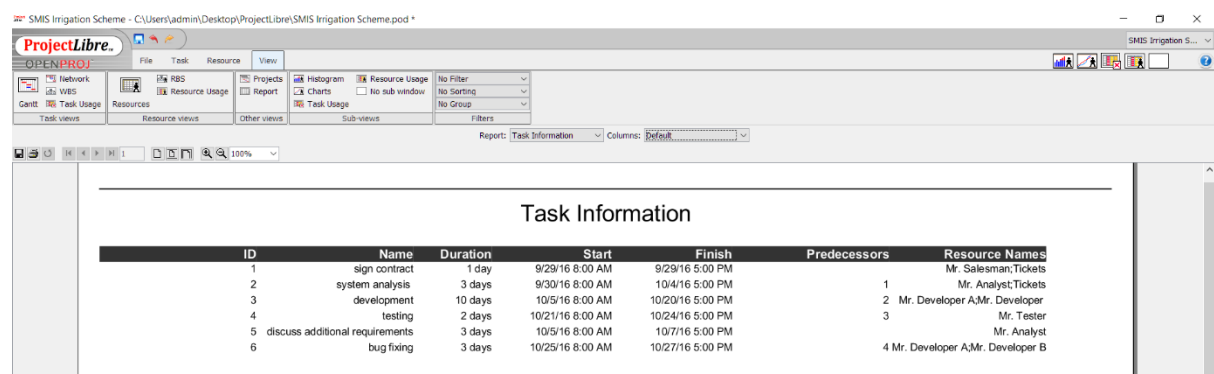


Task Information

ID	Name	Cost	Actual Cost	Remaining Cost	Fixed Cost	Baseline Cost	Fixed Cost Accrual
1	sign contract	\$ 220.00	\$ 0.00	\$ 220.00	\$ 0.00	\$ 220.00	End
2	system analysis	\$ 580.00	\$ 0.00	\$ 580.00	\$ 0.00	\$ 580.00	End
3	development	\$ 1,568.00	\$ 0.00	\$ 1,568.00	\$ 0.00	\$ 1,568.00	End
4	testing	\$ 80.00	\$ 0.00	\$ 80.00	\$ 0.00	\$ 80.00	End
5	discuss additional requirements	\$ 400.00	\$ 0.00	\$ 400.00	\$ 0.00	\$ 400.00	End
6	bug fixing	\$ 480.00	\$ 0.00	\$ 480.00	\$ 0.00	\$ 480.00	End

### 6.10 Task Information – Default

The Task Information – Default report displays all the tasks, along with the duration, start, finish, predecessors and resource names. Because of the format of this report, you can export it at Excel or CSV and may import it at your own company's software.



Task Information

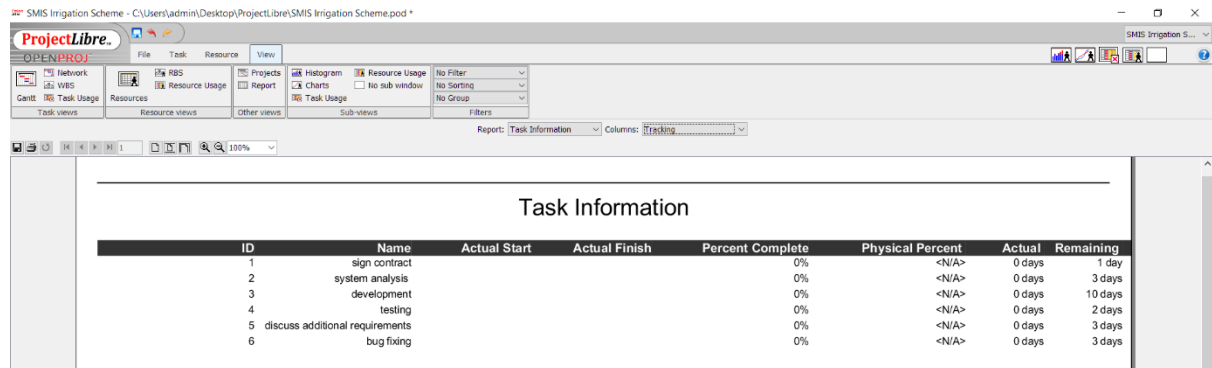
ID	Name	Duration	Start	Finish	Predecessors	Resource Names
1	sign contract	1 day	9/29/16 8:00 AM	9/29/16 5:00 PM		Mr. Salesman; Tickets
2	system analysis	3 days	9/30/16 8:00 AM	10/4/16 5:00 PM	1	Mr. Analyst; Tickets
3	development	10 days	10/5/16 8:00 AM	10/20/16 5:00 PM	2	Mr. Developer A; Mr. Developer
4	testing	2 days	10/21/16 8:00 AM	10/24/16 5:00 PM	3	Mr. Tester
5	discuss additional requirements	3 days	10/5/16 8:00 AM	10/7/16 5:00 PM		Mr. Analyst
6	bug fixing	3 days	10/25/16 8:00 AM	10/27/16 5:00 PM	4	Mr. Developer A; Mr. Developer B

### 6.11 Task Information – Earned Value

Similar to Resource Information – Earned Value report, with this report, you can check the Earned Value per task.

## 6.12 Task Information – Tracking

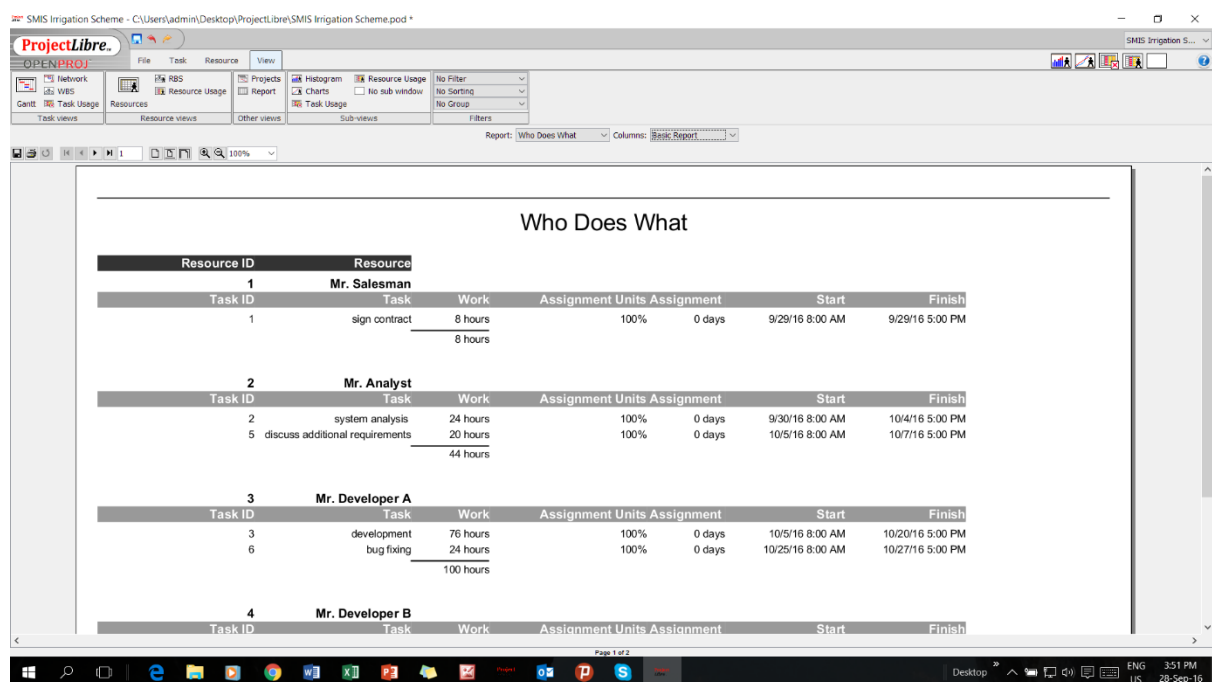
Very useful report, displaying all the tasks, along with the actual start, actual finish and percent complete. You can also filter the tasks to view Completed, Cost over budget tasks, Critical tasks, In-progress tasks, Incomplete tasks, Late/over budget tasks and Normal tasks.



ID	Name	Actual Start	Actual Finish	Percent Complete	Physical Percent	Actual	Remaining
1	sign contract			0%	<N/A>	0 days	1 day
2	system analysis			0%	<N/A>	0 days	3 days
3	development			0%	<N/A>	0 days	10 days
4	testing			0%	<N/A>	0 days	2 days
5	discuss additional requirements			0%	<N/A>	0 days	3 days
6	bug fixing			0%	<N/A>	0 days	3 days

## 6.13 Who Does What – Tasks Assigned

The Who Does What – Tasks Assigned report, is a checklist for your resources (either work or material) to check where they are allocated and how are they doing. You can also filter your resources by Material Resources, Work Resources, In-progress Assignments, Unstarted Assignments, Work Complete.



Resource ID	Resource	Task ID	Task	Work	Assignment Units	Assignment	Start	Finish
1	Mr. Salesman	1	sign contract	8 hours	100%	0 days	9/29/16 8:00 AM	9/29/16 5:00 PM
2	Mr. Analyst	2	system analysis	24 hours	100%	0 days	9/30/16 8:00 AM	10/4/16 5:00 PM
		5	discuss additional requirements	20 hours	100%	0 days	10/5/16 8:00 AM	10/7/16 5:00 PM
				44 hours				
3	Mr. Developer A	3	development	76 hours	100%	0 days	10/5/16 8:00 AM	10/20/16 5:00 PM
		6	bug fixing	24 hours	100%	0 days	10/25/16 8:00 AM	10/27/16 5:00 PM
				100 hours				
4	Mr. Developer B							

## 7 WRAP-UP

That completes the ProjectLibre tutorial. I hope that you have found this tutorial useful for your training. You can also check [YouTube videos](#) by various people describing various ProjectLibre functionalities.

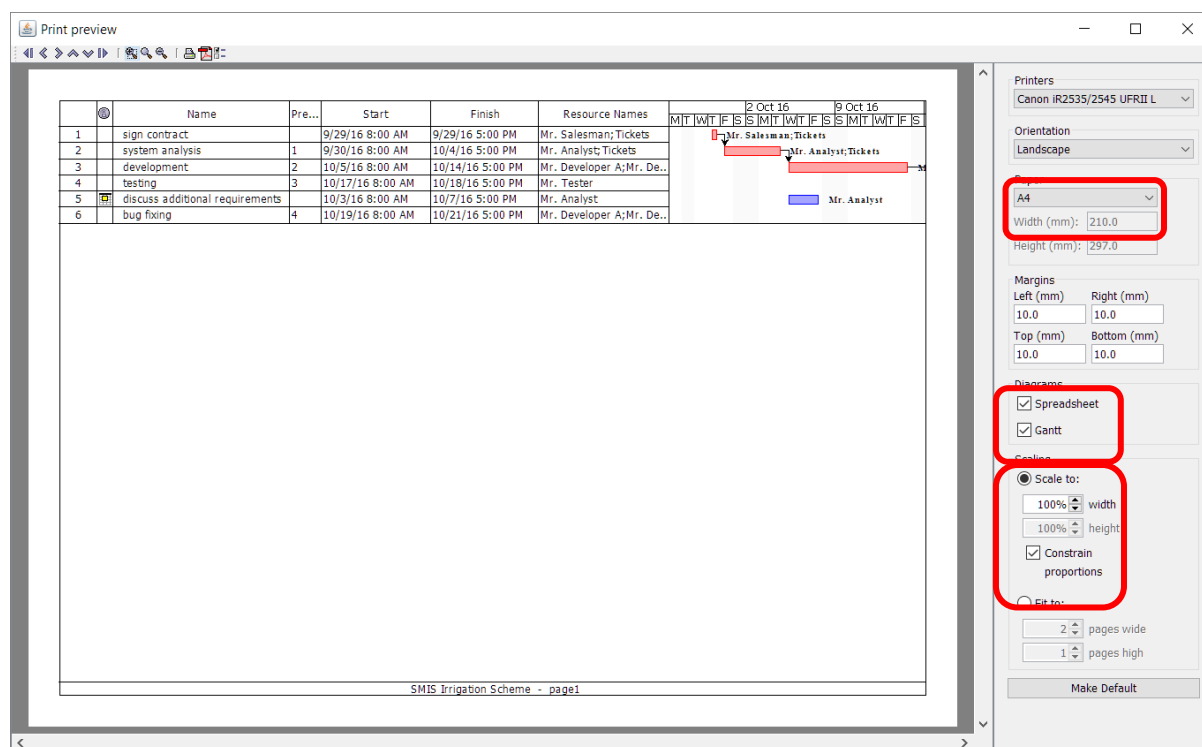
<http://project-management.com/projectlibre-tutorial-part-1/>

At this stage you are ready to set up your own projects. It is important to realise that you can build upon the knowledge you have gained using this tutorial by applying it; preferably in your daily routines. If you use it it will grow, if you don't it will slowly disappear.

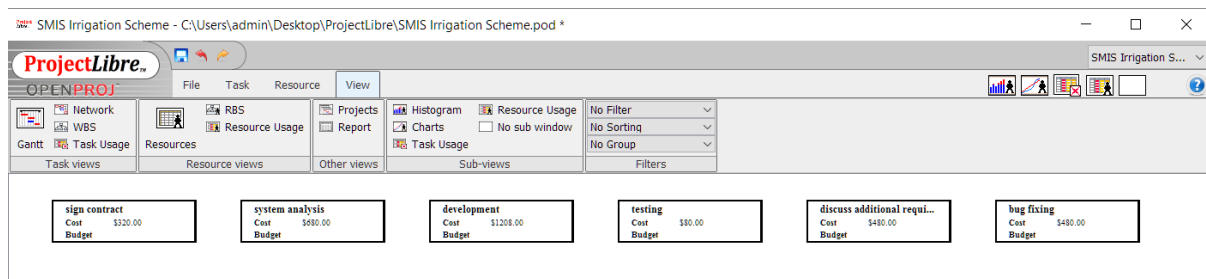
Knowing ProjectLibre comes with trying out, be curious and if you think something should be there try and find it; try the buttons and options. If that fails, try the online help (question mark button top right).

Some additional interesting options:

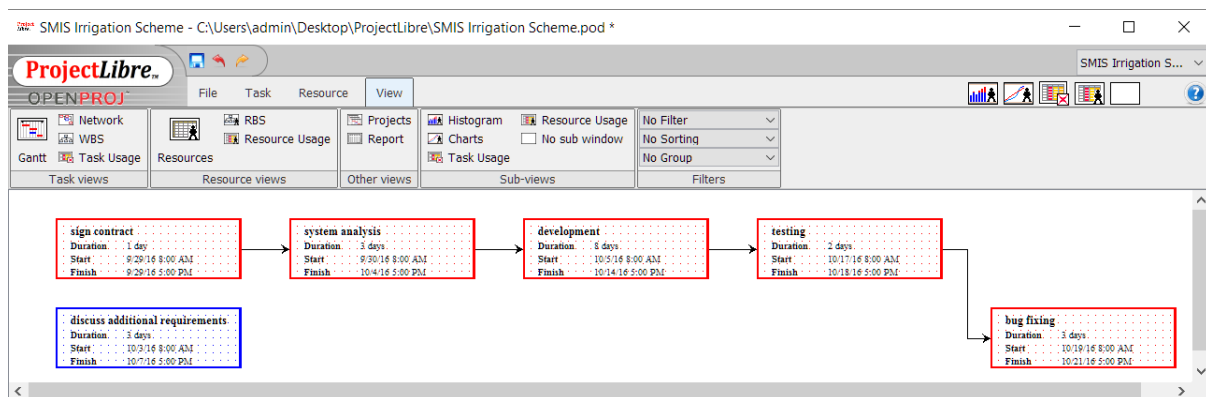
- You can easily rearrange, resize and show/hide columns, this works much the same as in MS Excel.
- If you want to customise printing use the print preview button at the file menu. You can:
  - o Adjust the paper size (A3 for example)
  - o Adjust the size by changing the Scale percentage
  - o Print only the Gantt chart or only the spreadsheet, by checking the relevant boxes, see below



- Other interesting views are: WBS



- Network



- In Task – Gantt view: use the zoom options to show the period of the project that you want; this also shows up on the printed version. Hide and show columns to prepare the spreadsheet values you wish to show.

That brings us to the end of this tutorial. I hope you have enjoyed learning about ProjectLibre, and that the software may help you in organising and managing your projects.

Please do remember that if something does not seem correct, save, close and re-open the project may solve the problem.

SMIS Amhara

Bahir Dar, October 3, 2016.

