CERN

Manage Small and Medium projects with JIRA WBS Gantt Chart Plugin

White Area Lectures - June 2019

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Outline

- JIRA Introduction
- Planning and Scheduling tips
- WBS Gantt Chart

Some questions

- Who is a MS Project user?
- Who has followed MS Project courses?
- Who has followed Open SE courses?
- Who needs planning and scheduling to do their job?
- Who uses already JIRA?
- Who uses a tool for planning and scheduling different from MS Project/JIRA?
- Which one?

Some words about JIRA

JIRA Introduction

- What is JIRA?
  - Gojira → Japanese word for Godzilla
  - Issue Tracking and Project Management
  - Developed by Atlassian
  - CERN runs JIRA 8.0.2 in https://its.cern.ch
  - Three products
    - JIRA Core
    - JIRA Software
    - JIRA Service Desk
  - CERN has unlimited number of licenses for JIRA Software Licenses that contains JIRA Core

WBS Gantt-Chart plugin

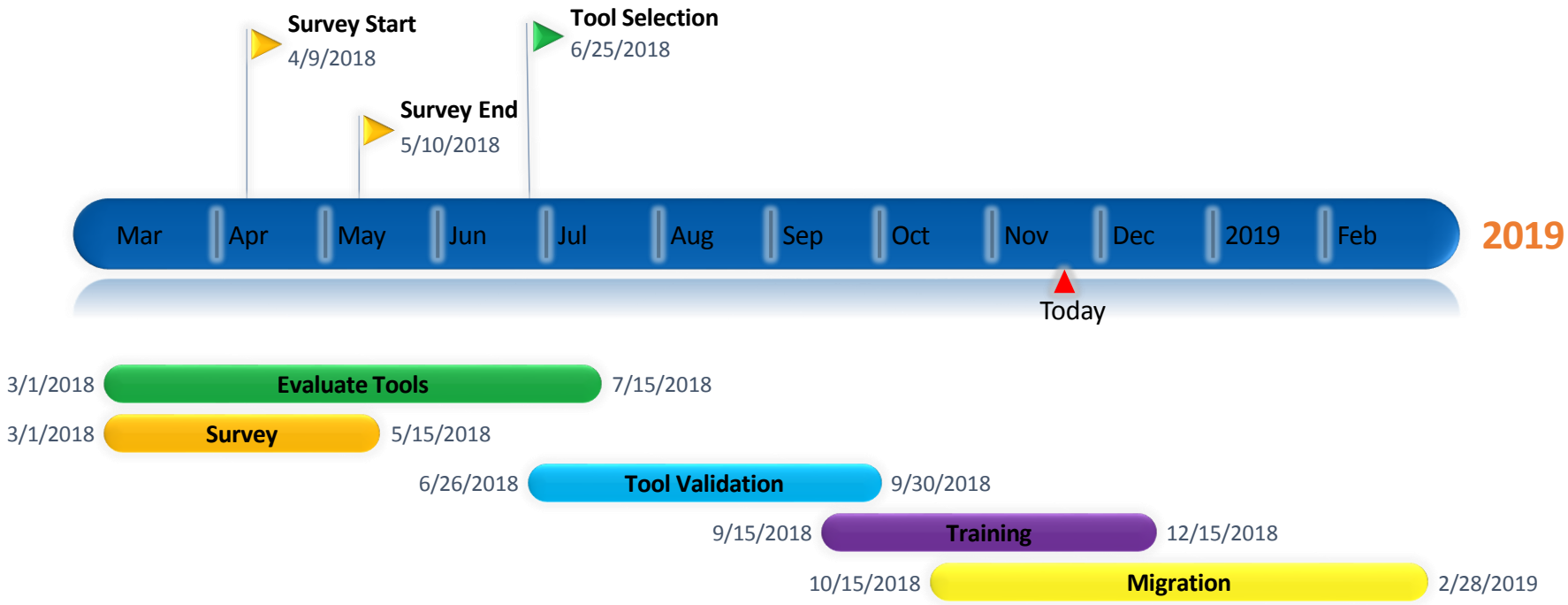
- What is Gantt-Chart plugin?
  - Third Party tool developed by Ricksoft
  - It provides visual project planning through Gantt charts
  - Some interesting functionality
    - Task dependencies with drag-and-drop interface
    - Modify schedules and dependent issues update automatically
    - Smart workload allocation with resource monitoring
    - Critical path
    - Baseline plan
  - CERN has now unlimited number of licenses for this plugin
  - CERN runs now version 9.9

JIRA Basics

- JIRA issues
  - JIRA building blocks
  - They could represent a story, a bug, a task, or another issue type in your project
  - For planning and scheduling
    - We will use them as tasks
    - Issues = Tasks or sub-tasks from now on
    - Tasks and sub-tasks are treated in the same way

Planning and scheduling tips

Project Master Schedule



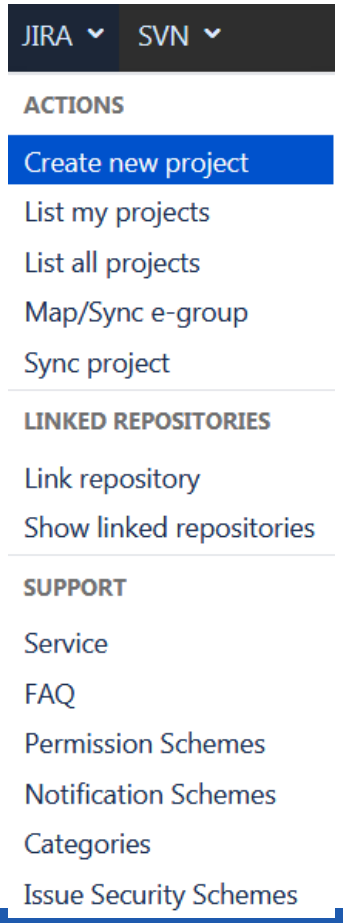
Project Master Schedule

- Starting point before defining the coordination schedule (Gantt Chart)
- The master schedule is a summary
- It should be intuitive
- It should contain the whole project overview
- Starting from the main phases of the master schedule, the remaining tasks can be defined

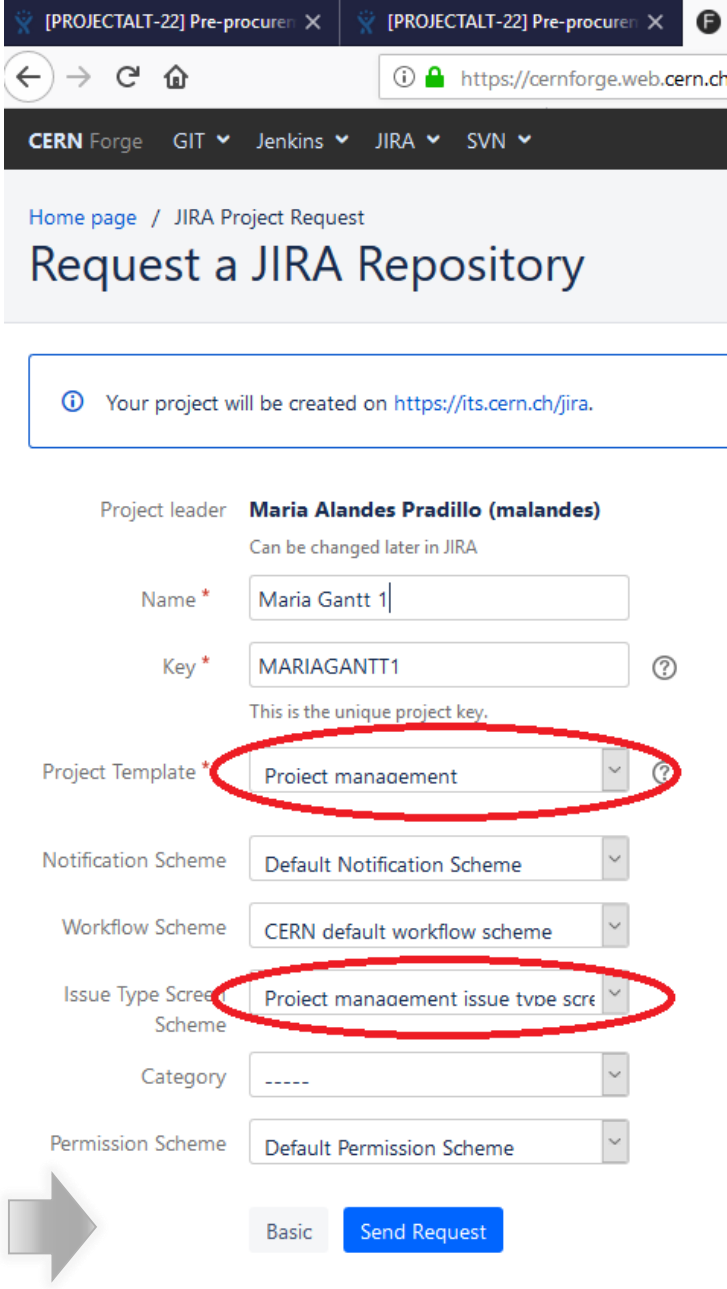
WBS Gantt-Chart

Create a JIRA Project

https://cernforge.web.cern.ch/jira



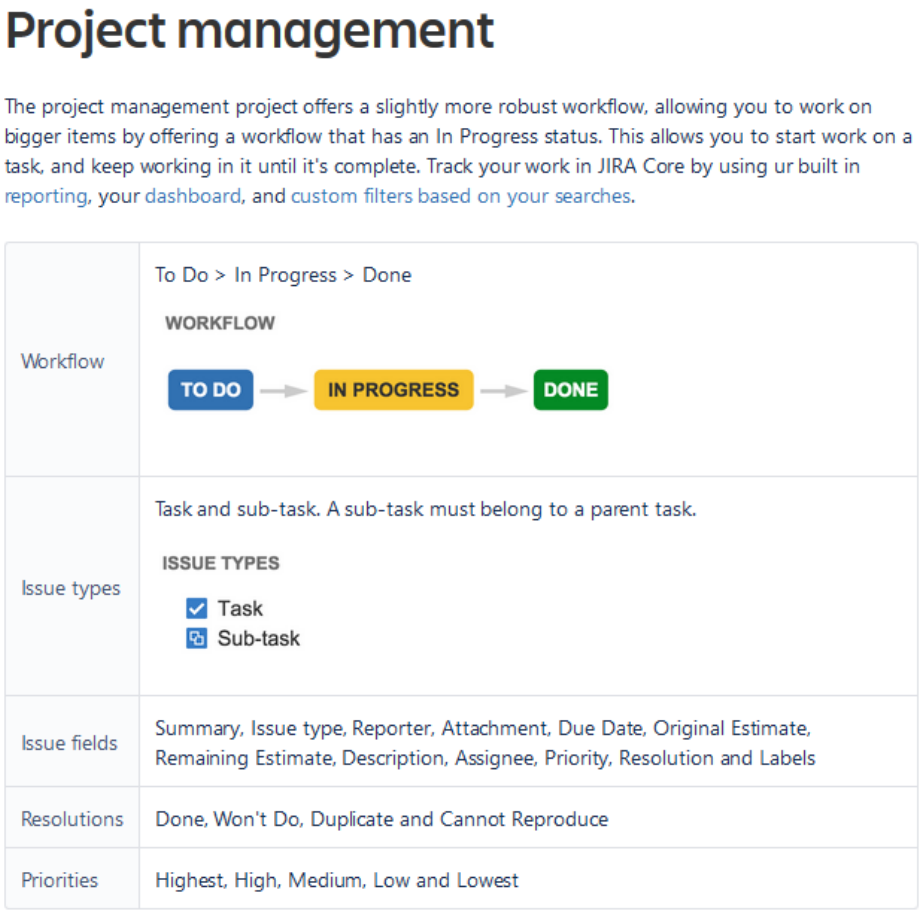
Select *Advanced* to see all the options



Project Template

- Projects should be created with:
  - Project Management template
- More information about project templates:

https://cern.service-now.com/service-portal/article.do?n=KB0005975



Project management

The project management project offers a slightly more robust workflow, allowing you to work on bigger items by offering a workflow that has an In Progress status. This allows you to start work on a task, and keep working in it until it's complete. Track your work in JIRA Core by using ur built in reporting, your dashboard, and custom filters based on your searches.

Workflow	To Do > In Progress > Done WORKFLOW TO DO → IN PROGRESS → DONE
Issue types	Task and sub-task. A sub-task must belong to a parent task. ISSUE TYPES Task Sub-task
Issue fields	Summary, Issue type, Reporter, Attachment, Due Date, Original Estimate, Remaining Estimate, Description, Assignee, Priority, Resolution and Labels
Resolutions	Done, Won't Do, Duplicate and Cannot Reproduce
Priorities	Highest, High, Medium, Low and Lowest

Who will be notified in your project

- Projects are created with:
  - Default notification scheme
- You can change this in:

  https://cernforge.web.cern.ch/jira/myprojects/
- For more details on notification schemes:

  https://cernforge.web.cern.ch/jira/notificationschemes/

Task workflow

- Projects are created by default with the workflow defined in the Project Template
- However, the workflow can be reconfigured
  - For more information please check:
    https://cern.service-now.com/service-portal/article.do?n=KB0002999
- Learn more also about board workflows

  https://cern.service-now.com/service-portal/article.do?n=KB0001729
  - You can create your own workflow in the board configuration by adding status and columns

To display Gantt Chart fields

- Projects should be created with:
  - Project management issue type screen scheme
    - This allows to display Gantt Chart fields in the JIRA task
- This screen type is available for all project templates
  - Not only for Project Management template!
- For existing projects
  - Open a SNOW ticket requesting this type of screen to be activated for your project

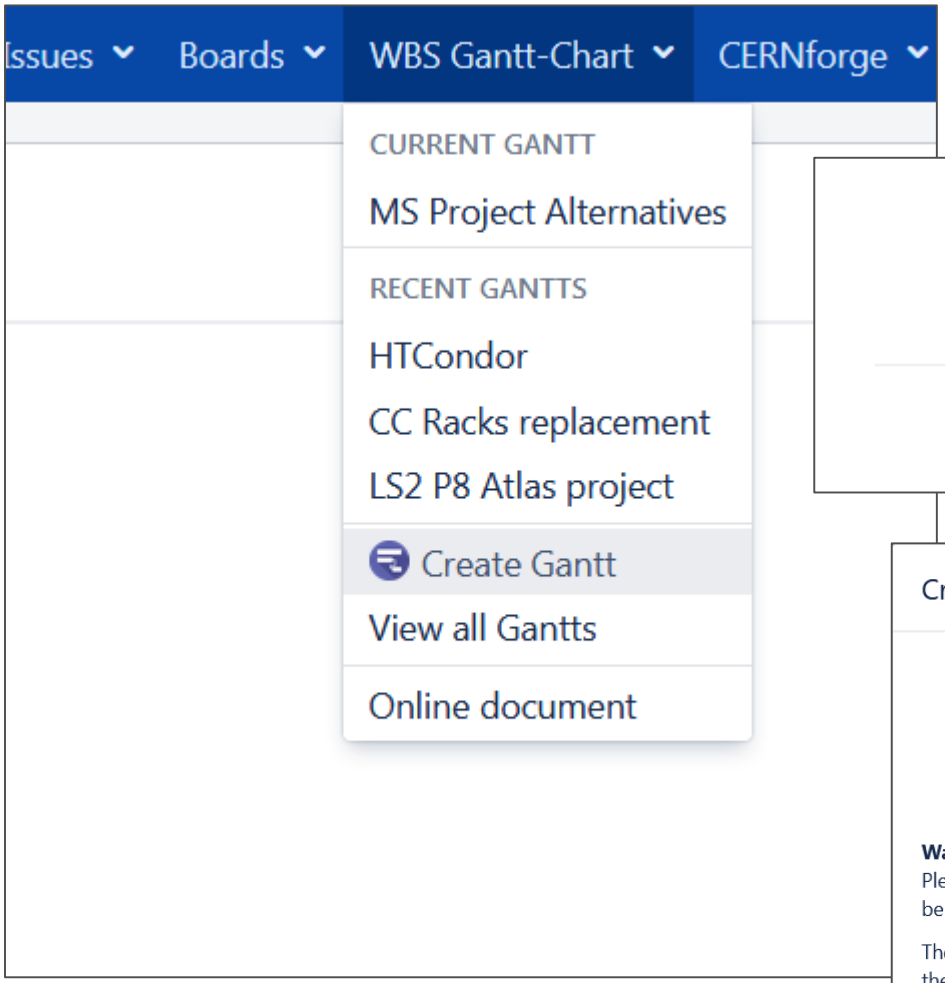
Who can watch your Gantt

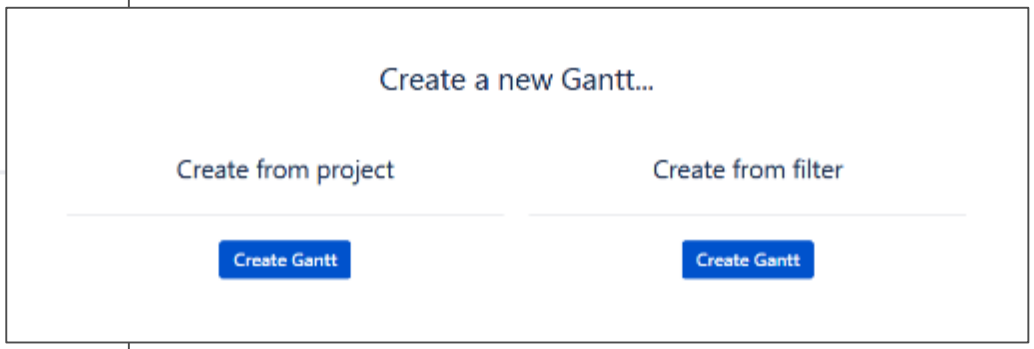
- Projects are created with:
  - Default Permission Scheme
    - This means the project is only visible to project members
    - The same for the Gantt Chart
- You can change this in:

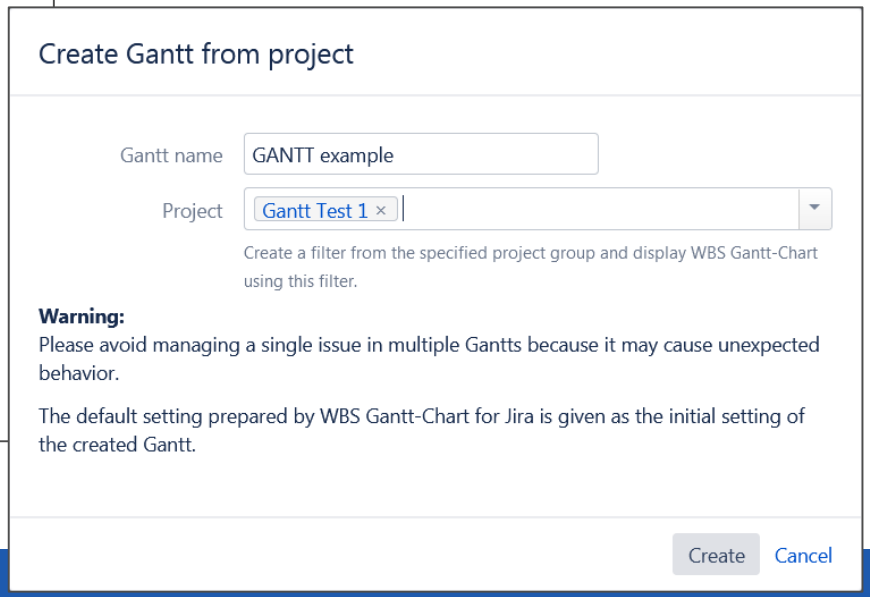
  https://cernforge.web.cern.ch/jira/myprojects/
- For more details on permission schemes:

  https://cernforge.web.cern.ch/jira/permissionschemes/0/

Create a Gantt Chart

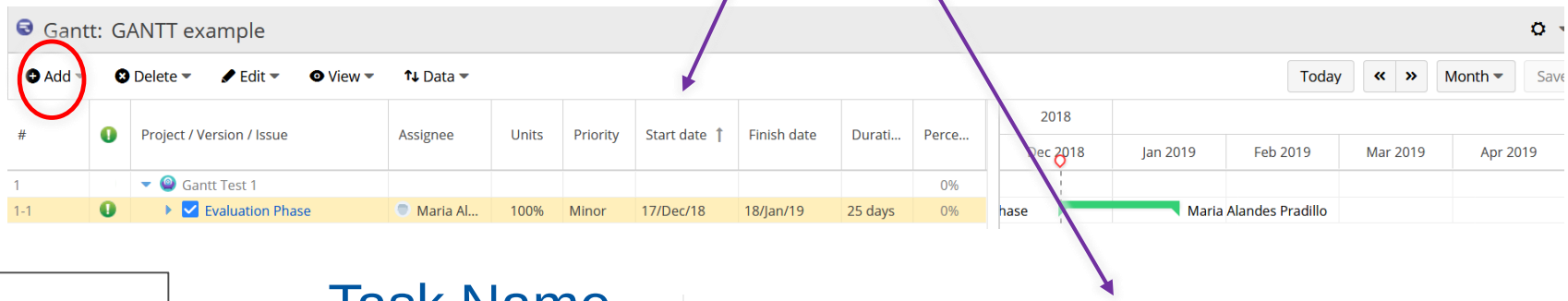


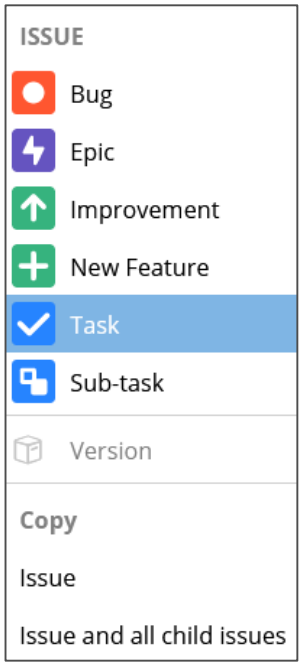




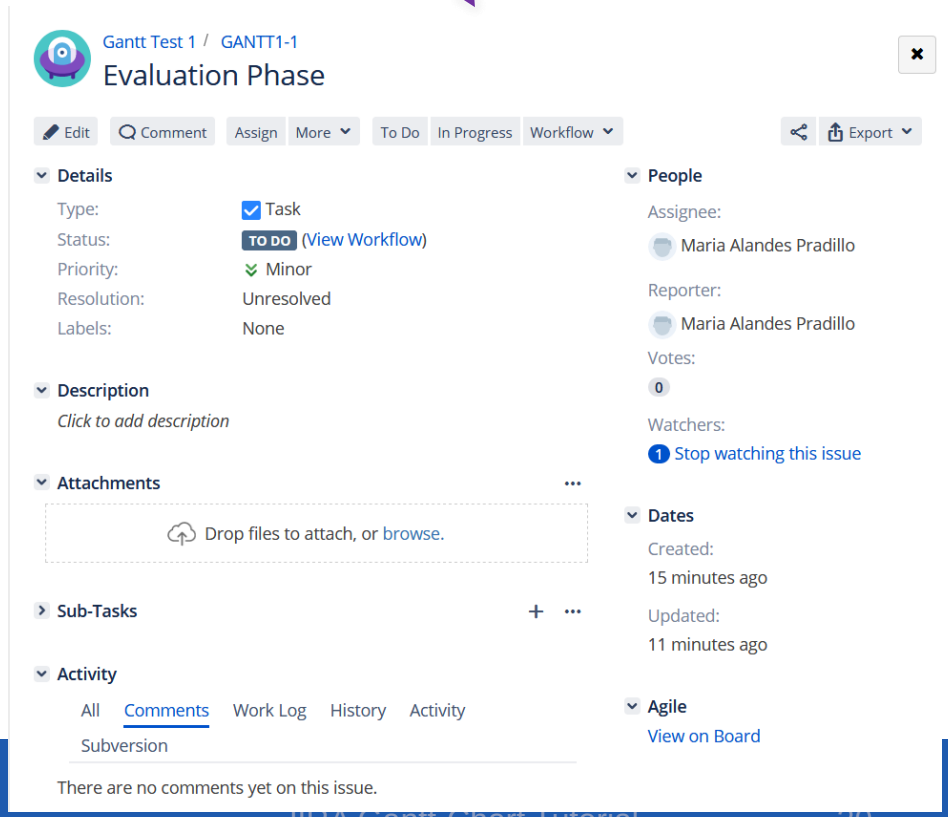
Add Tasks

Edit the values directly here
or in the JIRA classic view





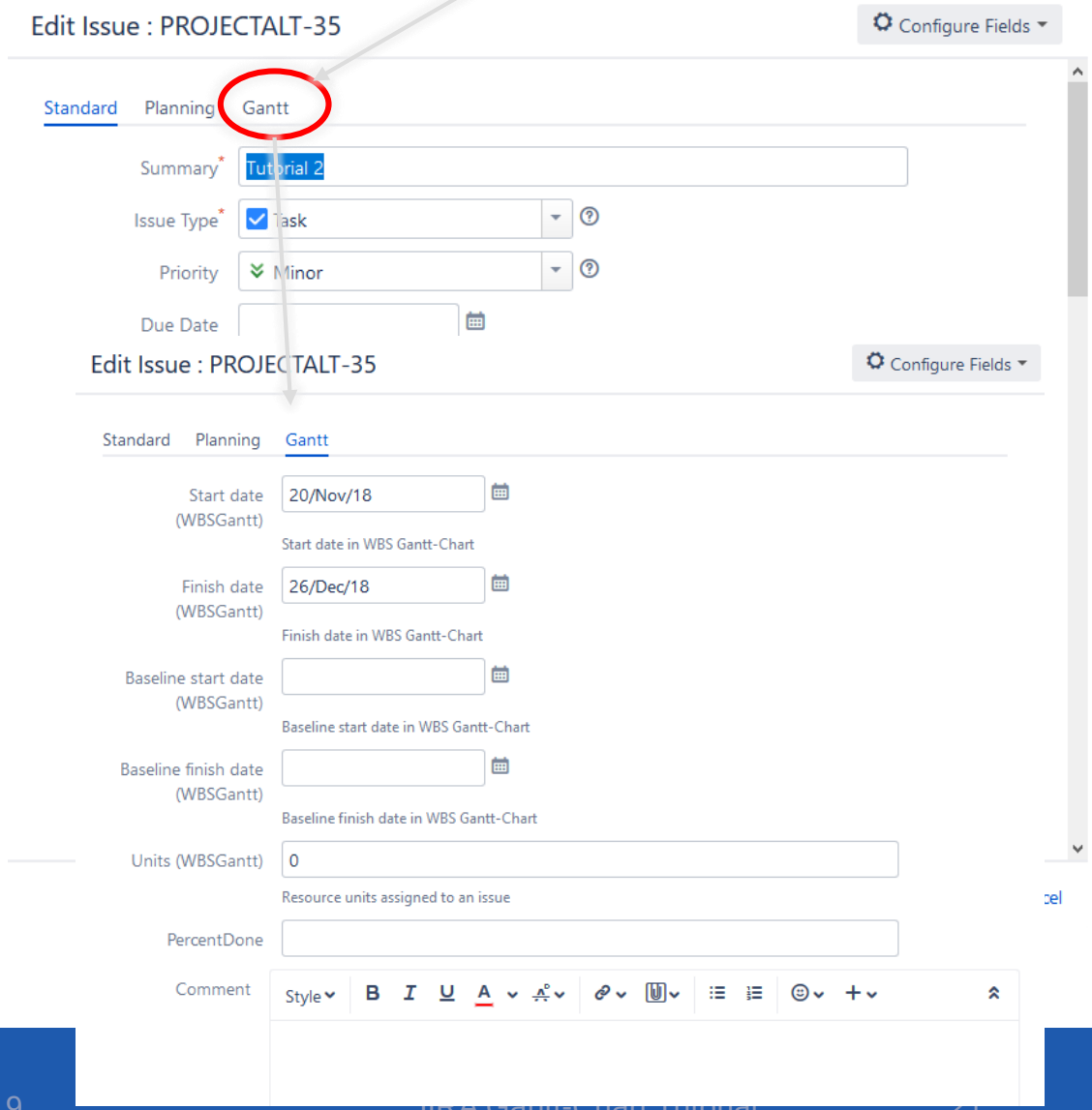
- Task Name
- Assignee
- % of time allocated to the task
- Start and Finish date or Duration
- Percentage completed



Gantt Chart Fields

Gantt Chart related fields

- Note that Gantt Chart fields are visible in the task only if the project was created with the right screen template
- The fields are displayed in the task screen only if they have some value:
  - Edit the task
  - Check the Gantt tab
  - Fill in the fields



Task depencies

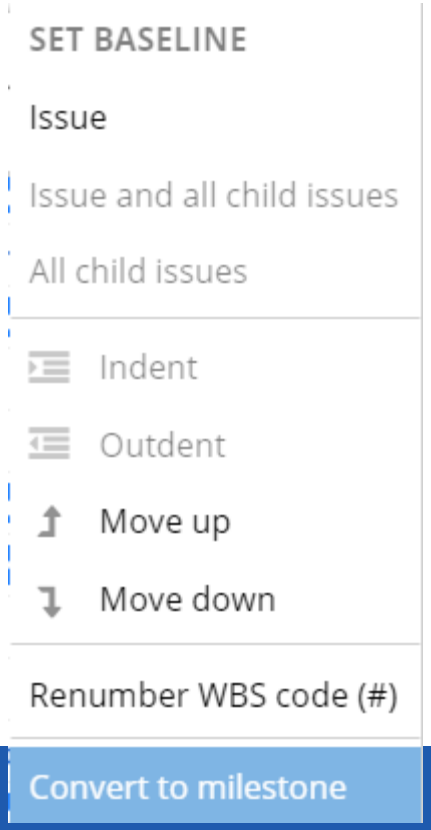
- The easiest is to drag and drop directly in the Gantt chart to create task dependencies
  - Start to End
  - End to Start
  - Start to Start
  - End to End
- In the Edit Menu you can also
  - Indent/Outdent to modify the task hierarchy
  - Move up or down to reorganise the task order

About Task bars

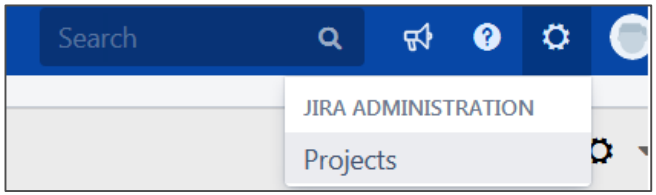
- Colours
  - Parent bars: blue
  - Children bars: green
  - Completed issues: light blue or green
  - Baselines (see later): light grey bar
- Task Names
  - They appear on the left
  - Feature request to allow to drag and drop: WGC-856

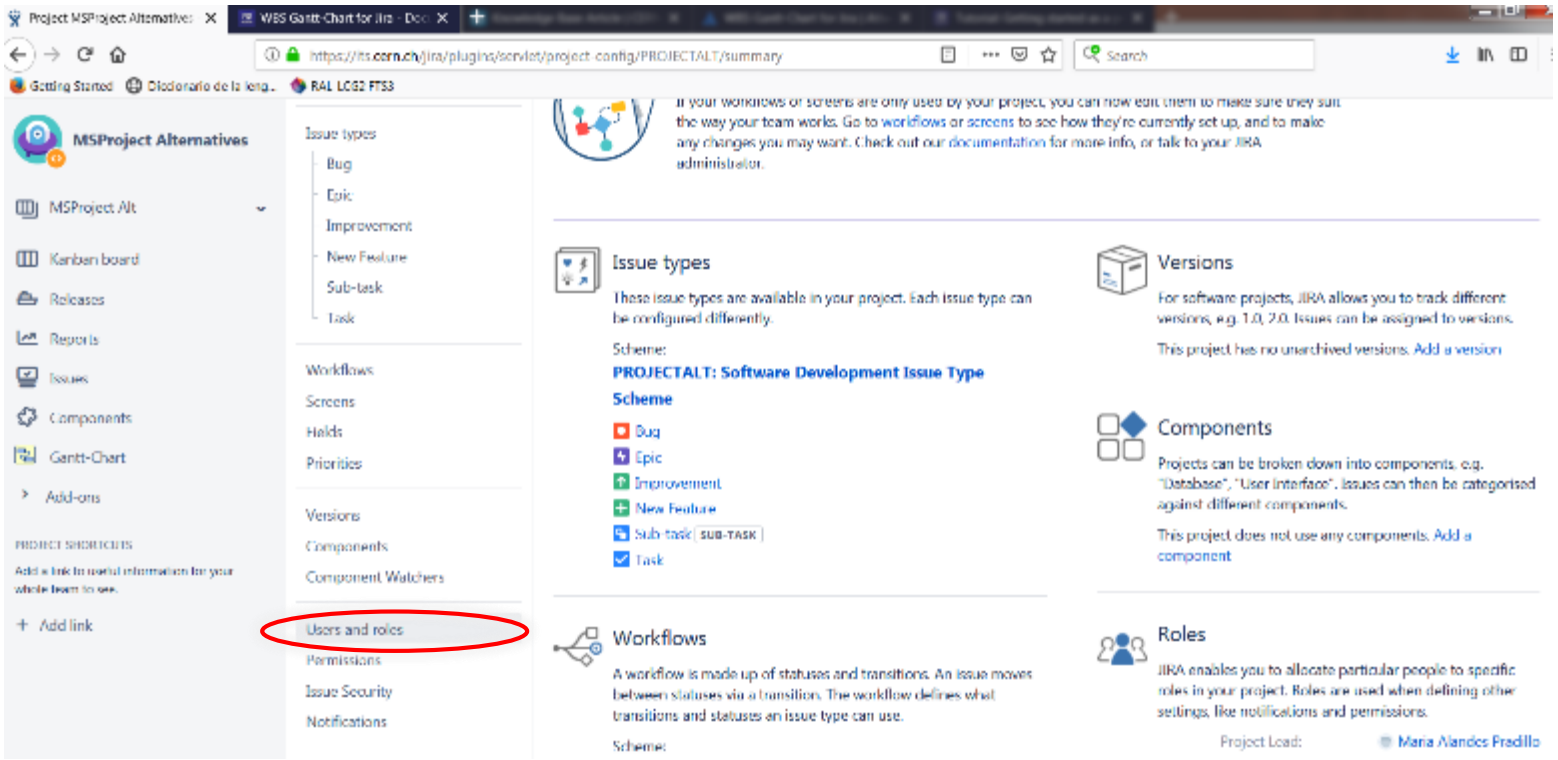
Milestones

- Create first a Task
- Then convert to Milestone from Edit Menu

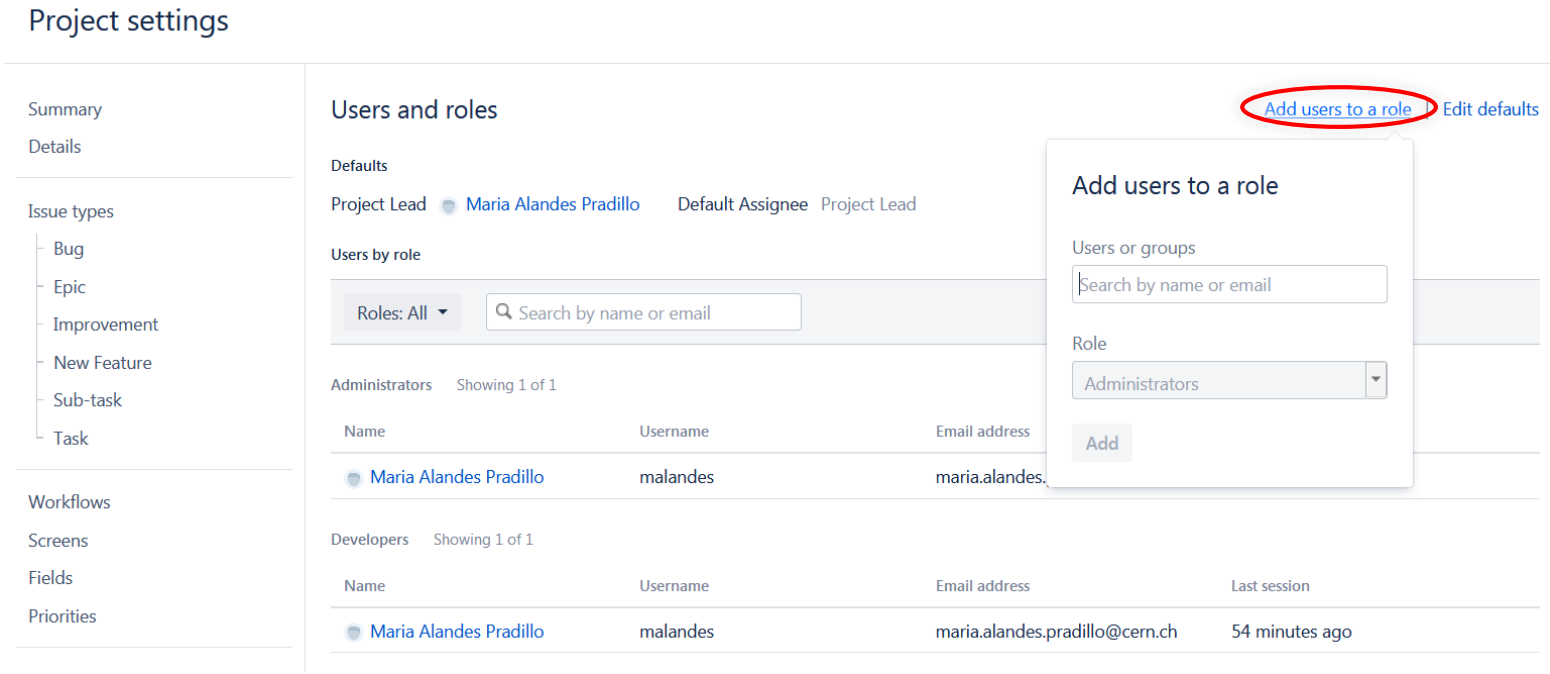


Add Users


Search
JIRA ADMINISTRATION
Projects


MSProject Alternatives
Issue types
Bug
Epic
Improvement
New Feature
Sub-task
Task
Workflows
Screens
Fields
Priorities
Versions
Components
Component Watchers
Users and roles
Permissions
Issue Security
Notifications
Issue types
These issue types are available in your project. Each issue type can be configured differently.
Scheme:
PROJECTALT: Software Development Issue Type Scheme
Versions
Components
Workflows
Roles

Add Users



- Add users to Developers role (permissions to modify issues)
- Note that Users role are users who can create issues. Maybe this is not what you want if using JIRA for project management
- Note that you can change the permissions of each user type anyway
- Be aware that CERN users need to have logged in at least once in JIRA to be able to see them as JIRA users!

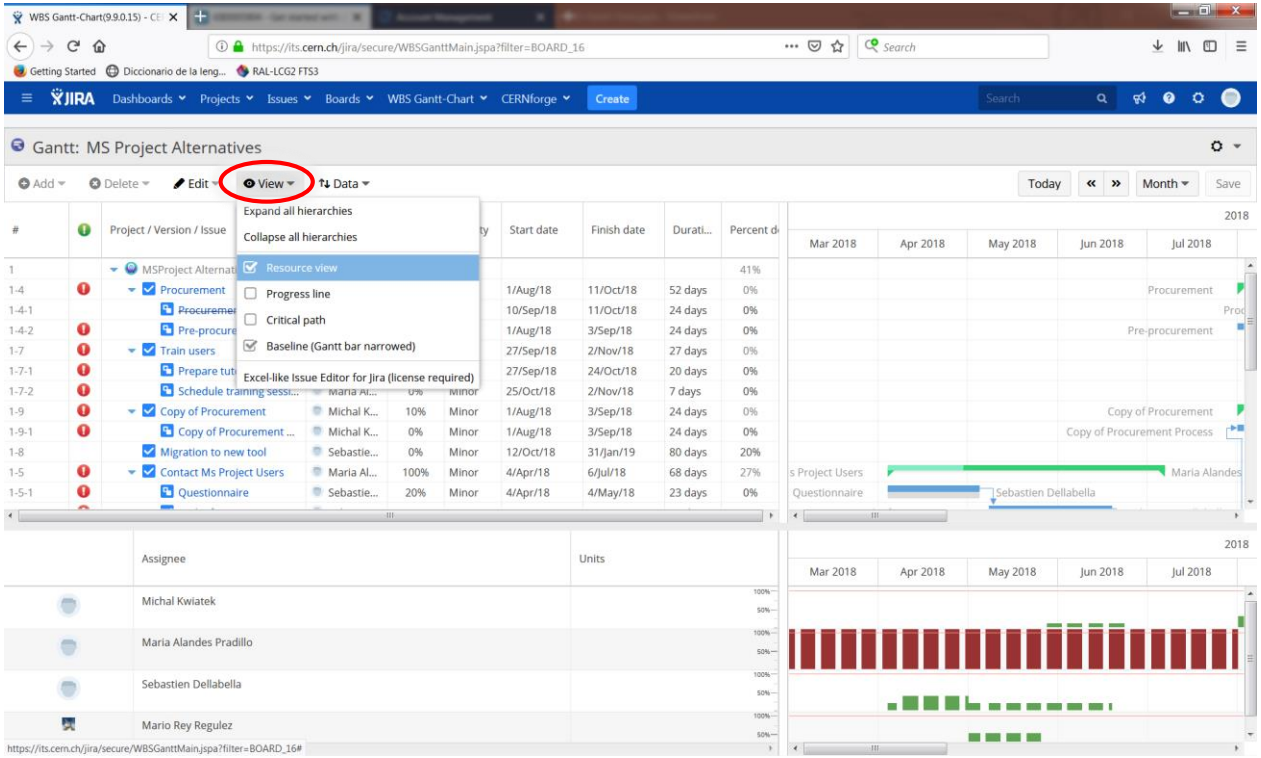
Adding users through e-groups

- You can add all the users of an e-group by adding the e-group to a role
  - But please, note that tasks can only be assigned to a single user
- If your e-group is not recognised by JIRA
  - Go to https://cernforge.web.cern.ch/jira/egroup/sync/
  - Add the e-group
  - You should now be able to see it in JIRA

Dummy Users

- Dummy users may be needed for your project
  - For short term tasks
  - To calculate needed resources and estimate effort
- In order to create dummy users:
  - Create a service account
  - Log in once in JIRA with the new account
  - You can now assign that account to your project

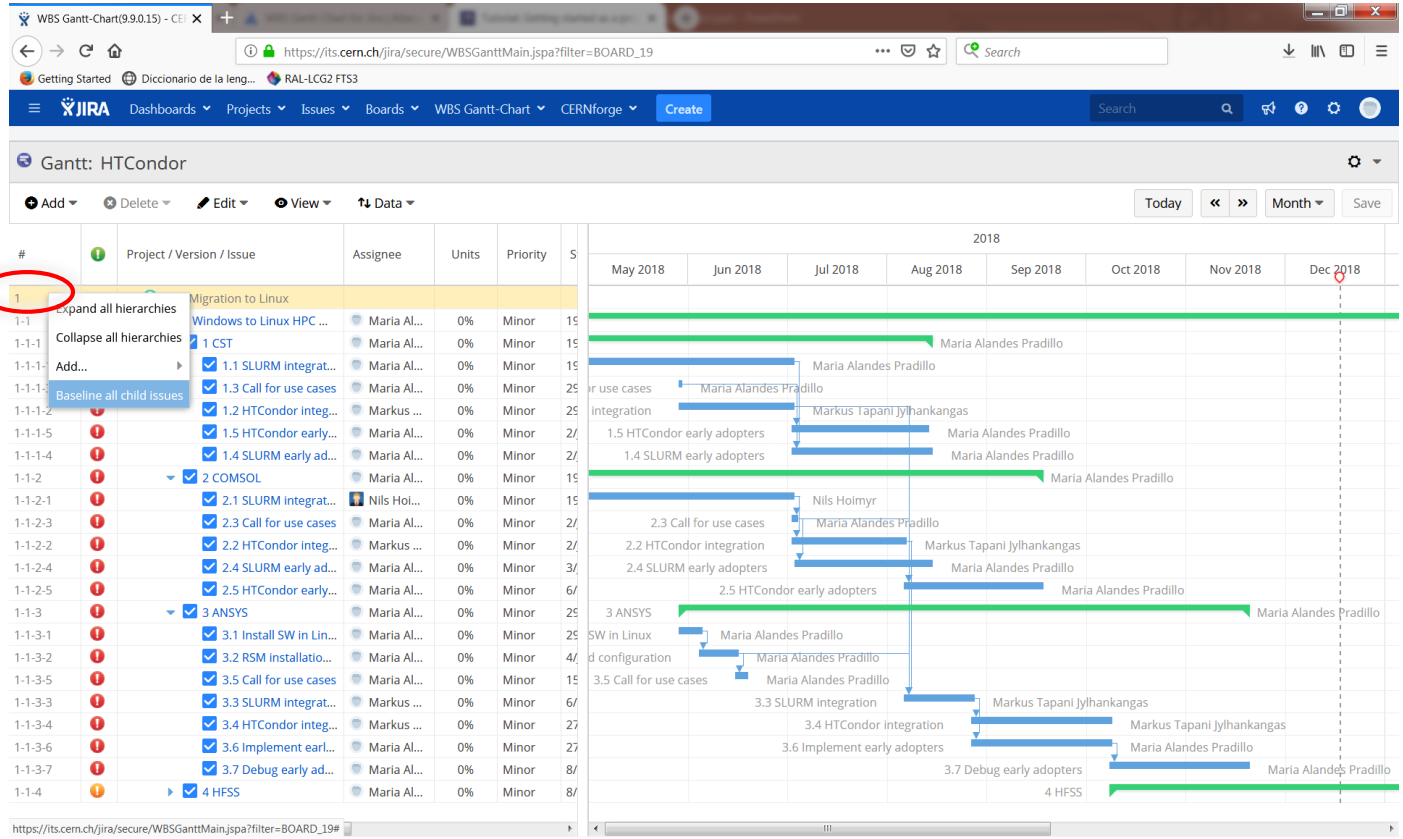
Resource View



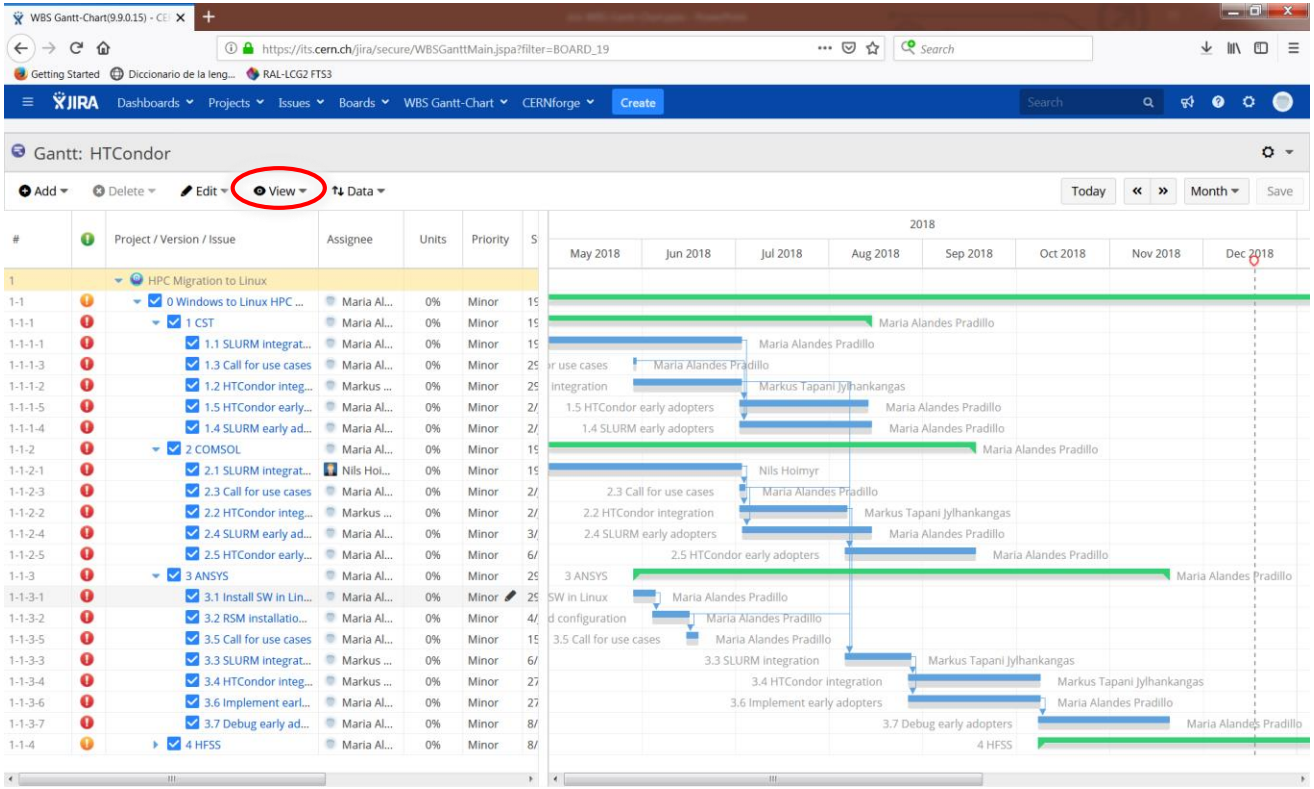
- Basic resource management and allocation
- Tasks have fixed duration: changing units won't have an impact on the duration of the tasks
- Tip: calculate the duration of the tasks taking into account the availability of the resources and adjust both units and duration if necessary

Baseline

Right-Click on the project task



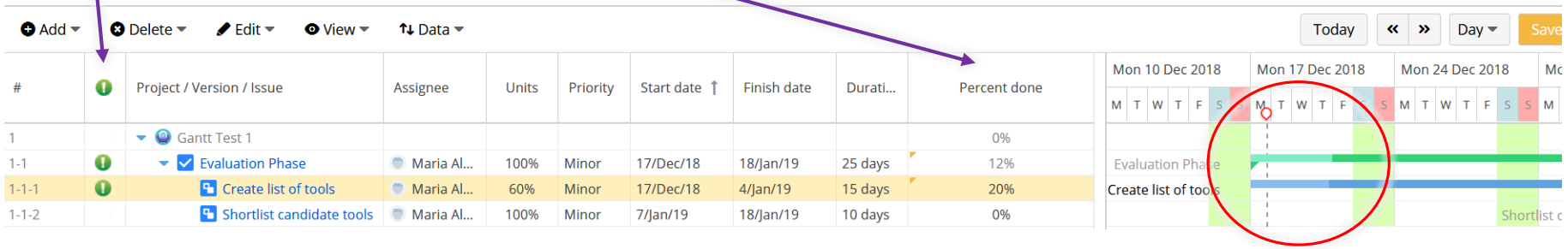
Baseline



The grey bars show the baseline: your original plan
Enable/Disable it in the View Menu

Progress

- Warnings
  - Tasks about to start
  - Task not started by the start date
  - Task not finished by the end date
- Percent done

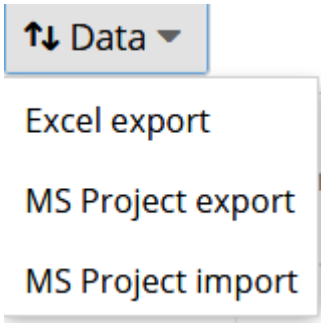


Current date: see whether you are late or ahead of schedule

Progress

- Criteria to update progress needs to be defined
  - Frequency
    - Every week?
    - Every project review?
  - Who?
    - Any user?
    - Project leader?
- Accuracy depends on the criticality of this information
  - Find a balance between progress reporting overhead and usefulness for project control and follow-up

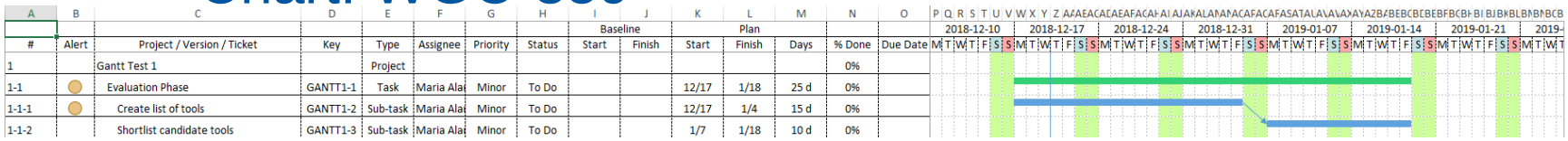
Export (I)



- In the Data Menu
  - Export to Excel
  - Export to MS Project (xml)
    - It could be useful for people working with subcontractors who may use MS Project
  - Import from MS Project (see next slides)

Export (II)

- Print Button suggested by some users
  - To print on paper? on PDF?
  - Feature request for printing: WGC-855
- Several Workarounds:
  - Export to Excel and then print from PDF (From the Data Menu)
    - Feature request to display task names in the Gantt Chart: WGC-859

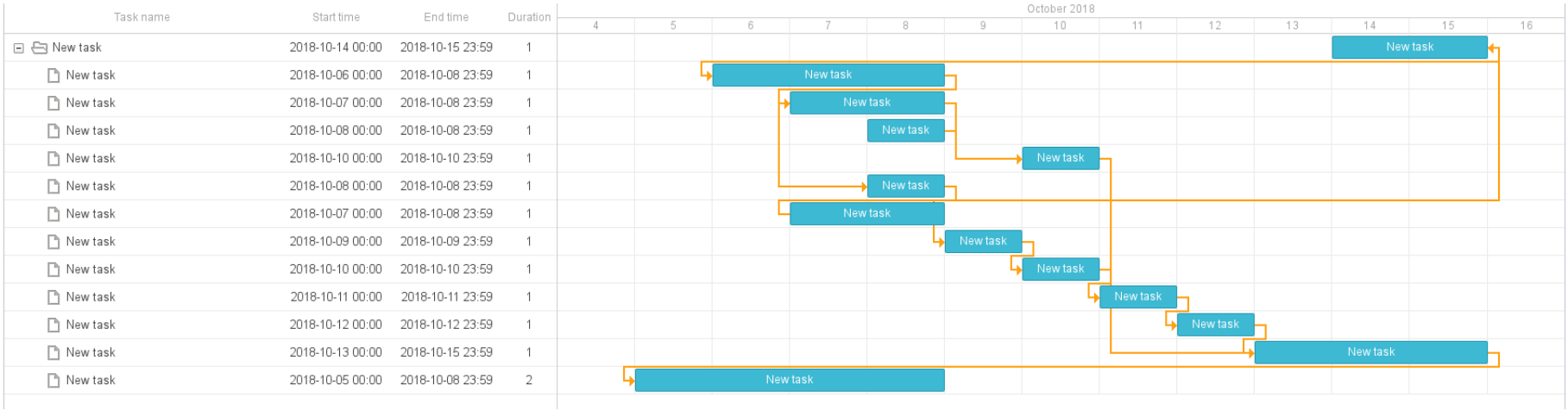


#	Alert	Project / Version / Ticket	Key	Type	Assignee	Priority	Status	Baseline Start	Baseline Finish	Plan Start	Plan Finish	Plan Days	% Done	Due Date
1		Gantt Test 1		Project									0%	
1-1		Evaluation Phase	GANTT1-1	Task	Maria Alas	Minor	To Do			12/17	1/18	25 d	0%	
1-1-1		Create list of tools	GANTT1-2	Sub-task	Maria Alas	Minor	To Do			12/17	1/4	15 d	0%	
1-1-2		Shortlist candidate tools	GANTT1-3	Sub-task	Maria Alas	Minor	To Do			1/7	1/18	10 d	0%	

#	Alert	Project / Version / Ticket	Key	Type	Assignee	Priority	Status	Baseline Start	Baseline Finish	Plan Start	Plan Finish	Plan Days	% Done	Due Date
1		Gantt Test 1		Project									0%	
1-1		Evaluation Phase	GANTT1-1	Task	Maria Alas	Minor	To Do			12/17	1/18	25 d	0%	
1-1-1		Create list of tools	GANTT1-2	Sub-task	Maria Alas	Minor	To Do			12/17	1/4	15 d	0%	
1-1-2		Shortlist candidate tools	GANTT1-3	Sub-task	Maria Alas	Minor	To Do			1/7	1/18	10 d	0%	

Export (III)

- DHTMLX viewer tool that will be soon available in CERNbox
  - Export to MS Project (XML)
  - Open on CERNbox
  - Export to PDF, PNG, etc…

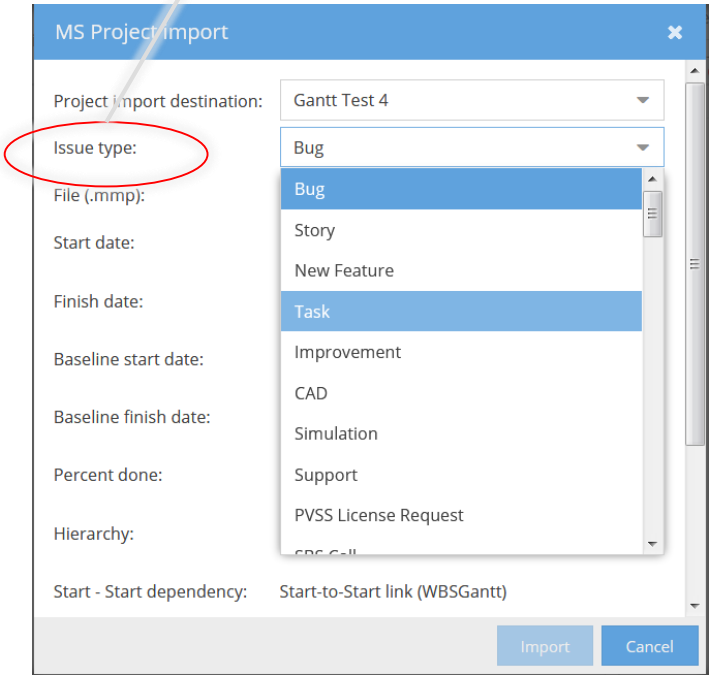


Task name	Start time	End time	Duration
New task	2018-10-14 00:00	2018-10-15 23:59	1
New task	2018-10-06 00:00	2018-10-08 23:59	1
New task	2018-10-07 00:00	2018-10-08 23:59	1
New task	2018-10-08 00:00	2018-10-08 23:59	1
New task	2018-10-10 00:00	2018-10-10 23:59	1
New task	2018-10-08 00:00	2018-10-08 23:59	1
New task	2018-10-07 00:00	2018-10-08 23:59	1
New task	2018-10-09 00:00	2018-10-09 23:59	1
New task	2018-10-10 00:00	2018-10-10 23:59	1
New task	2018-10-11 00:00	2018-10-11 23:59	1
New task	2018-10-12 00:00	2018-10-12 23:59	1
New task	2018-10-13 00:00	2018-10-15 23:59	1
New task	2018-10-05 00:00	2018-10-08 23:59	2

Importing MS Project files

- Make sure user importing MS Project file has « Assignable » permission
  - User needs to have a Developer role!
- Be patient, the progress bar displays status per task!
- When start or finish dates are not defined
  - WGC-858

Make sure to select Task type!



Other Useful Functionality

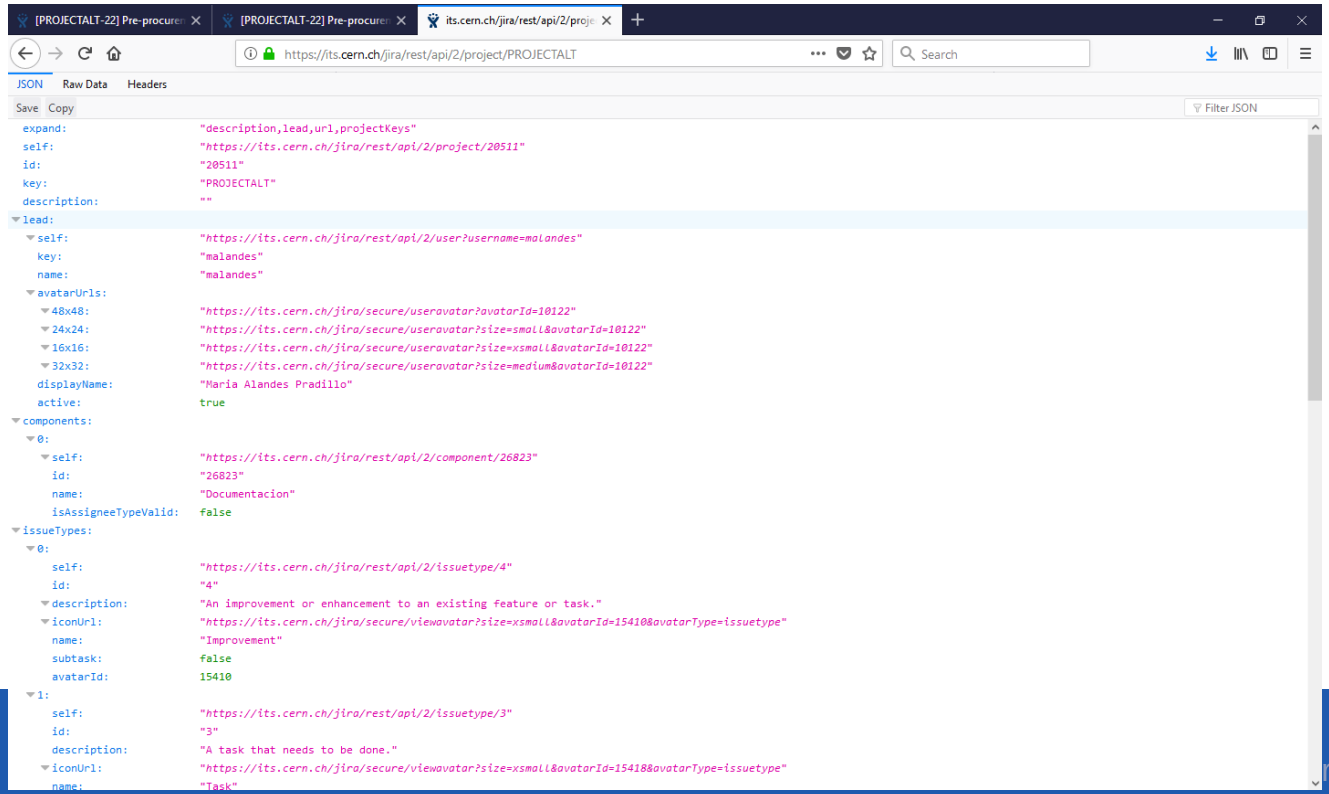
- Holiday calendar
  - https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350289943/Configuring+the+holiday+calendar
- Critical Path
  - https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350290112/Information+on+analysis+tools+and+functions#Informationonanalysistoolsandfunctions-Viewingthecriticalpath
- Progress line
  - https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350290112/Information+on+analysis+tools+and+functions#Informationonanalysistoolsandfunctions-Viewingtheprogress
- Adding more columns
  - https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350289989/Configuring+additional+columns
- Complete documentation
  - https://rssupport.atlassian.net/wiki/spaces/WGCE0909/overview

JIRA Python API

- Python API
  - https://pypi.org/project/jira/
- Gitlab project
  - https://gitlab.cern.ch/it-dep-cda/jira-api-utils
  - Python libraries and functions to interact and manipulate JIRA projects
  - I would like to offer this through SWAN service (work in progress)

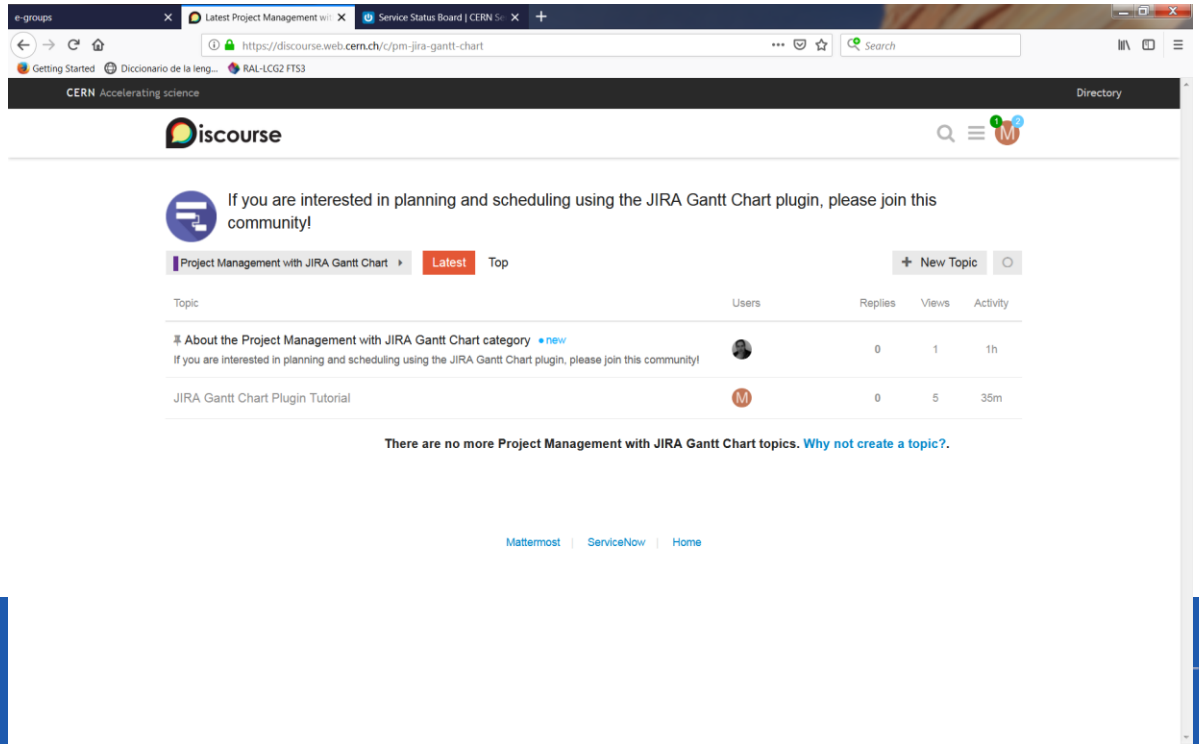
JIRA REST API

- REST API
  - https://cern.service-now.com/service-portal/article.do?n=KB0002188



Keeping up to date

- Egroup ***jira-gantt-chart-plugin-forum***:
- Community forum:
  - https://discourse.web.cern.ch/c/pm-jira-gantt-chart



Documentation

- Get started with JIRA KB

  https://cern.service-now.com/service-portal/article.do?n=KB0005904
- WBS Gantt Chart for JIRA Demo

  https://www.youtube.com/watch?v=nkUbKEaveXA