



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

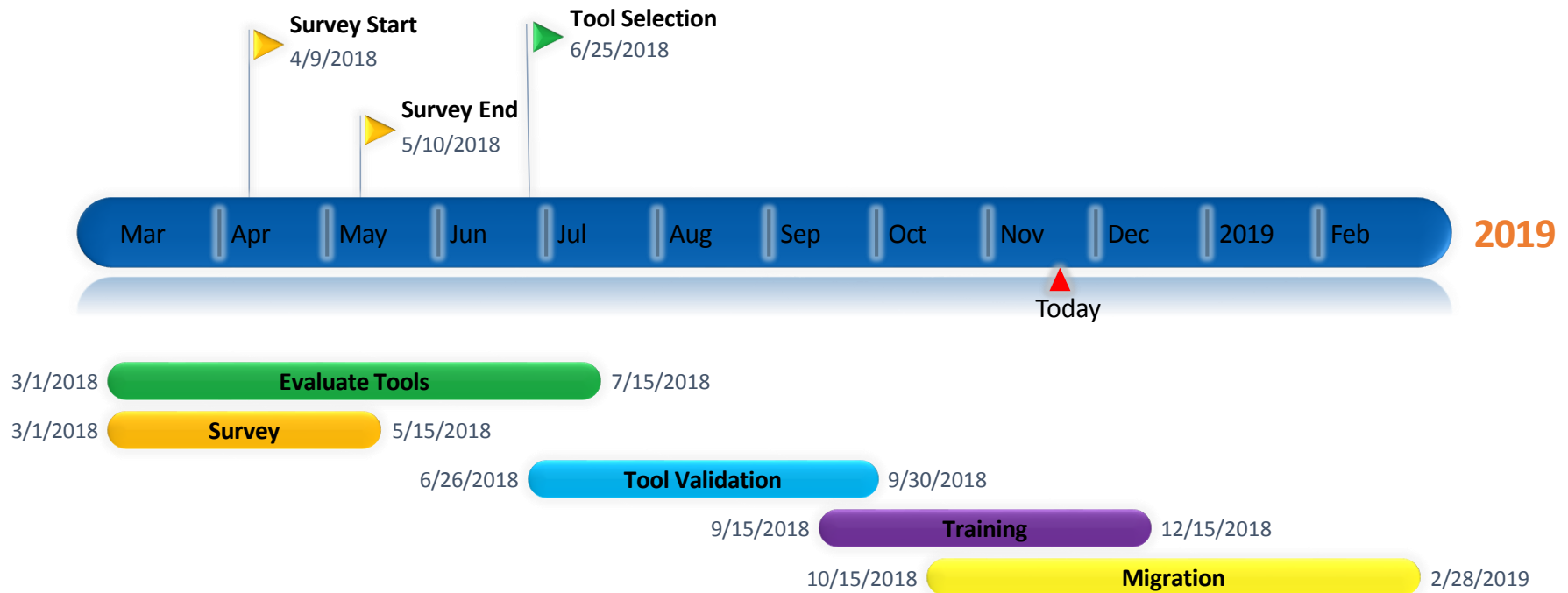
- What is Gantt-Chart plugin?
 - Third Party tool developed by Ricksoft
 - It provides visual project planning through Gantt charts
 - Some interesting functionality
 - Task dependencies with drag-and-drop interface
 - Modify schedules and dependent issues update automatically
 - Smart workload allocation 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>

JIRA ▾ SVN ▾

ACTIONS

Create new project

List my projects

List all projects

Map/Sync e-group

Sync project

LINKED REPOSITORIES

Link repository

Show linked repositories

SUPPORT

Service

FAQ

Permission Schemes

Notification Schemes

Categories

Issue Security Schemes

Select
Advanced to see
all the options



Home page / JIRA Project Request

Request a JIRA Repository

Your project will be created on <https://its.cern.ch/jira>.

Project leader: **Maria Alandes Pradillo (malandes)**
Can be changed later in JIRA

Name *

Key * ?
This is the unique project key.

Project Template * ?

Notification Scheme

Workflow Scheme

Issue Type Scheme ?

Category

Permission Scheme

Basic

Project Template

- Projects should be created with:
 - [Project Management template](https://cern.servicenow.com/service-portal/article.do?n=KB0005975)
- More information about project templates:

<https://cern.servicenow.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
Issue types	Task and sub-task. A sub-task must belong to a parent task. ISSUE TYPES <input checked="" type="checkbox"/> Task <input type="checkbox"/> 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

The image shows a Jira interface with a navigation bar at the top containing 'Issues', 'Boards', 'WBS Gantt-Chart', and 'CERNforge'. A dropdown menu is open under 'WBS Gantt-Chart', listing 'CURRENT GANTT', 'MS Project Alternatives', 'RECENT GANTTS', 'HTCondor', 'CC Racks replacement', 'LS2 P8 Atlas project', 'Create Gantt' (highlighted), 'View all Gantts', and 'Online document'. Two dialog boxes are overlaid on the right. The top dialog, titled 'Create a new Gantt...', has two buttons: 'Create from project' and 'Create from filter'. The bottom dialog, titled 'Create Gantt from project', contains a 'Gantt name' field with 'GANTT example', a 'Project' dropdown menu with 'Gantt Test 1' selected, and a warning message: 'Warning: Please avoid managing a single issue in multiple Gantts because it may cause unexpected behavior. The default setting prepared by WBS Gantt-Chart for Jira is given as the initial setting of the created Gantt.' At the bottom right of this dialog are 'Create' and 'Cancel' buttons.

Add Tasks

Edit the values directly here
or in the JIRA classic view

#	Project / Version / Issue	Assignee	Units	Priority	Start date ↑	Finish date	Durati...	Perce...	2018	2019
1	Gantt Test 1							0%	Dec 2018	Jan 2019
1-1	Evaluation Phase	Maria Al...	100%	Minor	17/Dec/18	18/Jan/19	25 days	0%	hase	Jan 2019

ISSUE

- Bug
- Epic
- Improvement
- New Feature
- Task**
- Sub-task
- Version

Copy

- Issue
- Issue and all child issues

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

Gantt Test 1 / GANTT1-1
Evaluation Phase

Edit Comment Assign More To Do In Progress Workflow Export

Details

Type: Task
Status: **TO DO** (View Workflow)
Priority: Minor
Resolution: Unresolved
Labels: None

Description
Click to add description

Attachments
Drop files to attach, or browse.

Sub-Tasks

Activity
All Comments Work Log History Activity Subversion

People
Assignee: Maria Alandes Pradillo
Reporter: Maria Alandes Pradillo
Votes: 0
Watchers: 1 Stop watching this issue

Dates
Created: 15 minutes ago
Updated: 11 minutes ago

Agile
View on Board

There are no comments yet on this issue.

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

Edit Issue : PROJECTALT-35 Configure Fields

Standard Planning **Gantt**

Summary* Tutorial 2

Issue Type* Task

Priority Minor

Due Date

Edit Issue : PROJECTALT-35 Configure Fields

Standard Planning Gantt

Start date (WBSGantt) 20/Nov/18

Start date in WBS Gantt-Chart

Finish date (WBSGantt) 26/Dec/18

Finish date in WBS Gantt-Chart

Baseline start date (WBSGantt)

Baseline start date in WBS Gantt-Chart

Baseline finish date (WBSGantt)

Baseline finish date in WBS Gantt-Chart

Units (WBSGantt) 0

Resource units assigned to an issue

PercentDone

Comment

Style **B** *I* U A

Task dependencies

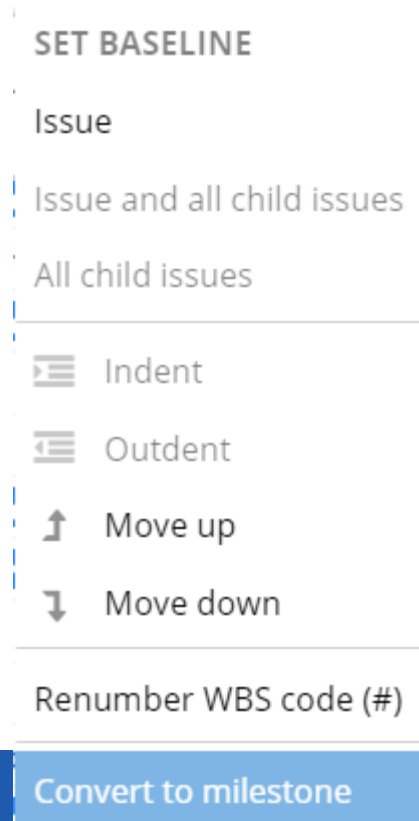
- The easiest is to drag and drop directly in the Gantt chart to create task dependencies
 - Start to End
 - End to Start
 - Start to Start
 - End to End
- In the Edit Menu you can also
 - Indent/Outdent to modify the task hierarchy
 - Move up or down to reorganise the task order

About Task bars

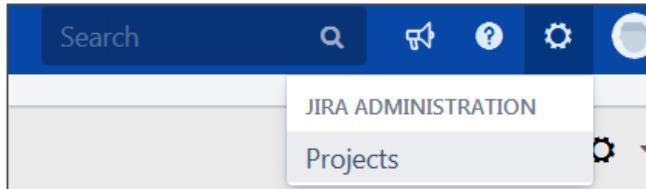
- Colours
 - Parent bars: blue
 - Children bars: green
 - Completed issues: light blue or green
 - Baselines (see later): light grey bar
- Task Names
 - They appear on the left
 - Feature request to allow to drag and drop:
WGC-856

Milestones

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



Add Users

A screenshot of the JIRA Project Configuration page for 'PROJECTALT'. The page is titled 'PROJECTALT: Software Development Issue Type Scheme'. The left sidebar contains a navigation menu with 'Users and roles' highlighted in a red circle. The main content area is divided into four sections: 'Issue types', 'Versions', 'Components', and 'Workflows'.

If your workflows or screens are only used by your project, you can now edit them to make sure they suit the way your team works. Go to [workflows](#) or [screens](#) to see how they're currently set up, and to make any changes you may want. Check out our [documentation](#) for more info, or talk to your JIRA administrator.

Issue types

These issue types are available in your project. Each issue type can be configured differently.

Scheme:
PROJECTALT: Software Development Issue Type Scheme

- Bug
- Epic
- Improvement
- New Feature
- Sub-task | SUB-TASK
- Task

Versions

For software projects, JIRA allows you to track different versions, e.g. 1.0, 2.0. Issues can be assigned to versions.

This project has no unarchived versions. [Add a version](#)

Components

Projects can be broken down into components, e.g. "Database", "User Interface". Issues can then be categorised against different components.

This project does not use any components. [Add a component](#)

Roles

JIRA enables you to allocate particular people to specific roles in your project. Roles are used when defining other settings like notifications and permissions.

Project Lead: [Maria Amandes Predillo](#)

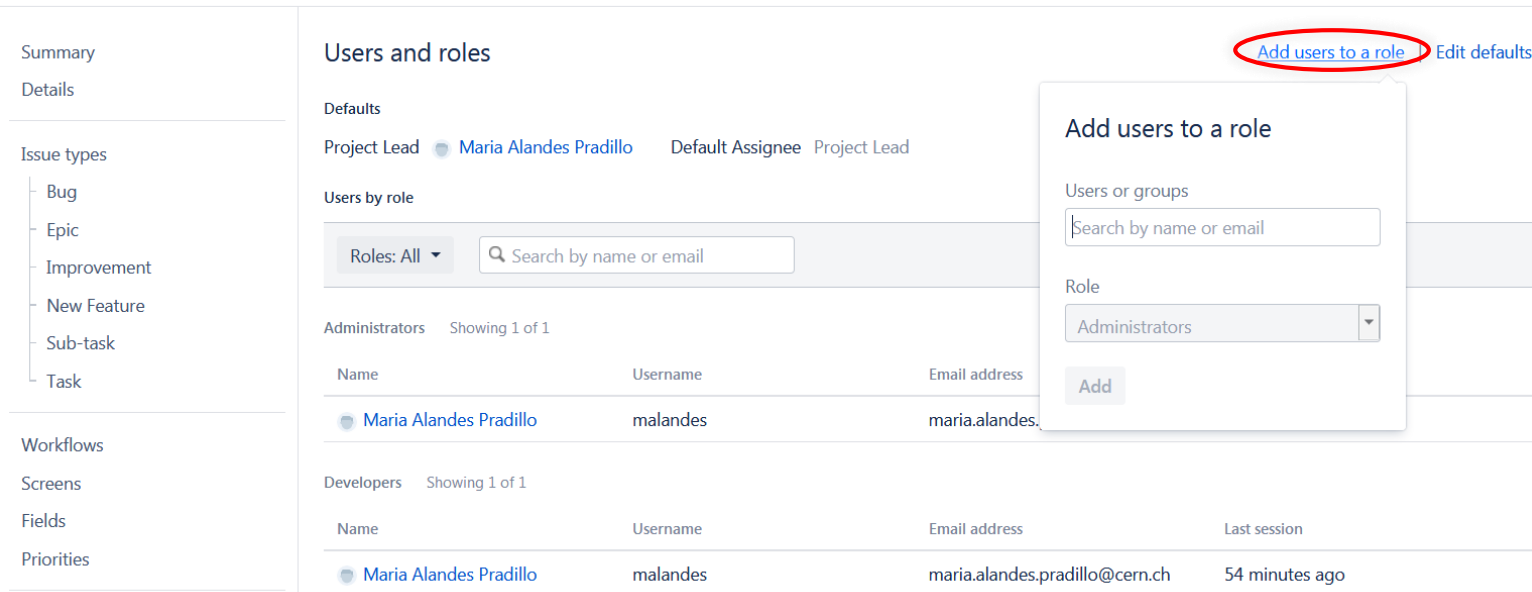
Workflows

A workflow is made up of statuses and transitions. An issue moves between statuses via a transition. The workflow defines what transitions and statuses an issue type can use.

Scheme:

Add Users

Project settings



The screenshot shows the 'Users and roles' section in JIRA. The 'Add users to a role' button is circled in red. A modal dialog is open, showing a search box for 'Users or groups', a dropdown for 'Role' (set to 'Administrators'), and an 'Add' button.

Users and roles Add users to a role Edit defaults

Defaults
Project Lead Maria Alandes Pradillo Default Assignee Project Lead

Users by role

Roles: All

Administrators Showing 1 of 1

Name	Username	Email address
<input checked="" type="radio"/> Maria Alandes Pradillo	malandes	maria.alandes@cern.ch

Developers Showing 1 of 1

Name	Username	Email address	Last session
<input checked="" type="radio"/> Maria Alandes Pradillo	malandes	maria.alandes.pradillo@cern.ch	54 minutes ago

- 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!

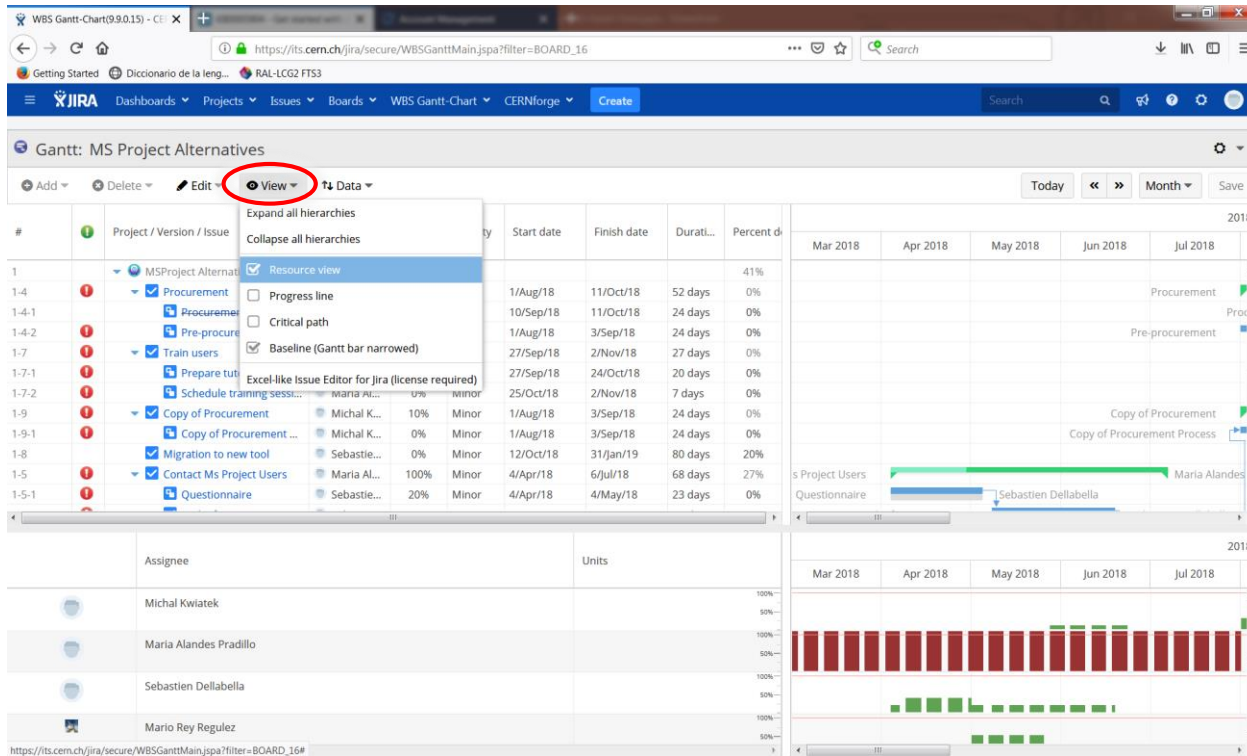
Adding users through e-groups

- 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

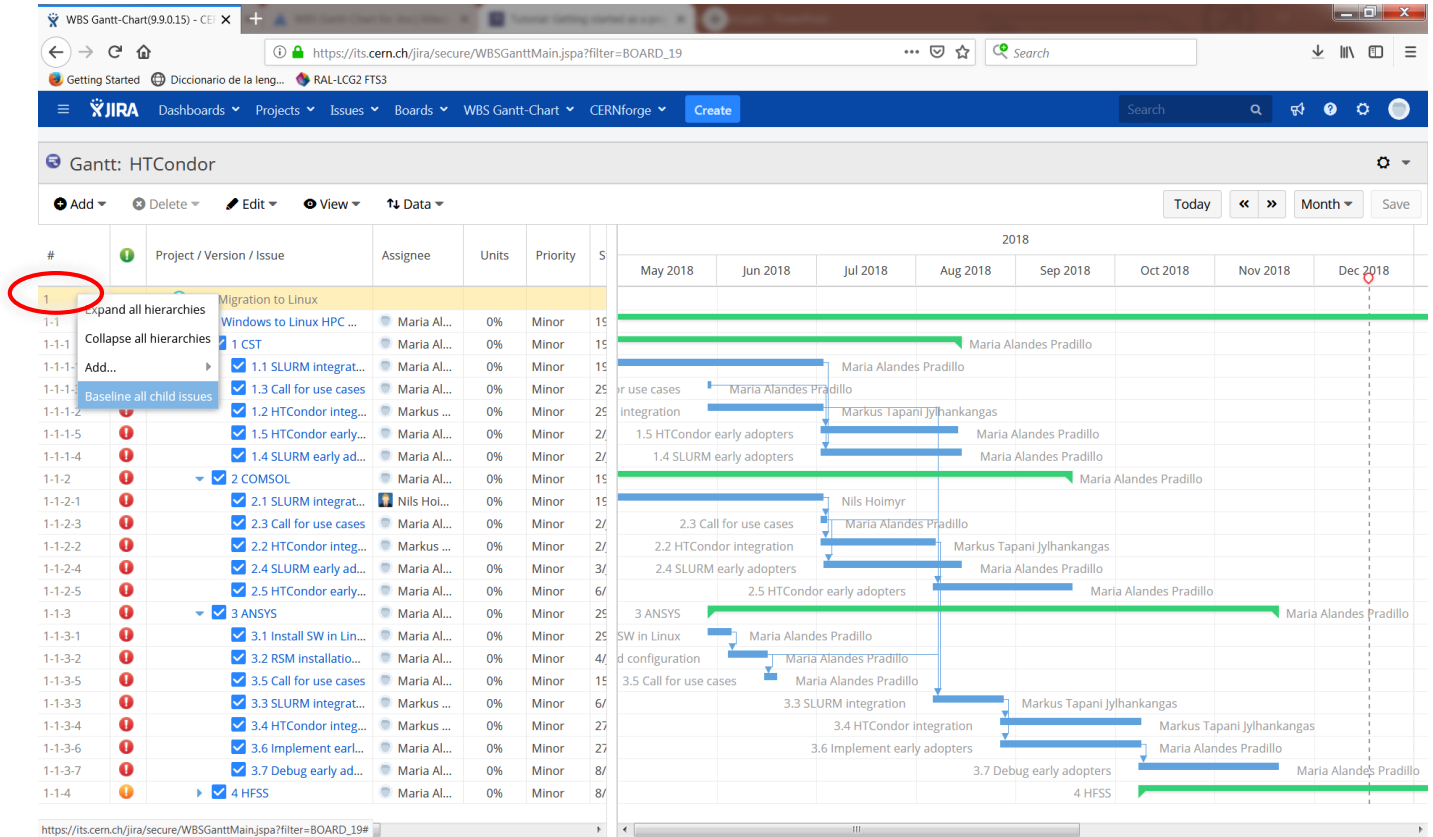
Resource View



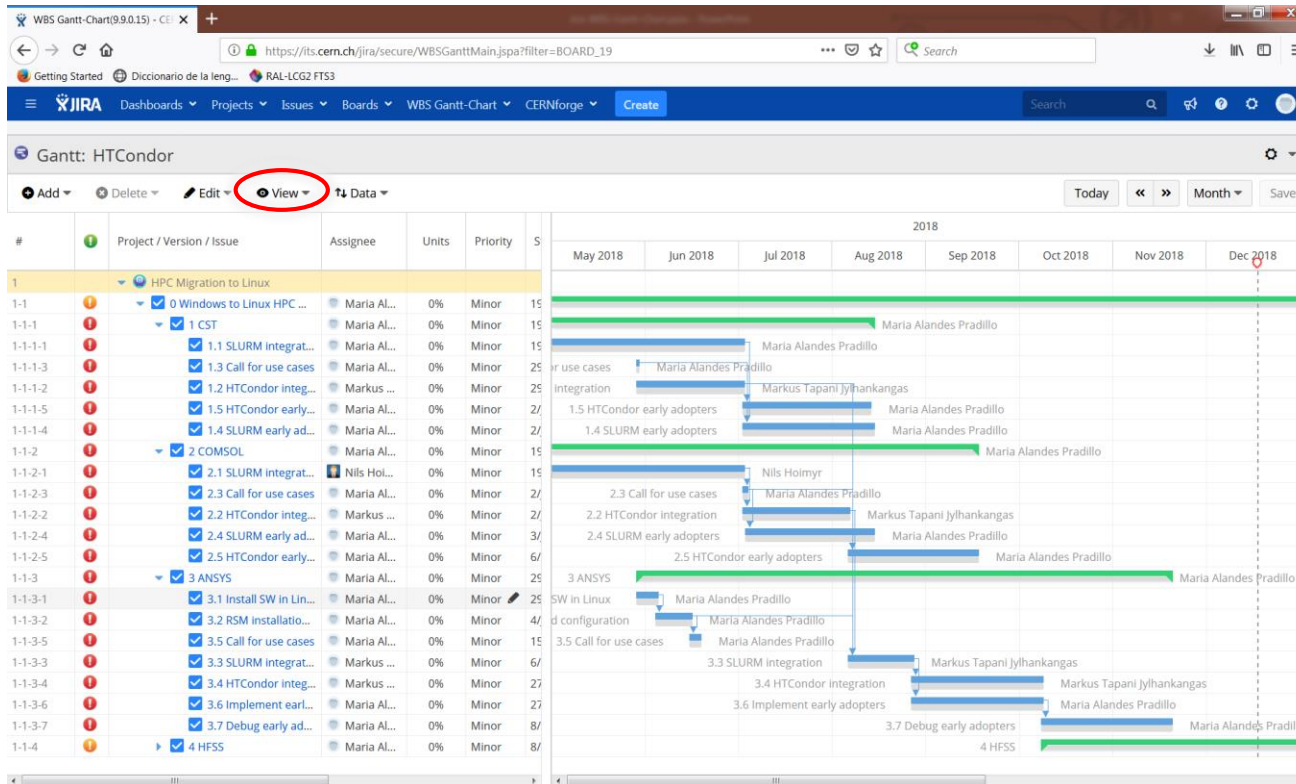
- Basic resource management and allocation
- Tasks have fixed duration: changing units won't have an impact on the duration of the tasks
- Tip: calculate the duration of the tasks taking into account the availability of the resources and adjust both units and duration if necessary

Baseline

Right-Click on the project task



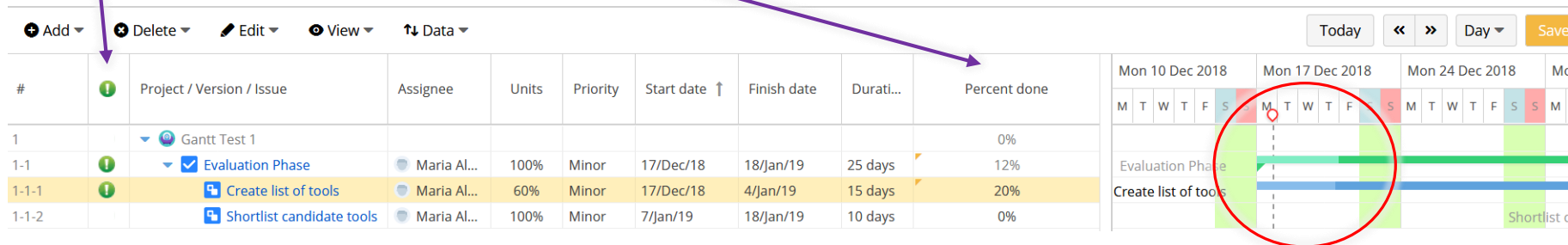
Baseline



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



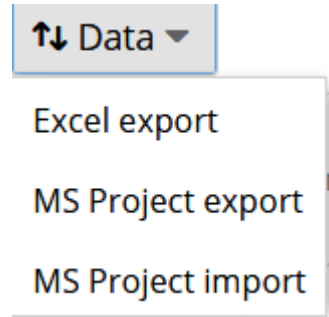
Current date: see whether you are late or ahead of schedule

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

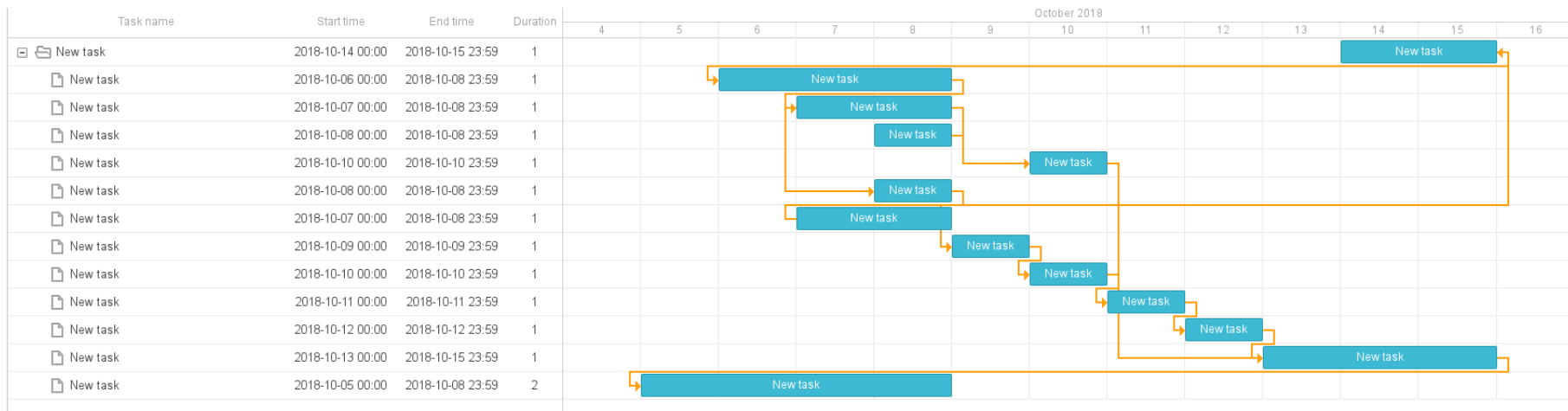
Export (I)

- 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 (III)

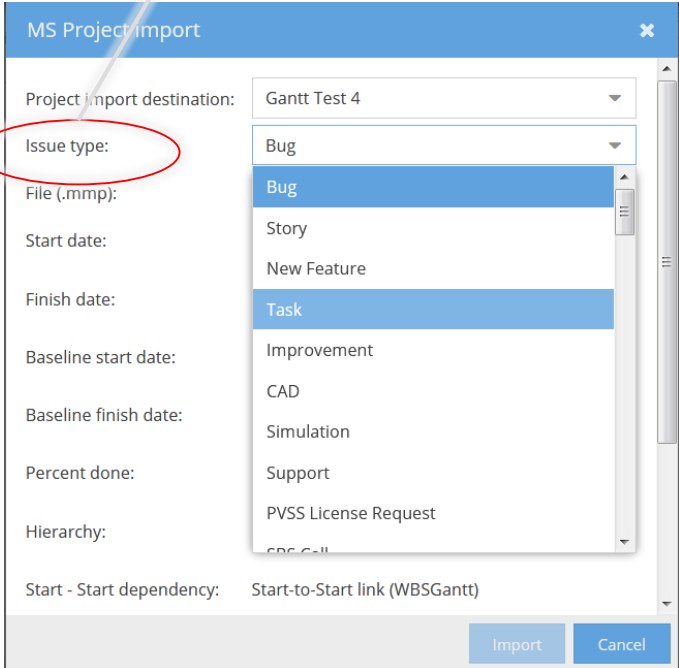
- DHTMLX viewer tool that will be soon available in CERNbox
 - Export to MS Project (XML)
 - Open on CERNbox
 - Export to PDF, PNG, etc...



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!



MS Project import

Project import destination: Gantt Test 4

Issue type: Bug

File (.mmp):

Start date:

Finish date:

Baseline start date:

Baseline finish date:

Percent done:

Hierarchy:

Start - Start dependency: Start-to-Start link (WBSGantt)

Import Cancel

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#Informationonanalysisistoolsandfunctions-Viewingthecriticalpath>

- **Progress line**

- <https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350290112/Information+on+analysis+tools+and+functions#Informationonanalysisistoolsandfunctions-Viewingtheprogress>

- **Adding more columns**

- <https://rssupport.atlassian.net/wiki/spaces/WGCE0909/pages/350289989/Configuring+additional+columns>

- **Complete documentation**

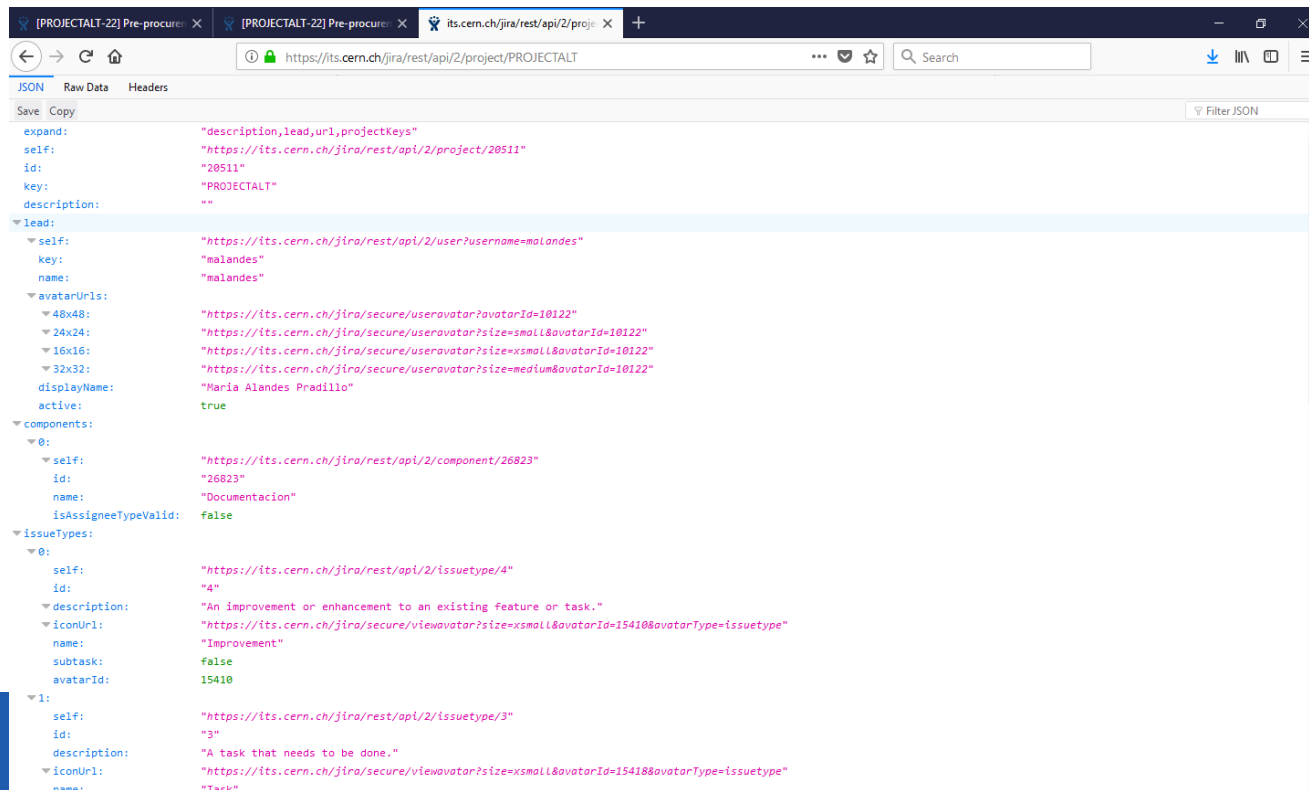
- <https://rssupport.atlassian.net/wiki/spaces/WGCE0909/overview>

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>

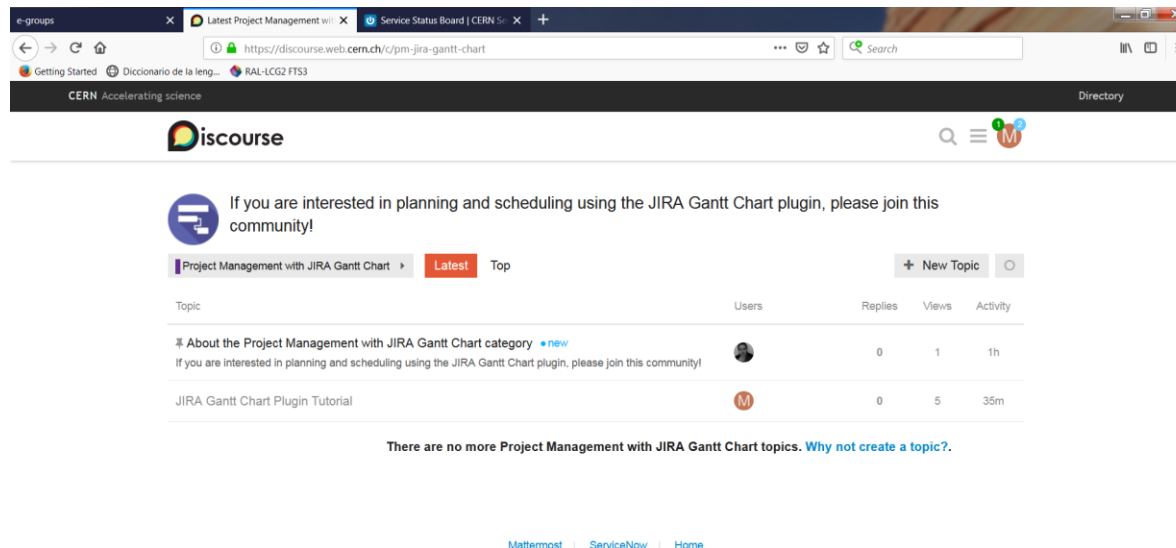


The screenshot shows a web browser window with the URL `https://its.cern.ch/jira/rest/api/2/project/PROJECTALT`. The browser's developer tools are open, displaying the JSON response from the REST API. The response is a JSON object with the following structure:

```
{
  "expand": "description,lead,url,projectKeys",
  "self": "https://its.cern.ch/jira/rest/api/2/project/20511",
  "id": "20511",
  "key": "PROJECTALT",
  "description": "",
  "lead": {
    "self": "https://its.cern.ch/jira/rest/api/2/user?username=malandes",
    "key": "malandes",
    "name": "malandes",
    "avatarUrls": {
      "48x48": "https://its.cern.ch/jira/secure/useravatar?avatarId=10122",
      "24x24": "https://its.cern.ch/jira/secure/useravatar?size=small&avatarId=10122",
      "16x16": "https://its.cern.ch/jira/secure/useravatar?size=xsmall&avatarId=10122",
      "32x32": "https://its.cern.ch/jira/secure/useravatar?size=medium&avatarId=10122"
    },
    "displayName": "Maria Alandes Pradillo",
    "active": true
  },
  "components": [
    {
      "self": "https://its.cern.ch/jira/rest/api/2/component/26823",
      "id": "26823",
      "name": "Documentacion",
      "isAssigneeTypeValid": false
    }
  ],
  "issueTypes": [
    {
      "self": "https://its.cern.ch/jira/rest/api/2/issueType/4",
      "id": "4",
      "description": "An improvement or enhancement to an existing feature or task.",
      "iconUrl": "https://its.cern.ch/jira/secure/viewavatar?size=xsmall&avatarId=15410&avatarType=issueType",
      "name": "Improvement",
      "subtask": false,
      "avatarId": 15410
    },
    {
      "self": "https://its.cern.ch/jira/rest/api/2/issueType/3",
      "id": "3",
      "description": "A task that needs to be done.",
      "iconUrl": "https://its.cern.ch/jira/secure/viewavatar?size=xsmall&avatarId=15418&avatarType=issueType",
      "name": "Task"
    }
  ]
}
```


Keeping up to date

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



The screenshot shows a web browser window displaying a Discourse forum page. The browser's address bar shows the URL <https://discourse.web.cern.ch/c/pm-jira-gantt-chart>. The page header includes the Discourse logo and a search bar. The main content area features a community invitation: "If you are interested in planning and scheduling using the JIRA Gantt Chart plugin, please join this community!". Below this, there is a table of topics under the category "Project Management with JIRA Gantt Chart".

Topic	Users	Replies	Views	Activity
¶ About the Project Management with JIRA Gantt Chart category • new		0	1	1h
JIRA Gantt Chart Plugin Tutorial		0	5	35m

Below the table, a message states: "There are no more Project Management with JIRA Gantt Chart topics. [Why not create a topic?](#)". At the bottom of the page, there are links for "Mattermost", "ServiceNow", and "Home".

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>