Production Scheduling / Finite Capacity

Configuration and User Guide | Odoo 19.0 and 18.0 Community | module version 19.0.1.0.12

1. What the app does

Community Odoo plans manufacturing as if work centres had unlimited capacity: it will happily place forty hours of work on an eight hour day. This app schedules the same work orders against the real capacity you give each work centre, moves whatever does not fit to the next day that has room, and then shows you the daily load and which work centres are the constraint.

Technical name	gb_production_scheduling_finite_capacity
Depends on	mrp
Edition	Odoo 19.0 and 18.0 Community. No Enterprise module required.
Licence	OPL-1
Menu	Finite Scheduling: Run Scheduler, Planning Board, Load Profile, Bottlenecks, Configuration
Models added	Schedule slot, work centre load, bottleneck, capacity exception. Manufacturing orders and work orders are not modified.

Views and the Gantt question

The app ships list and form views. It does not include a Gantt chart. The Gantt view is provided by an Odoo Enterprise module and is not present in Community at all, so on a Community database no application can display one, including standard Manufacturing Orders and Work Orders.

Each schedule slot does carry a start and a stop timestamp together with its work centre and work order, so on an Enterprise database a Gantt view can be defined over the slot model without touching the scheduling logic. Rescheduling in this app is done with the Move action on a slot, where you enter a new start.

2. Installation

Open Apps, click Update Apps List, search for the technical name above and install. Manufacturing is installed automatically if it is missing. Refresh the browser afterwards and the Finite Scheduling menu appears.

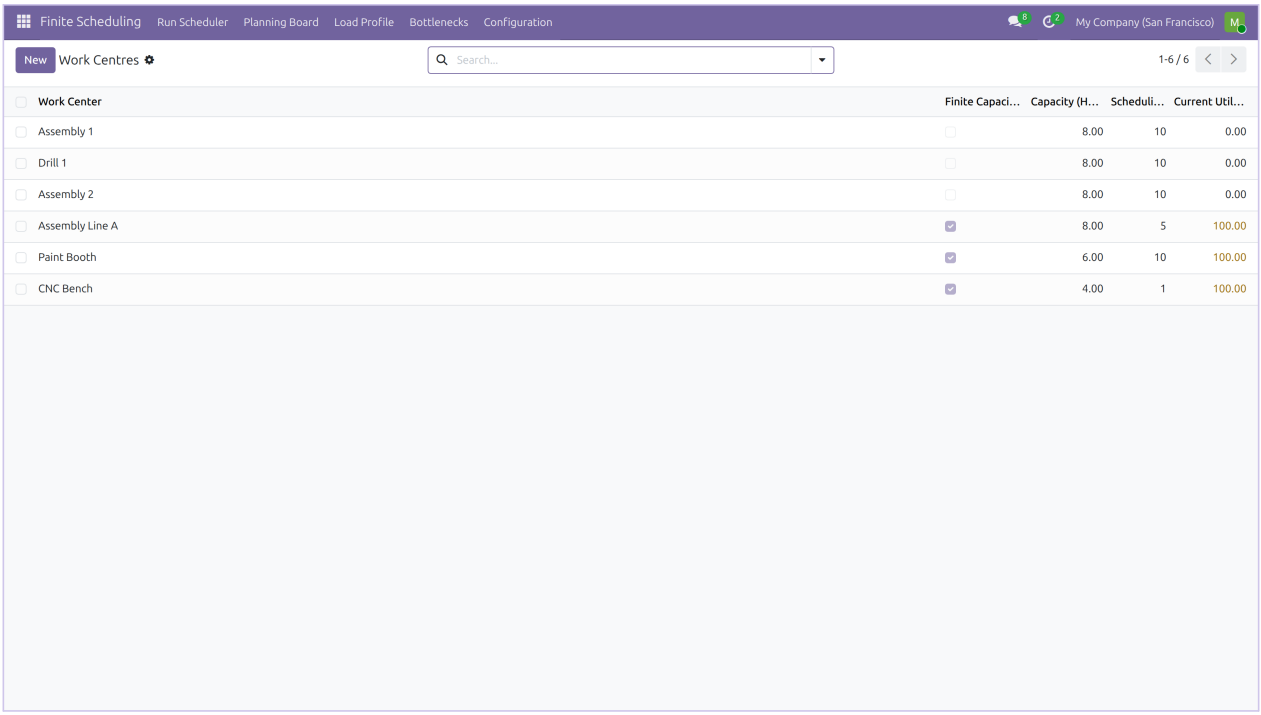
Access rights

Two groups come with the app. Assign them under Settings, Users and Companies, Users.

Group	Who it is for
Finite Capacity Scheduler / User	Planners. They run the scheduler, work the planning board and read the load and bottleneck screens.
Finite Capacity Scheduler / Manager	Whoever owns the capacity settings and the capacity exceptions. Includes everything the User group can do.

3. Configuration

Capacity is configured on the work centre. Open Finite Scheduling, Configuration, Work Centres. The scheduler only plans the centres where Finite Capacity Scheduling is ticked, which lets you introduce the app on part of the shop floor first.



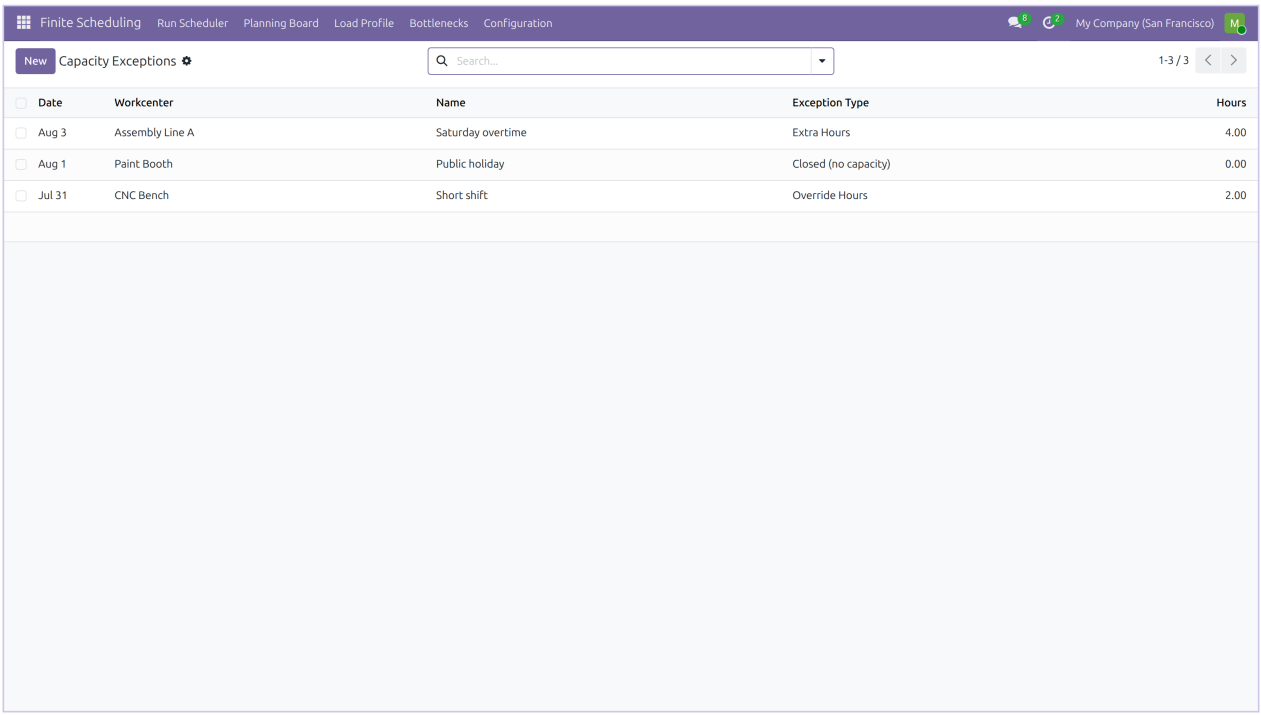
Configuration, Work Centres. The three ticked centres are in the plan with 8, 6 and 4 hours per day and scheduling priorities 5, 10 and 1. The unticked ones are ignored by the scheduler and stay at zero utilisation.

Field	Default	What it controls
Finite Capacity Scheduling	ticked	Whether this work centre is planned. Untick it and its work orders are left alone by the scheduler.
Capacity (Hours/Day)	8.00	Net working hours available per day. This is the ceiling the scheduler never crosses. Set it to the hours really available after breaks, planned maintenance and manning.

Field	Default	What it controls
Overload Threshold %	90.00	Utilisation above this is reported as a bottleneck for that centre. Lower it to be warned earlier.
Scheduling Priority	10	Lower numbers are scheduled first when work competes for capacity. Give your constraint resource the lowest number so it is filled before the rest.
Current Utilisation %	computed	Today's utilisation for that centre, taken from the load profile. Read only.

Closed days, short shifts and overtime

A capacity exception overrides the daily hours of one work centre on one date. Open Finite Scheduling, Configuration, Capacity Exceptions and create one line per event. The scheduler reads them on every run, so a holiday entered today is respected by tonight's plan.



Configuration, Capacity Exceptions. One closed day, one overtime day and one shortened day, each on a different work centre.

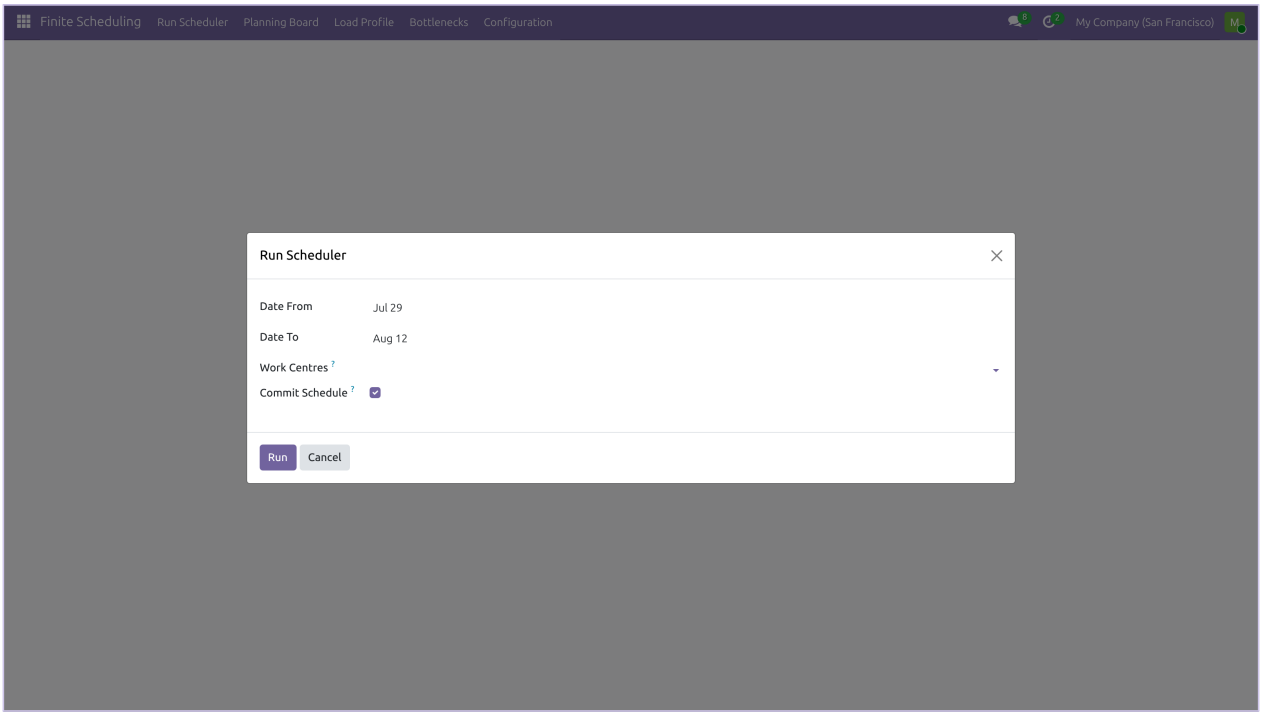
Type	Hours field	Effect on that date
Closed (no capacity)	ignored	The centre has no capacity at all. Work is pushed to the next open day. Use it for holidays and shutdowns.
Override Hours	total hours	Replaces the work centre default for that day. Use it for a short shift.
Extra Hours	hours added	Added on top of the work centre default. Use it for overtime or a weekend shift.

Automatic rescheduling

A scheduled action ships with the app and re-runs the scheduler once a day, so the plan follows new and cancelled work orders without anyone pressing a button. You can change its interval or switch it off under Settings, Technical, Scheduled Actions, where it is listed with the app's name. If you prefer to plan only on demand, disable it and use Run Scheduler.

4. Running the scheduler

Finite Scheduling, Run Scheduler opens a wizard. It asks for the window to plan, defaulting to today plus fourteen days, and optionally a subset of work centres so you can replan one area without touching the rest.

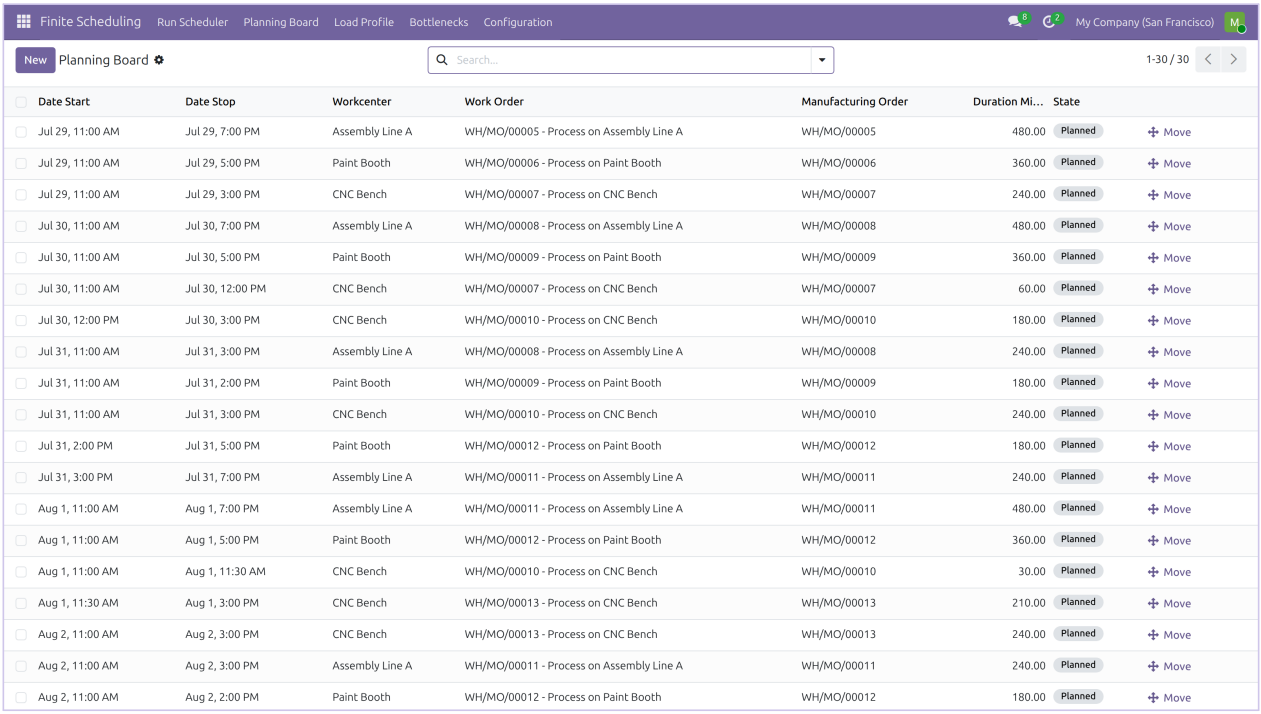


Run Scheduler. Leave Commit off for a dry run: you get the resulting load and bottleneck preview without changing the live plan. Tick it when the outcome looks right.

The dry run is the safe way to answer a question like whether next week still fits if a machine is down on Thursday. Enter the exception, run with Commit off, read the preview, and only commit if you accept the result.

5. The planning board

Finite Scheduling, Planning Board lists one slot per scheduled work order piece, with its work centre, start, stop, duration and state. This is where finite capacity becomes visible: when a day is full, the remainder of the work appears as a second slot on the next day with room, instead of being stacked onto an already full day.

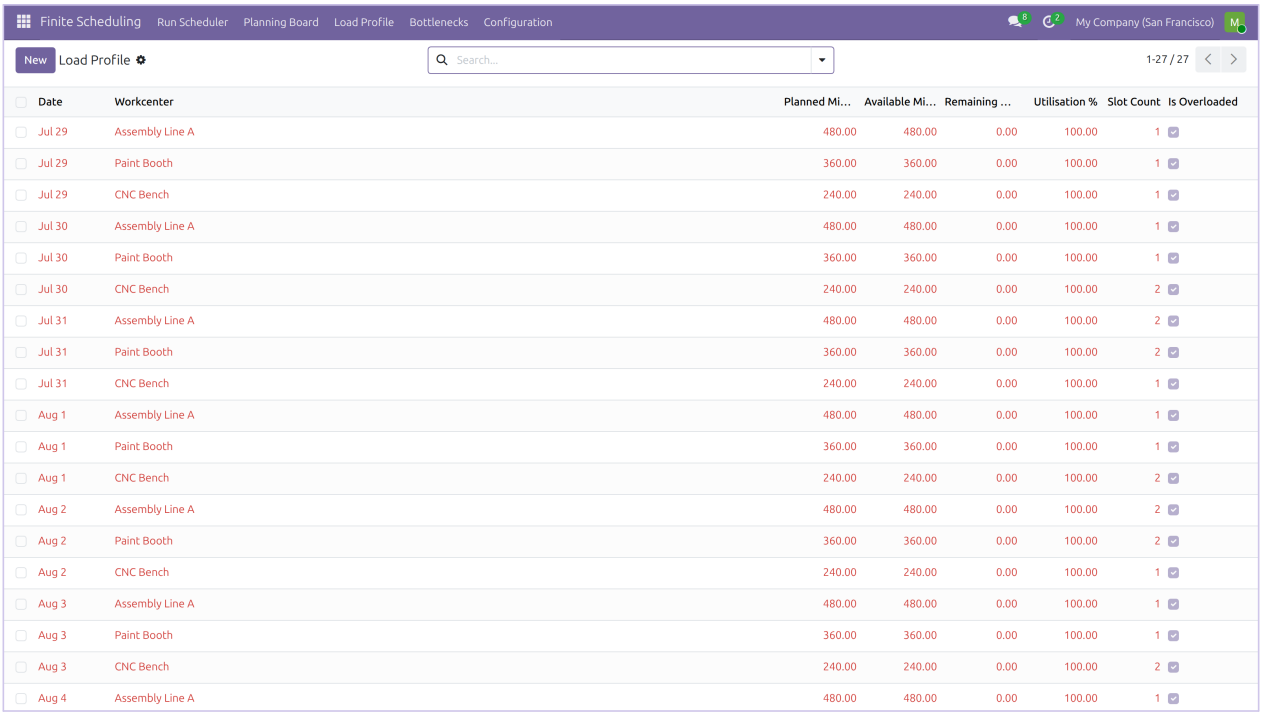


Planning Board. CNC Bench has four hours a day, so a 300 minute work order arrives as 240 minutes on the first day and 60 minutes on the next. The Move action on the right reschedules a slot to a new start.

State	Meaning
Planned	The scheduler placed the slot. Re-running the scheduler may move it.
Released	Handed to the shop floor. Use it to mark what is committed.
Done	Finished.

6. Reading the load profile

Finite Scheduling, Load Profile shows one line per work centre per day: the minutes planned, the minutes available after any capacity exception, the minutes left and the resulting utilisation. It answers where the free capacity is before you promise a delivery date.

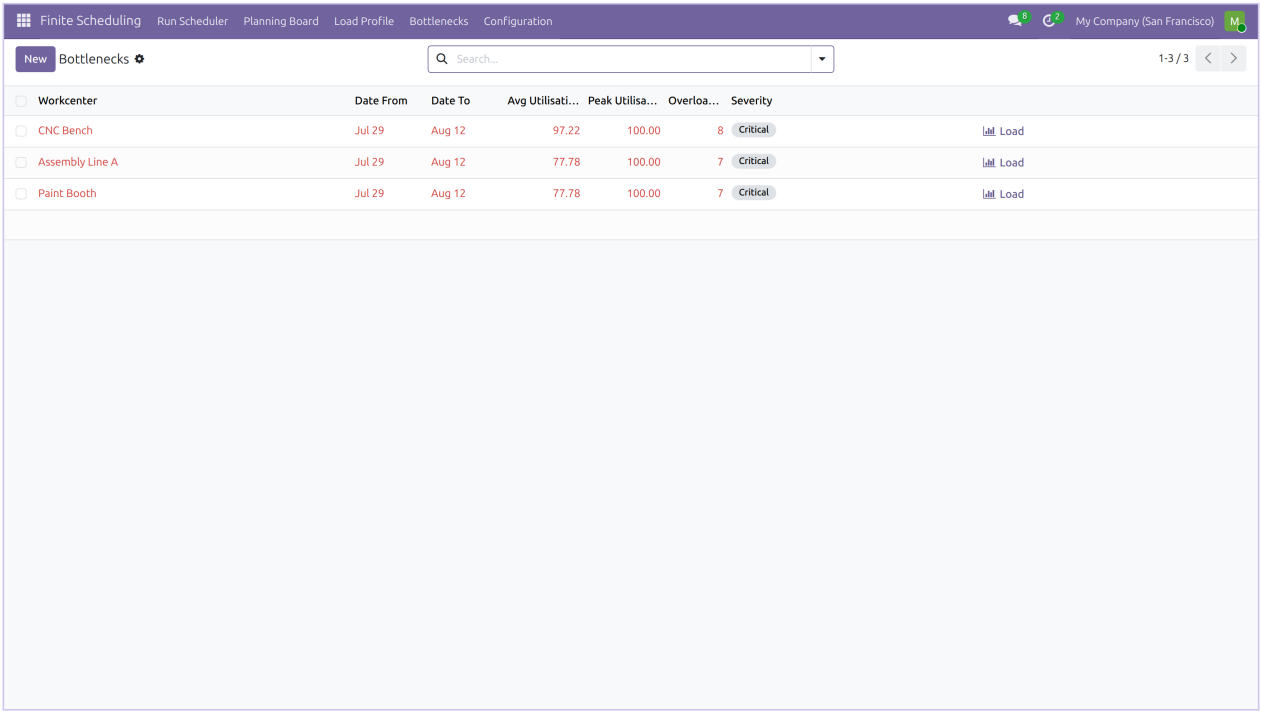


Date	Workcenter	Planned Mi…	Available Mi…	Remaining …	Utilisation %	Slot Count	Is Overloaded
Jul 29	Assembly Line A	480.00	480.00	0.00	100.00	1	
Jul 29	Paint Booth	360.00	360.00	0.00	100.00	1	
Jul 29	CNC Bench	240.00	240.00	0.00	100.00	1	
Jul 30	Assembly Line A	480.00	480.00	0.00	100.00	1	
Jul 30	Paint Booth	360.00	360.00	0.00	100.00	1	
Jul 30	CNC Bench	240.00	240.00	0.00	100.00	2	
Jul 31	Assembly Line A	480.00	480.00	0.00	100.00	2	
Jul 31	Paint Booth	360.00	360.00	0.00	100.00	2	
Jul 31	CNC Bench	240.00	240.00	0.00	100.00	1	
Aug 1	Assembly Line A	480.00	480.00	0.00	100.00	1	
Aug 1	Paint Booth	360.00	360.00	0.00	100.00	1	
Aug 1	CNC Bench	240.00	240.00	0.00	100.00	2	
Aug 2	Assembly Line A	480.00	480.00	0.00	100.00	2	
Aug 2	Paint Booth	360.00	360.00	0.00	100.00	2	
Aug 2	CNC Bench	240.00	240.00	0.00	100.00	1	
Aug 3	Assembly Line A	480.00	480.00	0.00	100.00	1	
Aug 3	Paint Booth	360.00	360.00	0.00	100.00	1	
Aug 3	CNC Bench	240.00	240.00	0.00	100.00	2	
Aug 4	Assembly Line A	480.00	480.00	0.00	100.00	1	

Load Profile. Planned against available minutes per day, with the remaining minutes and the utilisation percentage for each work centre.

7. Acting on bottlenecks

Finite Scheduling, Bottlenecks ranks work centres over the scheduled horizon by average utilisation, and counts how many days each one spent above its own overload threshold. The top row is the constraint that decides your output.



Workcenter	Date From	Date To	Avg Utilisati…	Peak Utilisa…	Overloa…	Severity	
CNC Bench	Jul 29	Aug 12	97.22	100.00	8	Critical	Load
Assembly Line A	Jul 29	Aug 12	77.78	100.00	7	Critical	Load
Paint Booth	Jul 29	Aug 12	77.78	100.00	7	Critical	Load

Bottlenecks. Average and peak utilisation across the horizon, the number of overloaded days and a severity flag, with a Load button that opens the daily detail behind the number.

Three responses are usually available: add capacity for a few days with an Extra Hours exception, move work to a centre that can do the same operation, or accept the constraint and quote later dates. The load profile behind the Load button tells you which days are the problem.

8. Questions we are asked

Q. Why is a work centre missing from the plan?

A. Either Finite Capacity Scheduling is not ticked on it, or it has no open work orders inside the window you scheduled, or a Closed exception removes its capacity on those dates.

Q. Why did work move to a later day?

A. That is finite capacity working. Once the day's hours are used, the remainder goes to the next day that has room rather than being loaded onto a day that is already full.

Q. Can I test a change without disturbing the live plan?

A. Yes. Run the scheduler with Commit off, read the preview load and bottleneck lines, then run again with Commit on if you accept them.

Q. Is there a Gantt chart?

A. Not on Community, because the Gantt view is an Enterprise component and is absent from Community entirely. Slots carry start and stop timestamps, so a Gantt can be defined over them on an Enterprise database.

Q. How do I model a holiday, a short shift or an overtime Saturday?

A. A capacity exception on that date: Closed for the holiday, Override Hours for the short shift, Extra Hours for the overtime.

Q. Does it change my manufacturing orders?

A. No. The app reads open work orders and writes its own schedule slots, load lines and bottleneck records. Manufacturing orders and work orders are left as they are.

Q. Which work order is scheduled first when two compete?

A. The work centre with the lower Scheduling Priority is filled first. Within a centre the scheduler works forward in time from the start of the window.

Questions about your own configuration are welcome at support@pokutsoft.com. Please include your Odoo version and the module version printed at the foot of this page.