

DOCUMENTATION

Visual Jobs Scheduler (VJS)

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1. Technical requirements

Microsoft Dynamics 365 Business Central

2. Understanding the VJS

Since the VJS is a Gantt chart, it naturally has all its characteristics:

Job View	Janu Wk				Wk 03						wko	04						Wk						
	14	15	16	17	18	19 2	20 2	1 22	23	24	25	26	27	28	29	30	31	01	02	03	04	05	06	07
⊿ Open																								
▲ DEERFIELD, 8 WP Setting up Eight Work Ar					DEERF	ield, 8	WP Set	ting up E	ight \	Nork Area	IS													
▲ 1000: Begin-Total Setting up Eight Work																								
▶ 1100: Begin-Total Preliminary Services																								
▲ 1200: Begin-Total Assembling the Furnit																								
▲ 1210: Posting Assembling the Furnitur																								
✓ Resource Lift for Furniture																								
Budget: LIFT Lift for Furniture													8											
Billable: LIFT Lift for Furniture													8											
 Resource Mark Hanson 																								
▶ 1300: Begin-Total Closing the Job																								
GUILDFORD, 10 CR Setting up Ten Confere											1													
Planning																								
Quote																								
Completed																								

- A **timescale** at the top.
- A **table** at the left, listing jobs (in the Job View) or resource groups/resources in the Resource View
- On the right below the time scale, a **chart** displaying the job schedule with a **calendar** in the background indicating work free periods in grey while working times appear in white.
- A menu ribbon allowing to make basic settings that will be explained in detail in the following.



The item "NETRONIC VJS" summarizes all options that we think are the most frequently used ones:



All options of the VJS can be found under "Actions":

$Actions \smallsetminus $	Fewer optic	ns
General	>	
View Filter	>	v
Timescale	>	
View	>	
Administra	tion >	

In case the "Actions" item is not visible in the menu ribbon, click "More options". To hide it, click "Fewer options".

• A vertical line in the chart indicates the **work date** as having been set in Dynamics 365 Business Central.



- Notifications appear below the menu ribbon in case
 - o a job planning line gets moved behind the job's end date
 - o a resource overload occurs

Notifications: 2 The job planning line DEERFIELD, 8 WP, 1120, 10000 has been placed past the end date of its job | Resource Mary A. Dempsey (MARY): Capacity was exceeded



3. Two different views

There are two different views in the VJS: the Job View, and the Resource View. You can switch between them by using the corresponding menu items:



3.1. The Job View

Job View	Januar Wk 02	1		wko	2						Wk	14					
		16	17			20	21	22	23	24			27	28	29	30	31
⊿ Open																	
DEERFIELD, 8 WP Setting up Eight Work Ar				DEER	FIELD,	8 WP	Settin	g up Eig	ght W	ork Area	as						
1000: Begin-Total Setting up Eight Work /																	
▶ 1100: Begin-Total Preliminary Services																	
▲ 1200: Begin-Total Assembling the Furnit																	
1210: Posting Assembling the Furnitur																	
▲ Resource Lift for Furniture																	
Budget: LIFT Lift for Furniture													8				
Billable: LIFT Lift for Furniture													8				
Resource Mark Hanson																	
▶ 1300: Begin-Total Closing the Job																	
► GUILDFORD, 10 CR Setting up Ten Confere											1						
Planning																	
Quote																	
Completed																	

The Job View shows jobs categorized by their status. Each job, job task and job planning line is represented by a bar, the color of the job planning line bars depending on the job's category.



Elements and symbols in the Job View:

• Job – the green line beneath the bar showing the job's progress

GUILDFORD, 10 CR Setting up Ten Conference Rooms

• Job Task Line - the number beneath the bar showing the task's progress



• Job Planning Line - the grey dot indicating a change not having been saved yet, the orange frame highlighting the currently marked task.



• Resource summary bar - can be hidden by the according option in the "User setup" dialog



• The different colors of the categories:



• Within a category, jobs and their belonging tasks are sorted in ascending numerical order, within jobs the task numbers are sorted the same.



By switching on the "Creation Mode" the VJS displays a list with your resources. You can interactively allocate a resource by dragging it from the list to the chart. An orange "phantom" bar and an info window indicate where and when the new job planning line will be placed if you release the mouse button.



3.2. The Resource View

Deserves Misse		Sunday, 24. J	Monday, 2	5. January 202	:1		Tuesday, 26	5. January 202	:1	Wednesday, 27. January 2021				
Resource View		1 18:00	00:00	06:00	12:00	18:00	00:00	06:00	12:00	18:00	00:00	06:00	12:00	18:00
▲ No Group (NOGROUP)	•													
Lift for Furniture (LIFT)	4		8								8			
											8			
	8-													
	4- 0-													
Linda Martin (LINDA)	4													
	8-													
	4 -													
	0-						_				_			
Mark Hanson (MARK)			40								20			
											20			
Mary A. Dempsey (MARY)	•													

The resource view shows resource groups and their respective resources.

- It visualizes capacity bottlenecks and date conflicts.
- The different category colors are applied as in the Job View
- By switching on the "Creation Mode" the VPS displays a list with all your jobs, job planning lines and job tasks. You can interactively allocate a job task to a resource by dragging it from the list to the chart. An orange "phantom" bar and an info window indicate where and when the new job planning line will be placed if you release the mouse button.



"Info window" indicating Wk time 25	Job Planning Lines
28/0 1/2021 16:36:00	Quote
8 8	🖌 Open
8	DEERFIELD, 8 WP Setting up Eight Work Areas
	1000: Begin-Total Setting up Eight Work Areas
	▲ 1100: Begin-Total Preliminary Services
40 20	1110: Posting Determining Specifications
20	1120: Posting Selecting Furnishings
"Phantom bar" indicating	1130: Posting Obtaining Customer Approval
place	▶ 1200: Begin-Total Assembling the Furniture etc.
	1300: Begin-Total Closing the Job
	▶ GUILDFORD, 10 CR Setting up Ten Conference Rooms
	Completed



4. Open Microsoft Dynamics 365 Business Central dialogs

The VJS fully integrates with Microsoft Dynamics 365 Business Central. This means that by doubleclicking the according element (job, job planning line, resource etc.) either in the table area or in the Gantt area, you'll directly switch to the according Dynamics 365 Business Central dialogs where you can navigate and make changes as usual:

Double-clicking a job planning line...

	Resource Mary A. Dempsey	
	Budget: MARY Meeting with the Cu	4
.will ca	ll the according dialog:	

...will call the according dialog:

,∕⊃ Se	arch	+	New	💀 Edit Lis	st 📋 Delete	Process	Report	Show Attached	📲 Open in E	ixcel Mor	re options	
EDIT - J + Net		LANI	NING	LINES - GUIL	DFORD, 10 CR S	ETTING UP TEI	N CONFEREN	CE ROOMS 1110	DETERMINING S		∷ =	2
JOB T NO. T				LINE TYPE	PLANNIN DATE	PLANNED DELIVERY DATE	DOCUME NO.	TYPE	NO.	DESCRIPTION		۵۱
1110		\sim	÷	Budget	06.01.2021	06.01.2021		Resource	MARY	Meeting with th	e Customer	
4												Þ
											С	lose

5. Collapsing and expanding

The VJS allows viewing your data from different angles easily and quickly. Collapse and expand jobs, resource groups, groups etc. There are two ways how to collapse/expand the above described elements of your plan:

5.1. Collapsing/expanding by clicking the corresponding symbols



collapse

D expand



5.2. Collapsing/expanding by context menu

By opening the context menu either in the table or on the bar you collapse/expand all levels below the current one in one go.

	Setting up Ten	Contere
▲ 1000: Begin-Total	Collapse all	Confere
🔺 1100: Begin-Tota	Expand all	ervices
		 1000: Begin-Total Continue Total Collapse all 1100: Begin-Tota Expand all

All projects collapsed:

Job View	De January 2021											
	Wk 53		Wk 01	Wk 02	Wk 03	Wk 04	Wk 05					
⊿ Open												
DEERFIELD, 8 WP Setting up Eight Work Areas					DEERFIELD, 8 WP Set	ting up Eight Work Are	as					
► GUILDFORD, 10 CR Setting up Ten Conference Rooms	GUI	LDFO	RD, 10 CR Setting up T	en Conference Room	IS							
- Planning												
Quote												
Completed												

After having expanded parts of project "GUILDFORD, 10":

Job View	De January	De January 2021						
JOD VIEW	Wk 53	Wk 01	Wk 02	Wk 03	Wk 04			
⊿ Open								
DEERFIELD, 8 WP Setting up Eight Work Areas				DEERFIELD, 8 WP Setti	ng up Eight Work Areas			
✓ GUILDFORD, 10 CR Setting up Ten Conference Rooms	GUILDF	ORD, 10 CR Setting up T	en Conference Rooms					
▲ 1000: Begin-Total Setting up Ten Conference Rooms								
▲ 1100: Begin-Total Preliminary Services								
▲ 1110: Posting Determining Specifications								
▲ Resource Mary A. Dempsey								
Budget: MARY Meeting with the Custome		4						



6. Progress information

The VJS provides overview of a Job's or a Job Task's progress:

• The Job's progress is shown as a green line in the lower part of the Job bar.

DEERFIELD, 8 WP Setting up Eight Work Areas

• The progress of a Job Task is shown as number below the Job Task bar.



7. Capacity information

In the VJS, you can show a capacity curve in the Resource View, to see free and exceeded capacities, a red box indicating an overload:

Mary A. Dempsey (MARY)	10	3	2	2	2	
				17	6	
					8	
1	0-					
	5-					
	0-					

8. Navigation in the VJS

Navigating in the VJS largely comprises setting the time range for which parts of your plan are shown, modifying the timescale solution and quickly scrolling to certain parts of your plan.

8.1. Setting the timeframe

The timeframe specifies the time range covered by the timescale, either fixed by absolute values or relative to the workday. This is done in the "Setup" dialog, to be reached by clicking the "General" item in the "Actions" ribbon.



New Actions F	ewer options			
EDIT - VISUAL JOBS SCH	EDULER USER SETTINGS - A	ADMIN	I	2
Timeframe Type				
Starting/Ending Date Inpu	ut Type	Relat	tive date	•
			lute date ive date	
Timeframe				
ABSOLUTE VALUES			RELATIVE VALUES	
Starting Date	31.12.2020		Starting Date -4W	
Ending Date	28.04.2021		Ending Date +3M	

8.2. Change the timescale resolution

For zooming in a certain area of your plan or to zoom out for a better overview, you can change the timescale resolution either by

- scrolling the mouse wheel in the timescale area
- or, more specifically, by the corresponding items of the "Actions" menu, based on the work date as having been specified in the settings of Dynamics 365 Business Central.

A	ctions ~ Fewe	er optic	ons				
	General	>	February 2021				
Ľ	Timescale	>	🔚 Fit into View		Wk 06	W	v
	View	>	Scroll to Workdate				
	Administration	>	Scale to	- XX Wo	ork Day		
				🔳 We	ork Week	-	
			8		ork Month		
			B	-	1		



8.3. Scrolling

The VJS offers the following options for quickly navigating to certain positions in the diagram:

- the common scrolling options by vertical and/or horizontal scrollbar
- dragging the timescale either right or left
- Scroll directly to the Dynamics 365 Business Central work date by selecting the corresponding item from the "Actions" menu.

Actions ~ Fewer	r optic	ons
General	>	February 2021
Timescale	>	🔚 Fit into View
View	>	Scroll to Workdate
Administration	>	₲ Scale to >

8.4. Fit into view

Select this item from the "Timescale" item in the "Actions" menu to switch directly to the timescale as defined in the "Setup" dialog.

8.5. Adjust the width ratio between table and diagram

For adjusting the width ration between table and diagram, put the mouse cursor on the sash between the two parts and drag the double arrow appearing then.

Job View		January 2021				
Job View	Wk 01	Wk 02	Wk 03	Wk 04	Wk 05	
⊿ Open	⇒					
► DEERFIELD, 8 WP Setting up Eight Work Areas			DEERFIELD, 8 WP Sett	ting up Eight Work Are	as	
▲ GUILDFORD, 10 CR Setting up Ten Conference Rooms	ing up	Ten Conference Room	S			
▲ 1000: Begin-Total Setting up Ten Conference Rooms						
▲ 1100: Begin-Total Preliminary Services						



8.6. Show job planning line in other view

Show the currently marked job planning line in the respective other view while it gets highlighted by a blinking frame.

8	
0	Start New Link Creation
	Add to Link Creation
	End Link Creation
	Schedule Successors
	Split Job Planning Line
	Show in resource view

9. Split job planning lines

By splitting a job planning line, you will add a new job planning line to your plan. Click the according context menu item on the job planning line you want to split and a new job planning line will be added, distributing the quantity evenly to both job planning lines.

_		
8	Start New Link Creation	
	Add to Link Creation	
	End Link Creation	
	Schedule Successors	
	Split Job Planning Line	
	Show in resource view	



10. Move operations

You can move operations by mouse either horizontally or vertically, either way having a different impact.

10.1. Move operations horizontally by drag & drop

To schedule an operation, you can move it horizontally along the time scale both in the Job View and in the Resource View: as a consequence, the operation will be worked off at a different time. If in the Job View a job task or job planning line is moved, every subordinate operation will shift as well.

26/01/202	1 15:36	00	
8	8		
27,	/01/202	1 1	5:35:59

10.2. Assign an Operation to another resource

In the Resource View, an operation can also be moved vertically when scheduled – to a different resource. As a consequence, the operation will be worked off by the resource it was moved to.



10.3. Notifications

Notifications appear in a window below the menu ribbon and alert you to possible problems. They pop up in the following cases:

• when a job planning line gets moved behind the job's end date

Notifications: 4 The job planning line GUILDFORD, 10 CR, 1130, 10000 has been placed past the end date of its job

• when a resource's capacity gets exceeded

Resource Mary A. Dempsey (MARY): Capacity was exceeded



11. Create links between job planning lines

The VJS enables creating links between job planning lines by a context menu. According to your needs and planning situation, you can select between two possible relations:

- Start-Start (the successor must not start before the predecessor)
- Finish-Start

11.1. How to proceed

Click "Start New Link Creation" on the job planning line you want to start with and "End Link Creation" on the job planning line you want the link chain to end.



After having ended the link creation, you have to select the desired relation type:

Please select the type of	f the link you want to create:
 Finish-Start Start-Start 	
	OK Cancel

The link structure you build this way, will be taken into account, when a job planning line in this chain is moved so that all job planning lines of the chain are moved according to their position, or remain where they are.



11.2. Schedule successors

This option that can be found in the menu ribbon ensures that the link structure is taken into account with no buffer time, i.e. linked operations are processed without temporal offset. This applies for the selected node and all its successors.



11.3. Violated link orders appear in red

If the link order within a link structure gets violated, the according link(s) appear in red.





12. Apply individual colors to jobs

You can define individual colors for jobs that are then used for the job line and all of its job planning lines. Thus you can very easily highlight certain jobs, e.g. the most important one.

The job color gets changed on the job card. If you want to switch to the standard VJS color again, you only need to delete the hex code from the color field on the job card.

General			Sho	w more
No	GUILDFORD, 10 CR ····	Person Responsible	MARY	\sim
Description	Setting up Ten Conference Rooms	Blocked · · · · · · · · · · · · · · · · · · ·		•
Bill-to Customer No.	50000 ~	Last Date Modified	1/28/2021	
Bill-to Contact No.	СТ000016	Project Manager		\sim
Bill-to Name	Guildford Water Department	Color (VJS)	#4f000b	
County				

13. Use filters

13.1. Data filters

Data filters work as Dynamics 365 BC filter on reading the data (either when the VJS is started or on reloading) so that they are already effective at the data interface to make sure that only filtered data are handed over from Dynamics 365 BC to the VJS.

13.1.1. Create and edit data filters

First, you have to open the according dialog by clicking "Choose Data Filter" in the "Setup" dialog:





🔎 Search New 🛛 🐺 Edit List	📋 Delete 🛛 Show Att	tached 🛛 🚺 Open in Excel	Actions Fewer optic	ons
Home \vee				珍
/JS FILTER CHOOSER + New				2
NAME	OWNER	GROUP	FILTERTYPE	SUBCATEGORY
Show All	ADMIN	Individual User	Data	
				OK Cancel

In the dialog, you can edit, create and apply not only one but multiple data filters.

To create a data filter, click "+New" and then enter the name of the new filter. To specify the filter settings, click "Actions" "Edit Data Filter".

🔎 Search	New	🐯 Edit List	📋 Delete	Show Attached	🛛 Open in Excel	Actions
Edit Filte	er 📡	Clear Filter				\smile



You can filter by jobs, resource groups and resources:

EDIT - VJS I	FILTER			2
Job				
Show results:				
Where:	No.	▼ is:		\sim
And:	Description	v is:		
Resource	Group			
Show results:				
Where:	No.	v is:		\sim
And:	Name	▼ is:		
				,
Resource				
Show results:				
Where:	No.	▼ is:		\sim
And:	Name	▼ is:		
			ОК	Cancel

If you want to make sure that the "Edit Data Filter" dialog pops up when you start the VJS, tick the according option in the "Setup" dialog:

Filter
Show Data Filter on Start



13.2. View filters

View filters are applied to data already having been loaded into the VJS. Accordingly, only the capacity utilization by the visible activities are shown in the histograms. To work with the filters, the "Actions" menu offers three according options:



Click "Choose View Filter" to open the list of existing filters where you can create, delete and edit filters as described in the "Data filters" section.



14. The User Setup dialog

🛃 User Setup

The "User Setup" dialog allows customizing basic settings of the Visual Jobs Scheduler. You reach it via "Actions" -> "Administration

Here you can make or see the basic settings for:

- Timeframe:
 - Specify the timeframe that sets the time range covered by the timescale, either fixed by absolute values or relative to the workday (see also 7.1., "Setting the timeframe).

Starting/Ending Dat	e Input Type	Abso	lute date		•
Absolute date Relative date					
Timeframe					
ABSOLUTE VALUES			RELATIVE VALUES		
Starting Date · · · ·	01.01.2016		Starting Date · · · ·	-4W	
Ending Date	09.07.2018		Ending Date	+3M	
Ending Date	09.07.2018		Ending Date	+3M	

o Filter

 \circ $\;$ Decide whether the "Edit Data Filter "dialog pops up when you start the VPS.

Filter
Show Data Filter on Start · · · · · · ·



• Data Filter

• See which data filter is currently active.

Data Filter		
Current Data	Show All	Resource Gr
Job Filter		Resource Filter

• Company settings

This section of the "User Setup dialog" gives you an overview of settings being applied companywide. See

- which way of calculating the quantity of job planning lines is activated. In standard Dynamics 365 Business Central the quantity of job planning lines is calculated independent of the resource's capacity. The VJS allows to bypass this way of visualizing the quantity by activating "Calculate Job Planning Line Duration" in the "Company Setup" dialog.
- \circ whether the resource summary bar gets displayed or not

Company Settings						
Calculate Job Planni	No	Hide Resource Sum	No			

15. The Company Setup dialog

The settings in this dialog are applied company-wide. Here you can

- determine whether the quantity of job planning lines is calculated independent of the resource's capacity. In standard Dynamics 365 Business Central the quantity of job planning lines is calculated independent of the resource's capacity. The VJS allows to bypass this way of visualizing the quantity
- hide or show the resource summary bar: some companies' processes include either several allocations per resource for one job task or considerably more than two resources per job task. These processes are much better visualized without a summary bar for the resources and so we created an option for hiding it.

Company Setup	
Calculate Job Plannin	Hide Resource Summ •



16. Reload and save data

You can always reload data, thus discarding your changes as well as getting the latest status of your NAV data. The "General" items allow reloading or saving.

$Actions \lor$	Fewer optic	ons
General	>	🗱 Reload
View Filter	>	🚽 Save
Timescale	>	Schedule Successors
View	>	
Administra	tion >	

If there are unsaved changes in your plan when you click "Reload", a dialog pops up where you can decide whether to save these changes or discard them.

?	There is unsaved Data, do you want to save?
-	Yes No

After having saved your changes, a confirmation message pops up:

1	The changes have been saved successfully!	
		ОК

