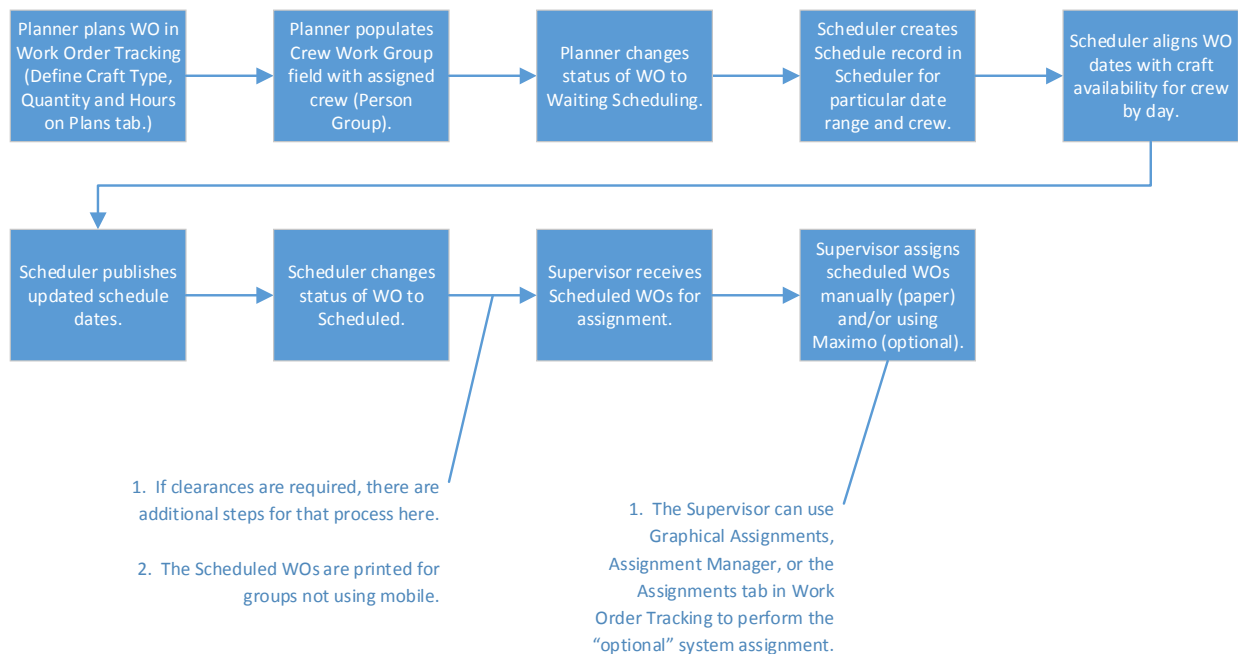


Scheduling Work at IPSC

Overview

The purpose of this document is to describe and lay out the specific steps for how Work Orders will be scheduled in Maximo at IPSC. In general, Work Orders will be planned by Craft, meaning that the specific number of actual craftsmen will be detailed on the Labor Plans for the Work Order. In the Scheduler tool a Scheduler will be aligning the demand for a particular type of craft with the availability of that craft within a specific Crew Work Group (Person Group) on any given day to determine appropriate schedule start and finish dates. For example, if a Work Order requires two electricians, the Scheduler will need to find a day (or days) that have at least two remaining available electricians within the Crew Work Group (Person Group) associated with the work. Schedulers will have the ability to isolate both Work Orders and Laborers in the Scheduler application based on association with Crew Work Group (Person Groups.) (The Maximo Crews Application will not be utilized.)

It should also be noted that the assignment of Work Orders to individuals will still happen manually by Supervisors via the printing and distribution of the scheduled Work Orders. Supervisor will have the option (but not be mandated, initially) to use Graphical Assignments, Assignment Manager or the Assignment tab in Work Order Tracking to record laborer assignments in Maximo.



The remainder of this document details the Key Assumptions, Data Considerations and Step-by-Step Instructions that support this process.

Key Assumptions:

- All Laborers will belong to at least one “Craft” and at least one “Crew Person Group”. (The Crews and Crew Types applications will not be used.)
- Labor Hours will be planned by “Craft.” (not Crews)
- Planner will identify the appropriate “Crew Person Group” responsible for the work before sending for scheduling. (Using the “Crew Work Group” field on the main Work Order tab.)
- Scheduler Application will be used to perform scheduling.
- The Scheduler will create discrete Schedule records for each Crew Work Group (Person Group) covering a specific date range.
- The Scheduler will utilize work queries based on Status and Crew Work Group (Person Group) to identify Work Orders available to be scheduled.
- The Scheduler will utilize labor queries based on membership to a specific Crew Work Group (Person Group) to identify the available quantity of Laborers (by craft) for a particular Crew Work Group on specific days.
- Performing actual assignments to specific Laborers will not be required, but Supervisors will have the option to utilize Graphical Assignments, Assignment Manager or the Assignments tab in Work Order Tracking to do this if they want.

Data Considerations:

- The following objects will be needed to support this process:
 - Crafts
 - All applicable Crafts that Labor can belong to. These are typically grouped by skill set (i.e. Electrician, Mechanic, Pipefitter, etc.)
 - Includes Default Rate for estimating/planning purposes.
 - Can optionally include multiple Skill Levels
 - Labor
 - Everyone that will be considered as an available Laborer in Scheduler will need a Labor record even if they are not a Maximo user. (Person record also, but that is created along with Labor record.)
 - Each Labor record will need at least one Craft assigned.
 - Each Labor record will need a Calendar and Shift assigned.
 - Each Person will need to be added to at least one Crew Work Group (Person Group)
 - Person Groups
 - Each IPSC Work “Crew” will be represented by a Person Group
 - Each “Crew” Person Group should have the “Crew Work Group” box checked. (This will make selection on the Work Order easier.)
 - Optional: I recommend putting the Supervisor in the group along with the Laborers and making the Supervisor the “Group Default”. This can be very useful for specific queries, notifications and escalations that might utilize the Person Group.
 - Put all members of the “Crew” in the Person Group. People can belong to more than one group, if appropriate.

- Prior to Scheduling, All Work Orders should have:
 - Responsible “Crew” Person Group Identified in Crew Work Group field on the Work Order.
 - Required planned labor, set up by Craft, on the Plans tab:
 - Quantity should reflect specific number of laborers of that Craft required for particular length of time.
 - Labor Hours should reflect the number of hours that each Laborer represented on the line is required for the Work Order (not the sum of total Labor Hours required by all of the Laborers on the line.) For example, if you need 2 Electricians for an 8 hour Work Order, you would put a Quantity of ‘2’ and Hours of ‘8’ (NOT Quantity of ‘2’ and Hours of ‘16’.)
 - The Duration field on the main tab of the Work Order should reflect the actual Calendar-based duration that the Work Order will take from start to finish, not the labor hours. For example, if you normally work 10 hour shifts and plan on using the same Laborers on the job without overtime and a job is 20 hours long, you would put a duration equivalent to the number of hours between the start date/time and the end date/time, (not just 20 hours) since the start and finish dates of the Work Order will actually be 2 days apart from a scheduling perspective.

Processes

Planning a Work Order

This process begins with a Work Order that has already been created in the system and focuses on the specific steps required to get the appropriate Labor Estimate and Crew identified to support the Scheduling and Assignment processes.

The examples provided utilize the following sample data:

- **Craft:** ELECTRIC – ELECTRICIANS
- **“Crew” Person Group:** EL-Z1-DS – ELECTRICIANS, ZONE 1, DAY SHIFT
- **“EL-Z1-DS” Members (Labor):** BBOCHY, MADBUM, BPOSEY, BCRAWFOR, BBELT
- **Calendar/Shift:** 1W4.10M / 7A10

Develop Labor Estimate

Any Work Order to be scheduled or assigned should have a labor estimate that defines what types of workers, in what quantities and for what amount of time will be required to do the work.

For our example, we will assume that we have a Work Order that requires two (2) Electricians for 10 hours to complete the work (20 total labor hours to execute a 10 hour job.)

1. On the Plans tab of the Work Order, in the Labor sub-section, select ‘New Row’.
2. Enter a Craft into the ‘Craft’ field by either typing it in directly or using one of the ‘Detail Menu’ options to find and select it. (The ‘Craft’ identifies the type of worker required to perform this assignment on this Work Order.)

Task: _____ Crew Type: _____ Craft: _____ Skill Level: _____ Vendor: _____ Labor Contract: _____ Quantity: 1 Crew: _____ Regular Hours: 0.00 Rate: _____ Line Cost: 0.00

Details: Task: _____ Vendor: _____ Regular Hours: 0.00
 Crew Work Group: _____ Labor Contract: _____ Rate: _____
 Crew Type: _____ * Quantity: 1 Line Cost: 0.00
 Craft: _____ Crew: _____ Rate Changed?
 Skill Level: _____ * Select Value
 Labor: _____ Outside?
 Go To Crafts

Select Craft New Row

Select Value

Filter: 21 - 23 of 23

Craft	Skill Level	Description	Vendor	Contract	Standard Rate	Organization
						IPP
ELEC1		Electricians 1			10.00	IPP
CONSTRUC		Constructors			8.00	IPP
ELECTRIC		ELECTRICIAN			15.00	IPP

Cancel

3. Enter the Quantity of this Craft required to complete this assignment on the Work Order by entering a number into the 'Quantity' field.

Task: _____ Crew Type: _____ Craft: ELECTRIC Skill Level: _____ Vendor: _____ Labor Contract: _____ Quantity: 2 Crew: _____ Regular Hours: 0.00 Rate: 15.00 Line Cost: 0.00

Details: Task: _____ Vendor: _____ Regular Hours: 0.00
 Crew Work Group: _____ Labor Contract: _____ Rate: 15.00
 Crew Type: _____ * Quantity: 2 Line Cost: 0.00
 Craft: ELECTRIC Crew: _____ Rate Changed?
 Skill Level: _____ Labor: _____ Outside?

Select Craft New Row

NOTE: It is assumed that whatever quantity you put in here will be needed for the same duration of time. If two Laborers are needed for different durations of time on the Work Order, separate lines should be created for each.


4. Enter the Duration of time that this (these) Laborers will be needed to complete this assignment on this Work Order by entering a number into the 'Regular Hours' field.

Task: _____ Crew Type: _____ Craft: ELECTRIC Skill Level: _____ Vendor: _____ Labor Contract: _____ Quantity: 2 Crew: _____ Regular Hours: 10.00 Rate: 15.00 Line Cost: 300.00

Details: Task: _____ Vendor: _____ Regular Hours: 10.00
 Crew Work Group: _____ Labor Contract: _____ Rate: 15.00
 Crew Type: _____ * Quantity: 2 Line Cost: 300.00
 Craft: ELECTRIC Crew: _____ Rate Changed?
 Skill Level: _____ Labor: _____ Outside?

Select Craft New Row

NOTE: This should be length of time or duration that each Laborer on this particular planned labor line are needed to complete the work, not the sum of Labor Hours required to perform the job. (i.e. for this work order, we need 2 (two) Electricians for 10 (ten) hours, so we enter 10 (ten), not 20 (twenty).)

5. Save the record by clicking on the 'Save' icon. 

NOTE: If additional Craft types are needed on this Work Order or if there additional assignments with differing Durations, then additional rows could be added by select 'New Row' and repeating the above steps.

Identify the Responsible Crew to Perform Work

Any Work Order to be scheduled or assigned should have the Crew Work Group (Person Group) that will be responsible for performing the work identified on the Work Order. This will provide the necessary information for a Scheduler to isolate the Work Orders that are in the queue for a particular crew.

For our example, we will assume that our Work Order is to be performed by some combination of members of the 'EL-Z1-DS' (ELECTRIC, ZONE 1, DAY SHIFT) Crew Work Group.

1. On the Main tab of the Work Order, in the Responsibility section, enter the "Crew's" Person Group ID into the 'Crew Work Group' field. (You could also use the 'Detail Menu' options to either select the group from a value list or by searching in the Person Groups application directly.)



The screenshot shows a 'Responsibility' form with several fields. The 'Crew Work Group' field is highlighted with a red circle and contains the value 'EL-Z1-DS'. Other fields include 'Reported By: MAXADMIN', 'Reported Date: 2/18/15 9:01 AM', 'On Behalf Of:', 'Phone: 727-000-0000', 'Supervisor:', 'Crew:', 'Lead:', 'Work Group:', 'Planner: MAXADMIN', and 'Vendor:'.

2. Save the record by clicking on the 'Save' icon. 

Identify Any Known Duration and/or Scheduling Constraints

In some cases, you may be able to identify, at time of planning:

- A particular date that is being targeted to start, finish, or start and finish the work.
- A particular set of dates that the work must start after or finish before (i.e. a maintenance window.)
- The duration that the work will take from start to finish given likely scheduling constraints.

If this is the case you can enter this information in the Scheduling Information section prior to sending the Work Order for Scheduling so the Scheduler can take this information into account when building the schedule.

1. [OPTIONAL] To set a particular date that is being targeted to start, finish, or start and finish the work: On the Main tab of the Work Order, in the Scheduling section, enter a date/time into the Target Start, Target Finish, or both fields.

Scheduling Information

Target Start: 5/25/15 7:00 AM

Target Finish:

Scheduled Start:

Scheduled Finish:

Start No Earlier Than:

Finish No Later Than:

Scheduling Comments:

Details:

(In the example above, we are stating that we are targeting 5/25/2015 at 7 am to begin this work. This is where the Scheduler tool will initially present the Work Order on the schedule.)

- [OPTIONAL] To set a particular set of dates that the work must start after or finish before (i.e. a maintenance window): On the Main tab of the Work Order, in the Scheduling section, enter a date/time into the Start No Earlier Than, Start No Later Than, or both fields.

Scheduling Information

Target Start: 5/25/15 7:00 AM

Target Finish:

Scheduled Start:

Scheduled Finish:

Start No Earlier Than:

Finish No Later Than: 5/29/15 5:00 PM

Scheduling Comments:

Details:

(In the example above, we are stating that the work must be complete 5/29/2015 at 5 pm. In the Scheduler tool, the Scheduler will not be allowed to set the Scheduled Finish date after this constraint.)

- [OPTIONAL] To set the duration that the work will take from start to finish given likely scheduling constraints: On the Main tab of the Work Order, in the Scheduling section, enter a duration.

Scheduling Information

Target Start: 5/25/15 7:00 AM

Target Finish:

Scheduled Start:

Scheduled Finish:

Start No Earlier Than:

Finish No Later Than: 5/29/15 5:00 PM

Scheduling Comments:

Details:

Schedule Code:

Milestone Code:

Actual Start:

Actual Finish:

Regulatory Date:

Dead Date:

Estimated Regulatory Date:

Estimated Duration: 10.00

* Duration: 10.00

Time Remaining:

Predecessors: >>

Include Tasks in Schedule?

Require Asset Downtime?

(In the example above, since this is a 10 hour job and the organization works 10 hour shifts, the duration is expected to be 10 hours. If this were an 11 hour job, we might add a minimum of 14 hours to the duration to reflect the time where the crew will be off and not progressing the work. Please note that the duration can be modified as the schedule is built. This is simply the initial duration that will be

reflected in the Scheduler tool when the Schedule is first built. Without this information, the Scheduler application assumes the length of the longest planned labor line.)

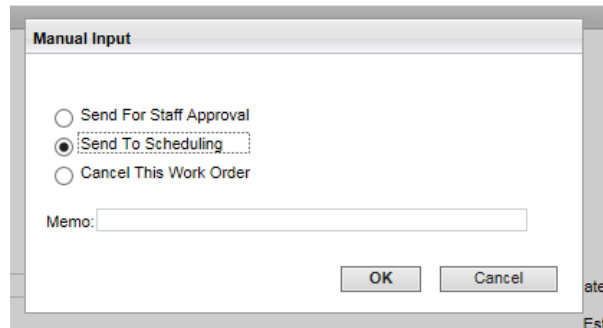
4. Save the record by clicking on the 'Save' icon.



Changing the Work Order Status to Waiting to Be Scheduled

In order to get a planned Work Order to show up in the Scheduler application as a Work Order that is ready to be scheduled, the planner will use work flow to change the status of the Work Order to Waiting to be Scheduled. This status change will allow the Work Order to be picked up by the work queries that the Scheduler is using in the Scheduling application.

1. Select the Route Workflow icon.
2. Select the Send to Scheduling option and click ok.

A screenshot of a 'Manual Input' dialog box. It contains three radio button options: 'Send For Staff Approval', 'Send To Scheduling' (which is selected and highlighted with a dashed border), and 'Cancel This Work Order'. Below the options is a text field labeled 'Memo:'. At the bottom right, there are 'OK' and 'Cancel' buttons. The dialog box has a title bar that says 'Manual Input' and a small 'ate' label on the right side.

Preparing for Assignment of Work Orders

These processes are likely only to be performed once to establish the queries required to build routine discrete schedules for each specific Crew Work Group.

Create Work Order Query

The Scheduler will be creating a schedule that contains all of the work for a specific Crew Work Group. As such, they will want a saved query that allows them to easily pull the appropriate Work Orders into their Schedule. In most cases, this query should include finding Work Orders for a specific Crew Work Group that are in a ready to be scheduled status. However, depending on the volume of Work Orders in a Crew Work Group's queue the Scheduler may want to add other additional limits like a "target start date range" or "work priority" or "work type", etc to limit the work list to a manageable level.

For our example, we will assume that our "Scheduler" wants to see all Work Orders allocated to the 'EL-Z1-DS' (ELECTRIC, ZONE 1, DAY SHIFT) Crew Work Group that are in a waiting to be scheduled (WSCH or WSCHD) status.

1. From the 'List' tab of the Work Order Tracking application, click on 'Advanced Search'.

2. Enter the Crew Work Group's Person Group ID into the 'Crew Work Group' field. (You could also use the 'Detail Menu' options to either select the group from a value list or by searching in the Person Groups application directly.)
3. Enter the statuses 'WSCH' and 'WSCHD' into the Status field. (You could also use the 'Select Value' icon to select the statuses from a value list.)

More Search Fields| Current Query:

Work Order: Unit: Crew Work Group: =EL-Z1-DS

Description: Plant System: Work Type:

Parent WO: Power Block?: Work Category:

Location: Safety Division: Status: =WSCHD=WSCH

Search Location Hierarchy: Instrument Channel: WO Completion Code:

Asset: Problem Code: Partial?:

Configuration Item: Failure Class: Class: =WORKORDE

PM: Service Group: History?: N

Classification: Service: Priority:

Repair Facility: Vendor: Is Task?: N

Repair Facility Site: Originating Record: Impact Plan Required?:

Condition Tag: Originating Record Class: Impact Plan:

Equipment Group: Risk Assessment: Reference Impact Plan:

Reference for LCO: Commitment: Clearance Protection Required?:

Retest for LCO: Condition Report: Clearance:

Schedule Code: Clearance Revision:

Milestone Code: Clearance Tag:

Outage Code:

Modes:

MER:

Calibration Details

Loop Calibration?: Asset Function Description:

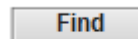
Data Sheet: As Left Status:

Certificate Number: As Found Status:

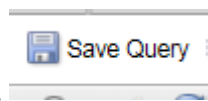
Plan Details **User Information**

Find Restore Application Defaults Revise Cancel

4. OPTIONAL: If there are additional conditions that you would like to apply to the query, you can enter them on this screen. Please pay special attention to only include variables that will continue to be valid as time passes so you can continuously reuse this query. (i.e. don't put specific dates in the query, use system variables with calculations instead.)

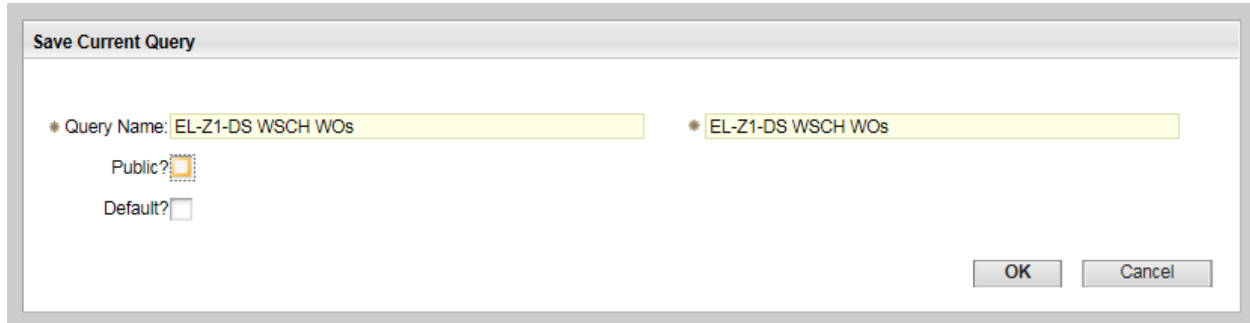


5. Click on the 'Find' button at the bottom of the window.



6. On the 'List' tab, select 'Save Query'.

7. Enter a name for the query in the 'Query Name' field and enter a description of the Query in the field to the right of the name. (It is the entry in the 'Description' field that will show on most drop-down lists in the system.)



The screenshot shows a dialog box titled "Save Current Query". It features two text input fields, both containing the text "EL-Z1-DS WSCH WOs". Below the first input field, there are two checkboxes: "Public?" which is checked, and "Default?" which is unchecked. At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

8. Select 'OK'.

Create Labor Query

The Scheduler will be creating a schedule that based on the availability of Laborers in a specific Crew Work Group. As such, they will want a saved query that allows them to easily isolate only the Laborers from that Crew Work Group for in order to see appropriate availability data in the Schedule. In most cases, this query should include finding all Laborers that are members of a particular Crew Work Group (Person Group.)

For our example, we will assume that our Scheduler wants to see all members of the 'EL-Z1-DS' (ELECTRIC, ZONE 1, DAY SHIFT) Crew Work Group when building this particular schedule.

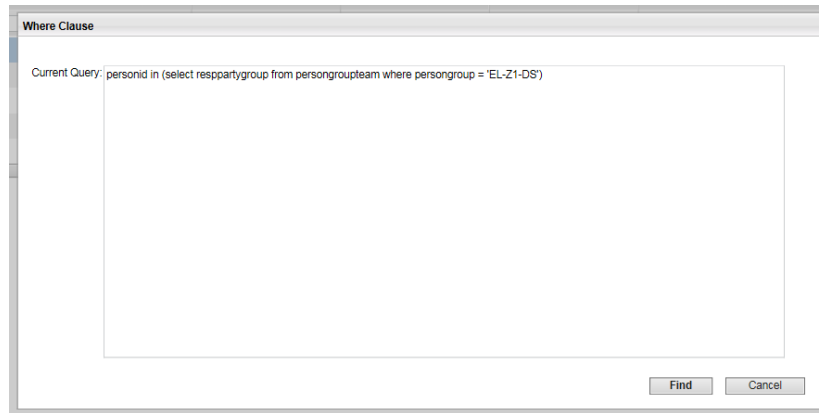
1. From the 'List' tab of the Labor application, click on the arrow icon next to 'Advanced Search'



and then select "Where Clause".

2. If there is text already in the 'Current Query' field, delete it.
3. Enter the string below, or something similar, into the 'Current Query' field. This will find all Labor records where the Person associated with the Labor record is a member of the specified Person Group.

Personid in (select resppartygroup from persongroupteam where persongroup = '[\[insert person group here\]](#)')

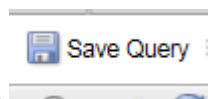


Z

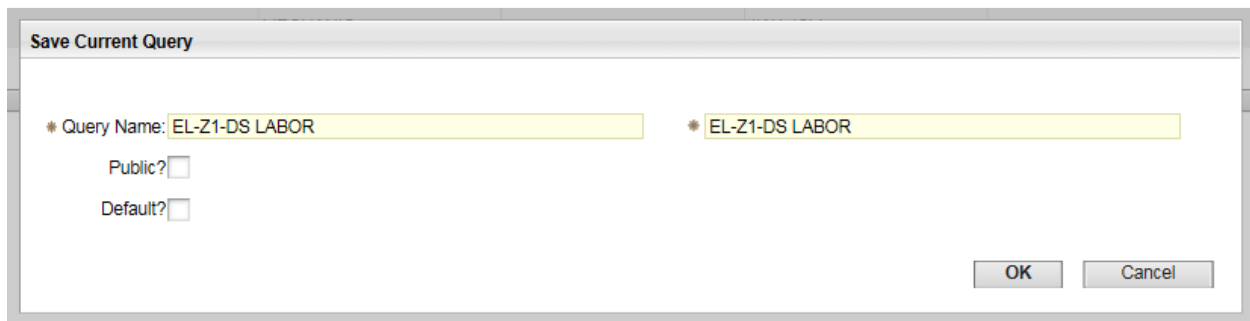
4. Click on the 'Find' button at the bottom of the window.



5. On the 'List' tab, select 'Save Query'.



6. Enter a name for the query in the 'Query Name' field and enter a description of the Query in the field to the right of the name. (It is the entry in the 'Description' field that will show on most drop-down lists in the system.)



7. Select 'OK'.

Creating Work Order Schedules

This process begins with a set of Work Orders that are ready to be scheduled.

The examples provided utilize the following sample data:

- **Craft:** ELECTRIC – ELECTRICIANS

- **“Crew” Person Group:** EL-Z1-DS – ELECTRICIANS, ZONE 1, DAY SHIFT
- **“EL-Z1-DS” Members (Labor):** BBOCHY, MADBUM, BPOSEY, BCRAWFOR, BBELT
- **Calendar/Shift:** 1W4.10M / 7A10

Please note that the Scheduler application supports the ability to create scenarios (for “what if” analysis”) prior to actually publishing or committing of Scheduled dates. That method is not covered in this document. If you would like more information on scenario planning, that can be provided.

Create Weekly Schedule for a Crew Work Group

In order to see the impact of your scheduling decisions overlaid with the impact of actual execution data, you will want to be working from a single active schedule record across a finite period of time. Typically, this period of time is one week. Similarly, you will want a Schedule for each specific Crew Work Group. This process shows you how to set up a particular week’s Schedule for a specific Crew Work Group.

1. Open the Scheduler application.

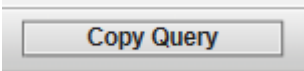


2. Select ‘New Schedule’.
3. Enter a unique ID for the Schedule. (Referencing the Crew Work Group and the Start Date provides both a meaningful ID and ensures uniqueness. For example: ‘EL-Z1-DS 022315’)
4. Enter a Description of the Work List into the ‘Description’ field. (Again, referencing the Crew Work Group and the Dates are a good practice.)
5. Enter (or select) the Calendar and Shifts that this schedule covers. (For example, if you are scheduling/assigning resources just for the day shift, only select that shift. If you are going to be scheduling/assigning resources across both the day and night shifts, select both, so all of the available Laborers across both shifts will show up for selection.)
6. Enter the Start Date that this Schedule will be used for in the ‘Start Date’ field.

List	Schedule	Gantt View	Work Cost	Resource Load & Availability	Compliance	Dashboard	Compare Cost
* Schedule: <input type="text" value="EL-Z1-DS 052"/> Schedule for EL-Z1-DS, Week of 5/25/15		Scenario: <input type="text" value="EL-Z1-DS 052"/>		Calendar: <input type="text" value="1W4.10M"/>		Shift: <input type="text" value="7A10"/>	
Start Date: <input type="text" value="5/25/15 2:33 PM"/>		Last Saved Date: <input type="text"/>		Status: <input type="text" value="DRAFT"/>		Attachments:	
Public? <input type="checkbox"/>		Last Committed Date: <input type="text"/>		Published By: <input type="text"/>		Preserve Schedule Start Dates? <input checked="" type="checkbox"/>	
Preserve Existing Records On Refresh? <input type="checkbox"/>		Last Publish Date: <input type="text"/>		Refresh When Opening Gantt View? <input type="checkbox"/>		Scenario Allowed? <input type="checkbox"/>	
		Created By: <input type="text" value="MAXADMIN"/>		Scenario Type: <input type="text"/>			
		Created Date: <input type="text" value="5/20/15 12:33 PM"/>		Parameters Template: <input type="text"/>			
				Parameters Template: <input type="text"/>		<input type="button" value="Optimization Summary"/> <input type="button" value="Optimization Summary"/>	

7. If you want other Maximo users to be able to access and see this work list, check the ‘Public’ box. If not, leave the box un-checked.
8. If you want your work and labor queries to be re-run automatically every time you access the Gantt View (to pull in new or updated Work Orders or Laborers, as appropriate), check the ‘Refresh When Opening Gantt View’ box. If you want the schedule to only refresh based on a

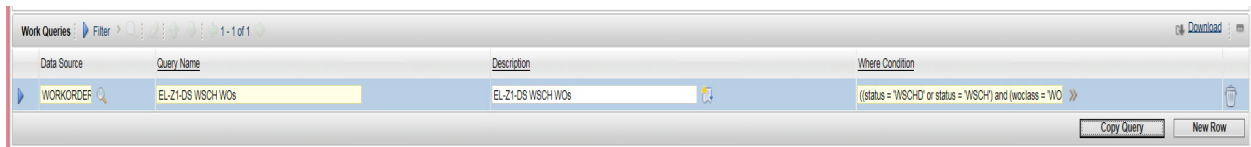
manual trigger (toolbar button), leave the box un-checked. When a refresh does occur via either trigger, if you DON'T want completed or closed Work Orders to be removed from the Schedule when accessed, you would check the "Preserve Existing Records on Refresh?"



Copy Query

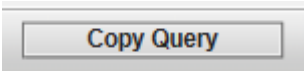
9. In the Work Queries section select 'Copy Query'.

10. Select the saved query from the list that contains your query for finding Work Orders in the waiting to be scheduled status for the Crew Work Group that you are scheduling for.



Data Source	Query Name	Description	Where Condition
WORKORDEF	EL-Z1-OS WSCH WOs	EL-Z1-OS WSCH WOs	((status = 'WSCHD' or status = 'WSCH') and (woclass = 'WO'))

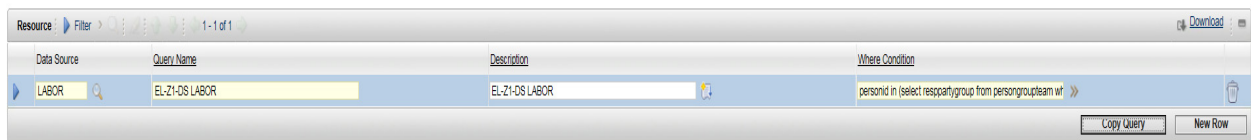
NOTE: You can modify the query on the fly by adding or removing limits by editing the 'Where Condition' field.



Copy Query

11. In the Resource section select 'Copy Query'.

12. Select the saved query from the list that contains your query for finding Laborers that are members of the "Crew" that you are scheduling for.



Data Source	Query Name	Description	Where Condition
LABOR	EL-Z1-OS LABOR	EL-Z1-OS LABOR	personid in (select respartgroup from persongroupteam wf)

NOTE: You can modify the query on the fly by adding or removing limits by editing the 'Where Condition' field.

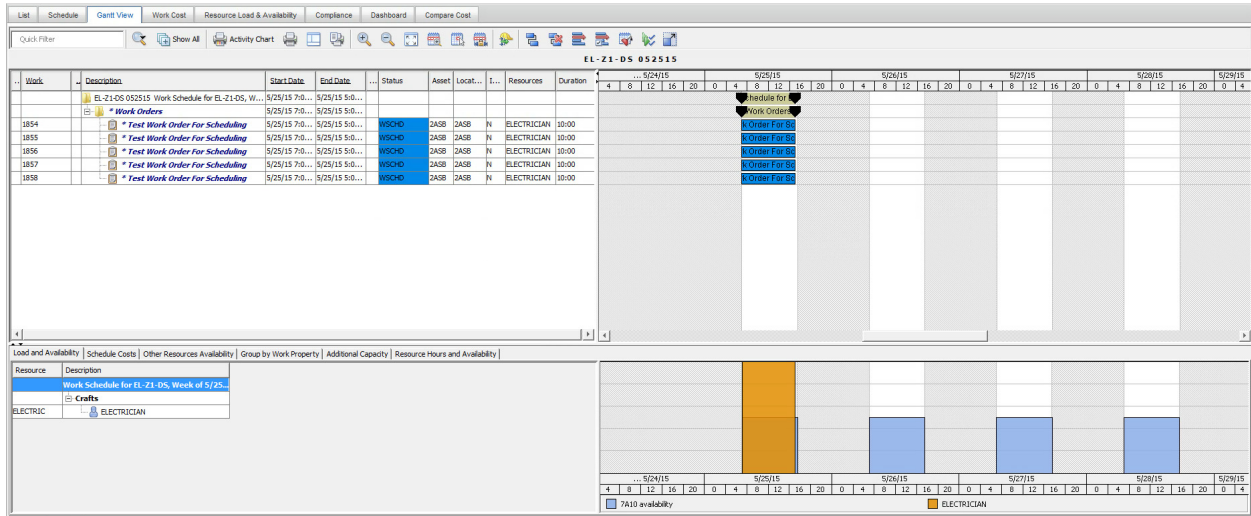
13. Save the record.

14. Click on the 'Gantt View' tab. The screen will be presented in four panes (in clockwise order):

- Activity Table – Lists all of the Work Orders included in the Schedule record. Provides the ability to update the Work Order (Schedule Dates, Status, etc.) using the provided data entry fields and right-click action selections.
- Gantt View (Activity Chart) – Provides graphical representation of when the Work Order is currently scheduled to occur based on the data set on the record. Provides the ability

to update the schedule related information of the Work Order using drag and drop, click and stretch, or right-click action selections.

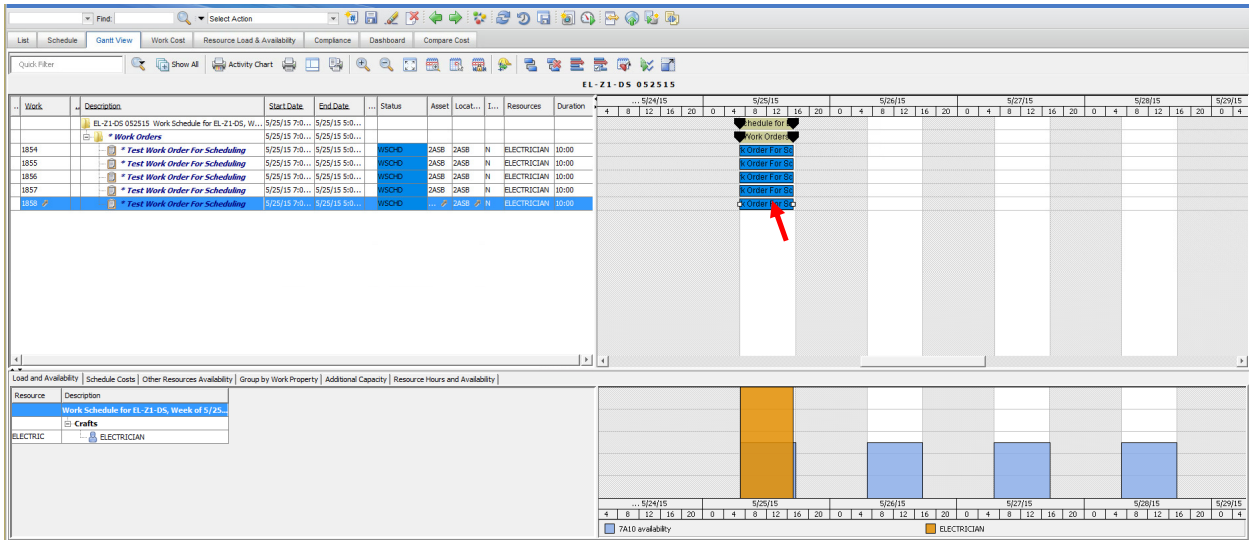
- Resource Table: provides ability to select which resource type (craft) to isolate while evaluating capacity vs. demand on any given date.
- Resource Chart: provides a graphical overlay of the resources required and available on a particular day based on the resource type (craft) selected.



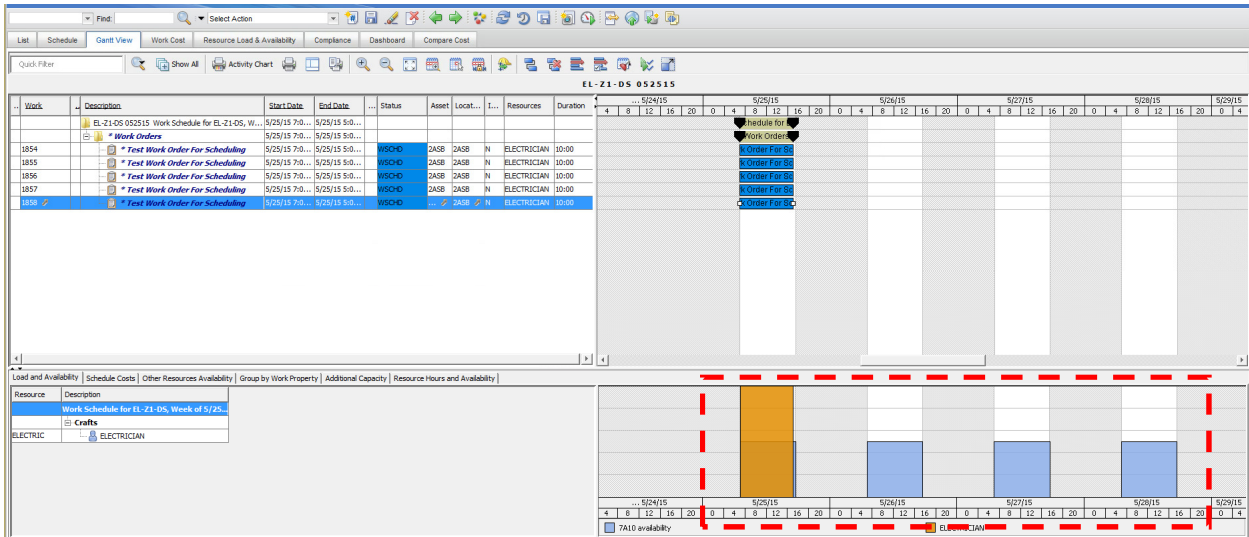
15. OPTIONAL: Adjust the Gantt View to your liking, including:

- Adding/removing columns in the list view via the 'Select Action'.
- Move columns or resize columns in the list view via drag and drop.
- Expand/contract level of detail using the plus/minus signs in the list view.
- Adjust the size of the viewing panes by dragging the boundaries.

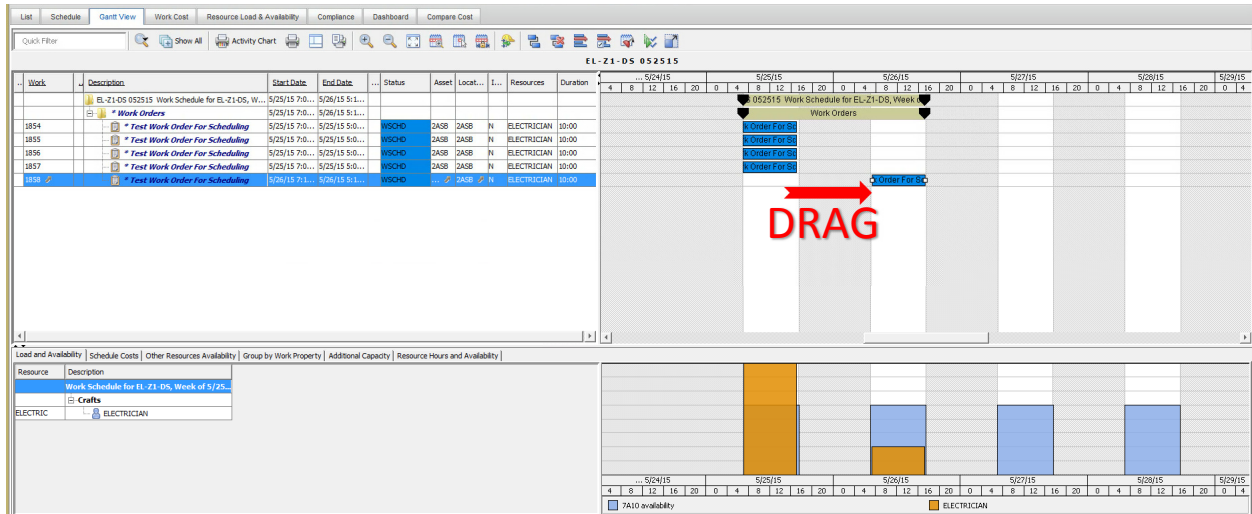
16. To modify the scheduled dates for a work record, select the work record in the Activity chart of the Gantt view.



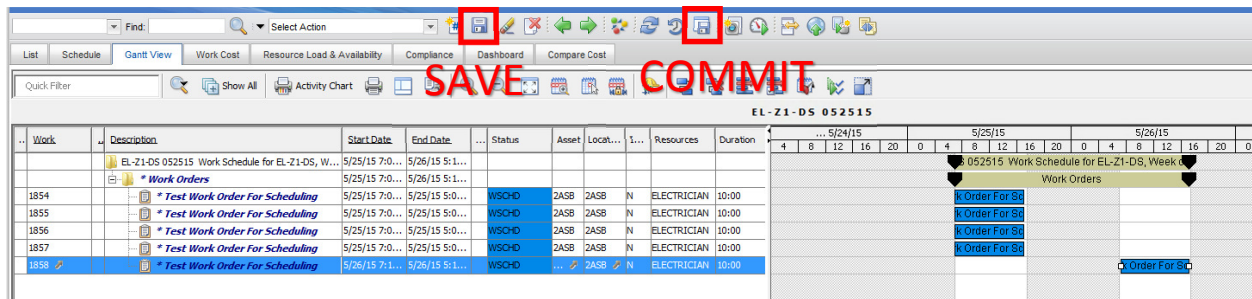
17. Review the information in the resource table to determine when to schedule the work. (Tips on this later in the document.)



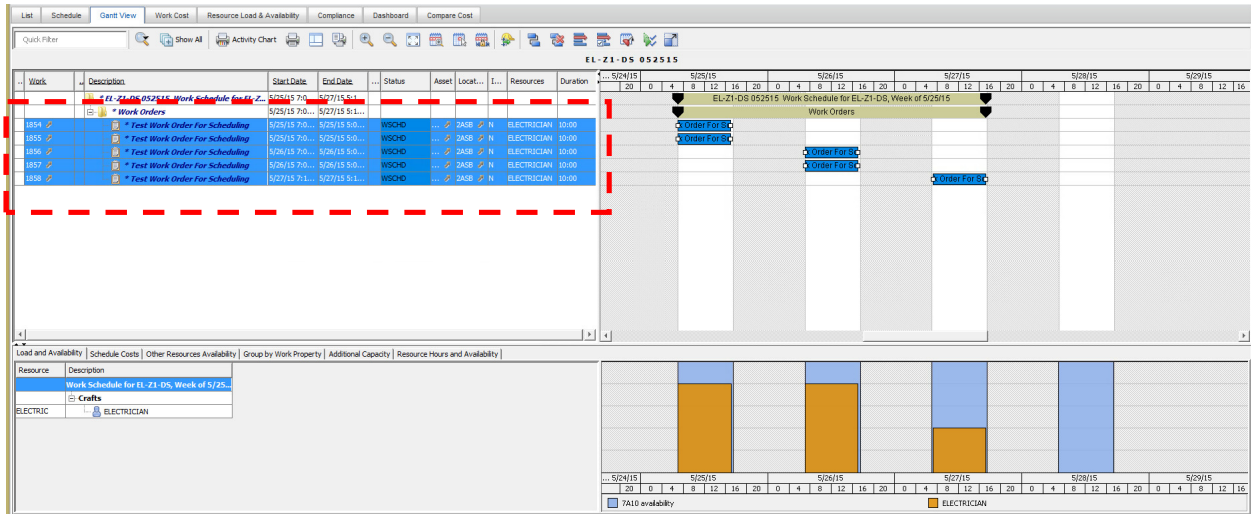
18. Click the center of the work segment that represents the work, and drag it to the new date. (If you move the start or end date of a work record outside of any date constraints that exist for that record, a dashed line appears, indicating where the date constraint falls. The work record turns red, indicating it is in violation of its date constraints. You can move the work or override the date constraints.)



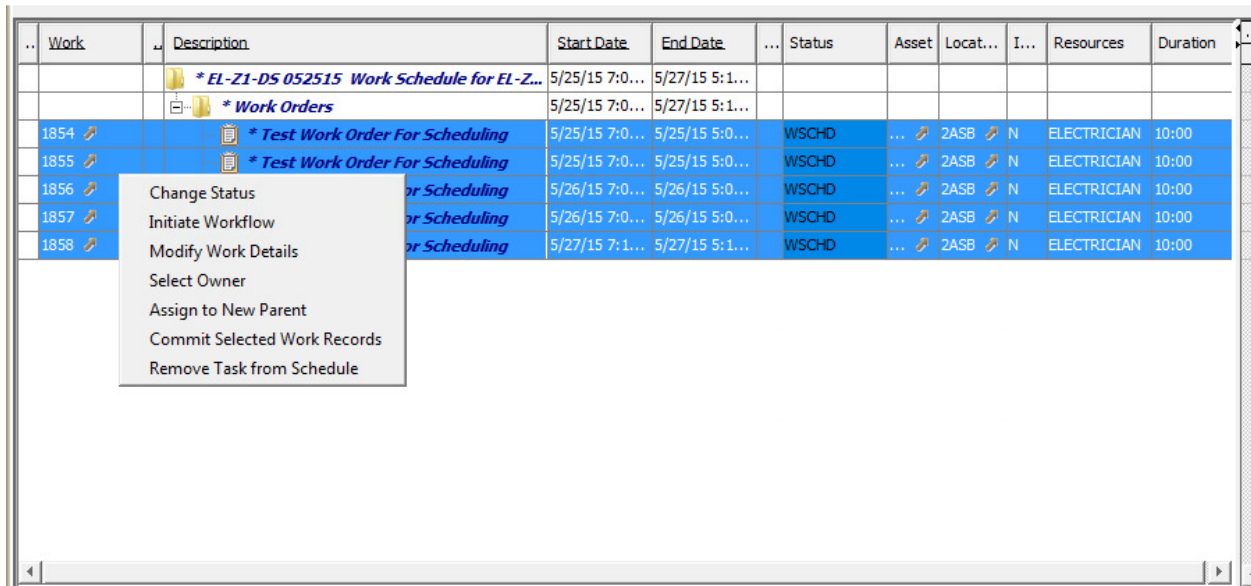
19. Repeat this process to schedule all of the Work Orders on the Schedule. (See tips later in the document related to working with the Gantt View.)
20. Save the schedule. To save your changes to Maximo work management applications, such as Work Order, commit the changes. (Saving does not update the associated Work Orders, it only saves the information to the schedule record. Committing the Changes does update the associated Work Order records.)



21. When you are ready to identify a sub-set of the Work Orders or all of the Work Orders as "Scheduled", you can perform that status change from the Scheduler application. Begin by highlighting all of the impacted rows in the Work List section of the screen.



22. To access the status change option, perform a right-click anywhere in the highlighted area and select Change Status.



23. Select “Scheduled.” (The Work Orders are now in the “Scheduled” status and will automatically be picked up by workflow.) Remember, the schedule dates you have set on the schedule will only be on the associated Work Orders if you have performed a “Commit”.

Work	Description	Start Date	End Date	Status	Asset	Locat...	I...	Resources	Duration
	* EL-Z1-DS 052515 Work Schedule for EL-Z...	5/25/15 7:0...	5/27/15 5:1...						
	* Work Orders	5/25/15 7:0...	5/27/15 5:1...						
1854	* Test Work Order For Scheduling	5/25/15 7:0...	5/25/15 5:0...	WSCHD	2ASB	N		ELECTRICIAN	10:00
1855	* Test Work Order For Scheduling	5/25/15 7:0...	5/25/15 5:0...	WSCHD	2ASB	N		ELECTRICIAN	10:00
1856	* Test Work Order For Scheduling	5/26/15 7:0...	5/26/15 5:0...	WSCHD	2ASB	N		ELECTRICIAN	10:00
1857	* Test Work Order For Scheduling	5/26/15 7:0...	5/26/15 5:0...	WSCHD	2ASB	N		ELECTRICIAN	10:00
1858	* Test Work Order For Scheduling	5/27/15 7:1...	5/27/15 5:1...	WSCHD	2ASB	N		ELECTRICIAN	10:00

24. The Scheduled Work Orders will automatically be picked up by workflow and routed on to either the Clearance sub-process or to the Supervisors for assignment.

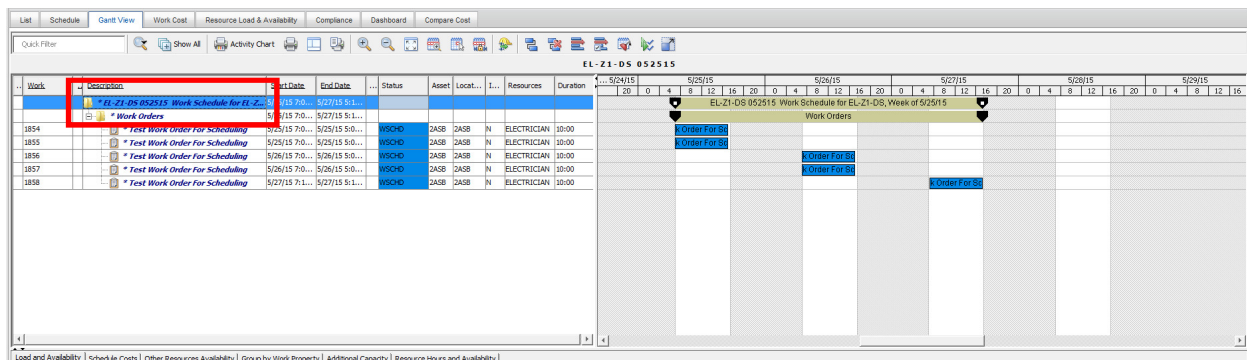
Additional Tips Related to Using the Scheduler Application

Analyzing Resource Capacity While Scheduling

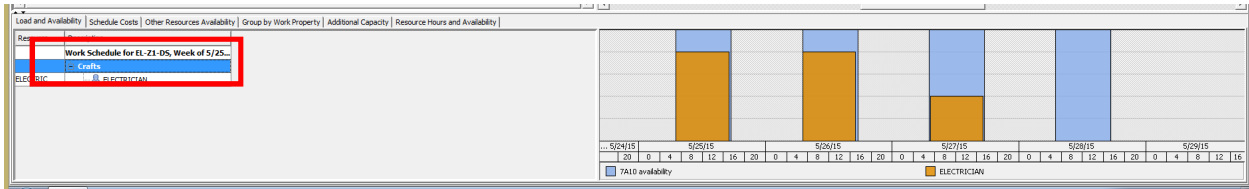
You can use the Gantt view to help you schedule work based on resource requirements and their availability. You can prioritize and adjust your schedule by balancing the resource load. In the Gantt view, resources are displayed in the two lower panes: the Resource table on the left, and the Resource chart on the right. You can resize the panes to customize your view.

Craft, crew type, and rotating tools that are required for the work are shown on the Load and Availability tab. The requirements that the resource chart shows depend on the line that you select in the resource table.

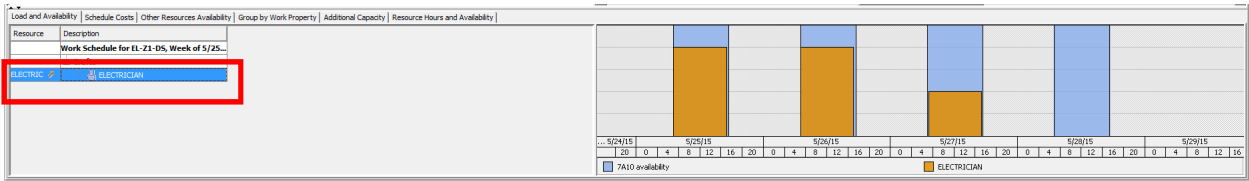
1. Click the schedule name to show the resources required for the entire schedule.



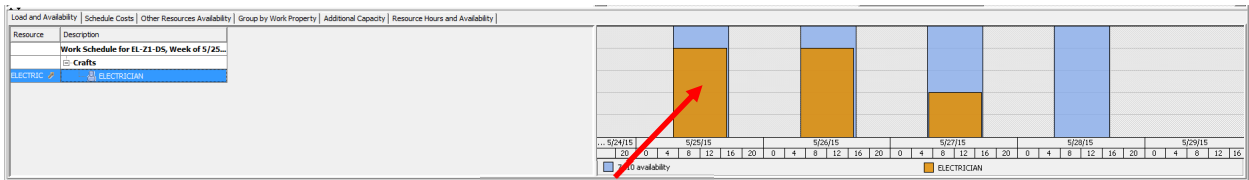
2. Click Crafts to show all craft requirements for the work.



3. Click a specific craft, for example, electrician, to show the specific craft requirements and availability for each shift in the schedule.

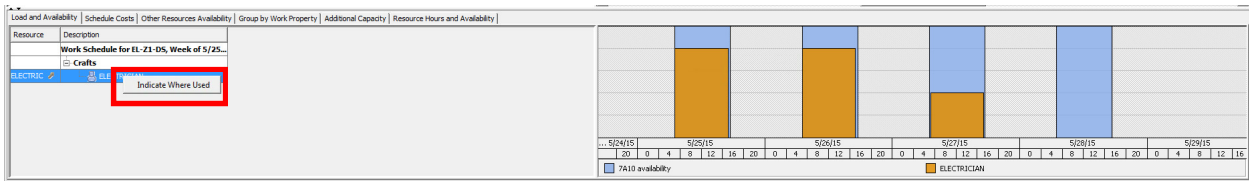


4. To view a summary of the requirements for each craft, hover on the colored bar in the resource chart. The chart shows the number of resources required.



HOVER

5. Resource availability is shown by shift in different colors. It is calculated at the calendar's organization level, in the following way: For crafts, it is the total number of labor records that are associated with that craft, by shift.
6. To see which work records require a resource, select the resource in the Resource table, and right-click on the row. Then, click Indicate Where Used. The work records that use the selected resource are shaded in the first column of the Activity table.



Work	Description	Start Date	End Date	Status	Asset	Locat...	I...	Resources	Duration
	* EL-Z1-D5 052515 Work Schedule for EL-Z...	5/25/15 7:0...	5/27/15 5:1...						
	* Work Orders	5/25/15 7:0...	5/27/15 5:1...						
1854	* Test Work Order For Scheduling	5/25/15 7:0...	5/25/15 5:0...	WSCHD	2ASB	2ASB	N	ELECTRICIAN	10:00
1855	* Test Work Order For Scheduling	5/25/15 7:0...	5/25/15 5:0...	WSCHD	2ASB	2ASB	N	ELECTRICIAN	10:00
1856	* Test Work Order For Scheduling	5/26/15 7:0...	5/26/15 5:0...	WSCHD	2ASB	2ASB	N	ELECTRICIAN	10:00
1857	* Test Work Order For Scheduling	5/26/15 7:0...	5/26/15 5:0...	WSCHD	2ASB	2ASB	N	ELECTRICIAN	10:00
1858	* Test Work Order For Scheduling	5/27/15 7:1...	5/27/15 5:1...	WSCHD	2ASB	2ASB	N	ELECTRICIAN	10:00

Refreshing data in the Gantt View

When you refresh the information in your schedule, you update the schedule with changes that were made to the work records in the applications where the work records originated.

When you update work records in the work management applications, you can refresh your schedule data to include the updates. The following business rules apply:

- Any new work records that you add in the work management applications that fit your query criteria appear in your schedule in the Scheduler application. Corresponding tasks and resources also appear.
- If you change the Scheduled Start or Scheduled End dates in the work management application where the record originated, the dates are updated in the Scheduler application, providing that the segments were not edited in the schedule. If changes were made in the Scheduler application but not committed back to the work management application, no updates are made to the schedule.
- If you change the precedence relationships between tasks in the work management application, the precedence constraints are updated in your schedule, providing that no changes were made to the constraints in the Scheduler application. If changes were made in the Scheduler application but not committed back to the work management application, no updates are made.
- If you change the status or priority of a work record in the work management application, the schedule is updated. If a work record changes to a status of CANCELLED or CLOSED, it is deleted if the Preserve Existing Records on Refresh check box is cleared.

Record Movement in the Gantt View

You can move records individually or in groups in the Gantt view. You can modify start dates, finish dates, and durations by dragging the task bars with your mouse.

You can move records in the Gantt view in three ways:

- You can drag work to a new date in the Activity chart.
- You can right-click on the work record and move it to predefined intervals.
- You can change the work dates in the Activity table.

Dragging Work in the Gantt view

Each task bar (at the lowest level of the hierarchy) has three edit points:

- The left edge of the bar represents the scheduled start date of the task. Click and drag it to change the start date and duration.
- The right edge of the bar represents the scheduled finish date of the task. Click and drag it to change the finish date and duration.
- Click the middle of the bar to drag the record to a new start and finish date while preserving duration.

You can stretch the ends of the task bar to the preferred start and end dates, modifying the duration of the work record. In the Scheduler application, if you move the start or end date of a work record outside of any date constraints that exist for that record, a dashed line appears, indicating where the date constraint falls. The work record turns red, indicating it is in violation of its date constraints. You can move the work back to comply with the date constraints, or override them. You can drag the work record from the middle of the task bar to reschedule dates without changing duration.

Dragging multiple records

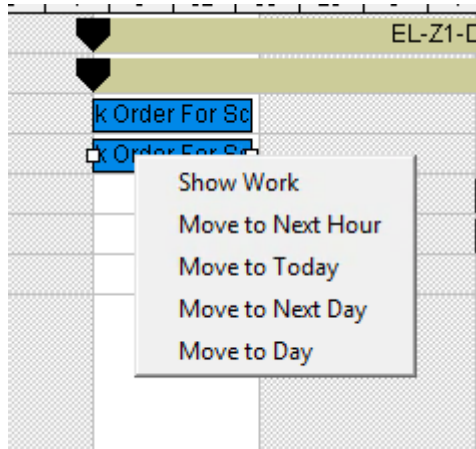
You can select multiple work records at the same time and reschedule them as a group. For example, you can move un-started work from a prior schedule to the next planning window. You can multi-select task bars in the Gantt view in the following ways:

- Click outside of the tasks, then group them with a bordering rectangle.
- Use Ctrl-click to select individual tasks of a noncontiguous group.

The task bars that you select have edit markers visible on both ends of the bar. The task row in the Activity table is highlighted. When multiple rows are selected, only the start and finish dates can be moved, preserving duration. Dragging any of the selected rows moves them all proportionally. Moving a group of tasks or child records moves the parent record with them. Parents always span their children and tasks.

Moving records using right-click options

You can move work in the Gantt view by right-clicking on the work record in the Activity table or chart. The following options are available from the right-click menu:



- Move to Next Hour: Moves the work record one hour ahead.
- Move to Next Day: Moves the work record one day ahead.
- Move to Today: Moves the work record to the current date.
- Move to Day: Opens a calendar from which you can choose the date and time you want to move the record to.

You can select multiple records at the same time and use the right-click options to move their dates.

Changing work dates in the Activity table

You can also change the scheduled dates in the Activity table view by double-clicking the start or end dates and editing the text. After you click outside of the editable field, the new date shows in the corresponding row of the Activity chart.

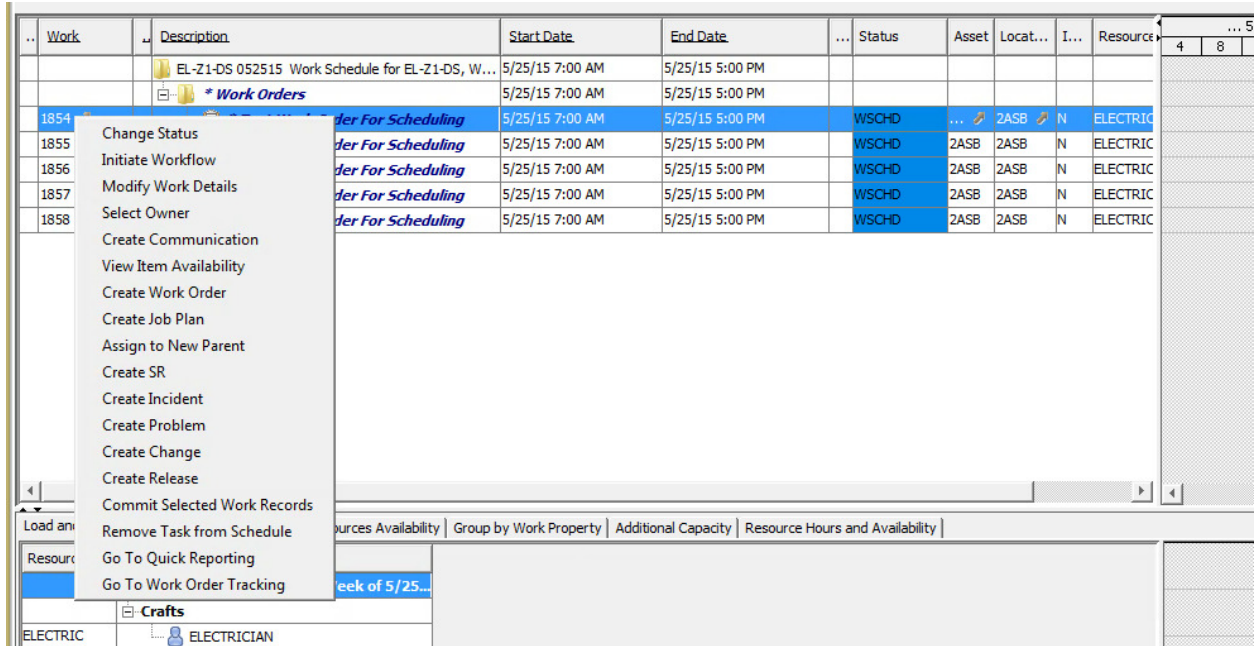
Work	Description	Start Date	End Date	Status	Asset	Locat...	I...	Resource
	EL-Z1-DS 052515 Work Schedule for EL-Z1-DS, W...	5/25/15 7:00 AM	5/25/15 5:00 PM					
	* Work Orders	5/25/15 7:00 AM	5/25/15 5:00 PM					
1854	* Test Work Order For Scheduling	5/26/15 7:00 AM	5/25/15 5:00 PM	WSCHD	2ASB	2ASB	N	ELECTRIC
1855	* Test Work Order For Scheduling	5/25/15 7:00 AM	5/25/15 5:00 PM	WSCHD	2ASB	2ASB	N	ELECTRIC
1856	* Test Work Order For Scheduling	5/25/15 7:00 AM	5/25/15 5:00 PM	WSCHD	2ASB	2ASB	N	ELECTRIC
1857	* Test Work Order For Scheduling	5/25/15 7:00 AM	5/25/15 5:00 PM	WSCHD	2ASB	2ASB	N	ELECTRIC
1858	* Test Work Order For Scheduling	5/25/15 7:00 AM	5/25/15 5:00 PM	WSCHD	2ASB	2ASB	N	ELECTRIC

TYPE

Work record modifications in the Gantt View

In the Gantt view, you can modify work records in the applications that created the records. You can change the status of a work record, initiate a workflow, perform other actions within the Gantt view, or navigate to relevant applications.

When scheduling and assigning work, you might need to update the work records that contain the planned work. You can navigate to the work application to modify the record, but you can update only one record at a time. Also, navigating back and forth between applications takes time. Use the right-click menu in the Gantt view to modify the work records in the Gantt View tab. You can also perform certain work actions on multiple records at one time.



The work record actions are available in the following circumstances:





Action	Available for	Applications available	Restrictions
Change Status	Single and multiple records	Scheduler and Graphical Assignment	<ul style="list-style-type: none"> Shows only statuses the user has access to. Only available for multiple records if the selected records are the same type. For example, if you select three work orders and one change record, Change Status is not available. Not available if any preventive maintenance (PM) records are selected.
Initiate Workflow	Single and multiple records		<ul style="list-style-type: none"> Only available for multiple records if the selected records are the same type. Workflows that have manual input processes in the first node must be initiated from the work record application. Not available if any PM records are selected.

Modify Work Details	Single and multiple records	Scheduler and Graphical Assignment	<ul style="list-style-type: none"> • Only available for multiple records if the selected records are the same type. • Not available if any PM records are selected.
Select Owner	Single and multiple records	Scheduler and Graphical Assignment	<ul style="list-style-type: none"> • Only available for multiple records if the selected records are the same type. • Not available if any PM records are selected.
Create Communication	Single records only	Scheduler	<ul style="list-style-type: none"> • Not available if any PM records are selected.
View Item Availability	Single records only	Scheduler	<ul style="list-style-type: none"> • Not available if any PM records are selected.
Create (work record)	Single records	Scheduler and Graphical Assignment	<ul style="list-style-type: none"> • Not available if any PM records are selected.
Create Job Plan	Single records	Scheduler	<ul style="list-style-type: none"> • Not available if any PM records are selected.
Assign to New Parent	Single and multiple records	Scheduler	<ul style="list-style-type: none"> • Only available for multiple records if the selected records are the same type. • Not available if any PM records are selected.

Actions that you can perform also depend on the privileges that you have within the work record application.

Zoom options in the Gantt View

When scheduling and assigning work, you can adjust the zoom level of the Gantt view to focus on work that is scheduled during a specific time, and view tasks and job plans in detail. The following zoom options are available in the Gantt view:

- Zoom In : Expands the calendar scale so that you can see more detailed information.
- Zoom Out : Contracts the calendar scale so that you can see a larger timeframe.
- Zoom to Week : Sets the calendar scale to show one week.
- Go to Day : Opens a calendar so that you can select a single date for the calendar to show.

You can also focus in on specific time frames by placing your cursor on the calendar bar and clicking a starting point. The cursor switches to a double-ended arrow. Click an end point, and then double-click the highlighted area to zoom in on it.















- Double-click a month to see a four week view.
- Double-click a week to get a seven day view.
- Double-click a day to get the view in hours.










Changes you make to the calendar scale are saved with the schedule.

Gantt View Toolbar Functions

The Gantt view toolbars contain all the tools that you use to work with in the Gantt view.

The Gantt view toolbar includes the following functions:

Tool	Icon	Available in Application
Advanced Search		Graphical Assignment and Scheduler
Refresh		Graphical Assignment and Scheduler
Apply Street Level Routes		Graphical Assignment
Commit Changes		Scheduler
Clear Filter and Show All Activities		Graphical Assignment and Scheduler
Print Chart		Graphical Assignment and Scheduler
Print		Graphical Assignment and Scheduler
Page Setup		Graphical Assignment and Scheduler
Print Preview		Graphical Assignment and Scheduler
Zoom In		Graphical Assignment and Scheduler
Zoom Out		Graphical Assignment and Scheduler
Zoom to Fit		Graphical Assignment and Scheduler
Zoom to Week		Graphical Assignment and Scheduler
Go to Day		Graphical Assignment and Scheduler

Constrain Horizontal Scrolling to the Date Range Containing the Work		Graphical Assignment and Scheduler
Filter Resources Based on the Selected Work Orders		Graphical Assignment and Scheduler
Insert Constraint		Scheduler
Delete Constraint		Scheduler
Perform Critical Path Method on All Rows		Scheduler
Perform Critical Path Method on Selected Rows		Scheduler
PM Forecast All		Scheduler
Show/Hide Compliance		Scheduler
Full Screen		Graphical Assignment and Scheduler

Gantt View Tips

You can use several shortcuts in the Gantt view to make scheduling and assigning work easier.

Right-click options

You can right-click on most areas of the Gantt view to see a list of actions that you can perform on the selected records. The right-click options include the following:

- From the activity table, right-click on the work record number to modify the work record. For example, you can change the status of the record or create a job plan for it.
- From the activity table or chart, right-click on the work description to highlight the work in the Gantt view. You can expand the work hierarchy or move the work to another hour or day.
- From the resource table, right-click to see where a labor or resource is already assigned, see their craft and skill level, or change their availability. You can also choose to show or hide the Y axis and the color legend in the resource chart.
- From the resource table, you can split work into multiple segments, or create or delete an assignment.

Zoom in on selected work

You can show work segments in the Gantt view by double-clicking the work in the activity table.

Tile and simple layout

In the resource table, you can toggle back and forth between a tile and simple layout for crafts. Tile layout shows every craft requirement as its own segment and gives a more accurate display of the amount of work to be assigned to a particular craft. Simple layout overlays the work segments into a group, saving room in the resource table. You can separate out the segments by dragging them.