5. Scheduling

#D365_CS #D365

Set up Customer Service scheduling

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Introduction

Customer Service scheduling uses two key components to help you define what needs to be scheduled and for which customer, including helping you define the required resources to complete the task:

- **Services** - Represents what the organization is providing to their customers. A service might be an oil change for an automotive company or a hair color treatment for a salon. The service record defines how many resources of a specific type would be needed to complete the task. For example, an oil change might require one technician and one service bay.
- **Service activities** - Activity record that represents the delivery and implementation of a service to a customer. Service activities include details such as which service is to be delivered and what customer it's for.

The three primary record types that you can use to schedule an item are:

- Service activity
    - The service that is being provided.
    - The customer whom the work is being done for.
    - Preferences for service delivery, such as time windows, preferred technician, and so on.
- Resource requirement
    - The type or resource that is needed.
    - The service center where the resource should be located.

    - Resource preferences.
    - Other relevant scheduling information, such as if you want to schedule less busy technicians first.
- Bookable resource booking
    - The resource (person) who is responsible for completing the service.
    - Estimated versus actual times and status-related information.
    - Total time spent working on the item.

Customer Service scheduling components are divided into three areas:

- **Scheduling** - Use this area to set up items like resources, facilities/equipment, resource categories, services, and fulfillment preferences.
- **Tools** - Represents the schedule board that is used for manually scheduling resources.
- **Settings** - Use this area to set up supporting scheduling components, such as organizational units and business closures.

The **Scheduling** area contains the following components:

- **Resources** - Defines the specific people, facilities, or equipment that you can schedule to work on items. Resources could represent internal employees, external contractors, facilities, or equipment. After you have defined your resources, you can associate them with the services that you provide to your customers.
- **Services** - Represents the services that your organization provides to customers. The service record defines the resource types and number of resources that are required to complete it. For example, winterizing a personal watercraft might require one marine technician and a personal watercraft lift.
- **Service Activities** - Activity record that represents the delivery and implementation of a service to a customer. Service activities include details such as which service is to be delivered and the customer whom the service is for.
- **Facilities/Equipment** - Defines facilities and equipment that might need to be scheduled as part of a service activity. For example, a facility record would be created to represent a service bay or specialized equipment that is used to complete a job. After you have defined facilities and equipment, you can create resources that represent those items and then associate them with facilities/equipment records.
- **Resource Categories** - Define the different roles or categories that resources might have in an organization. For example, an organization might create resource categories for positions like developer, consultant, or project manager.
- **Fulfillment Preferences** - Customizable entities that let you choose how schedule assistant results are displayed, such as hourly appointments or morning and afternoon time windows. For example, by default, available resources are based on their earliest available time, such as 10:39 AM. With **Fulfillment Preferences** set to **Hourly**, the same resource's availability shows as 11:00 AM. This approach simplifies the scheduler's process of viewing and understanding availability and then communicating this information to the customer.

The **Tools** area contains the **Scheduling** component, or the schedule board, which is an interactive calendar that you can use to schedule specific resources for different items. You can filter the schedule board as needed, and you can view it as a map to help make scheduling items easier.

The **Settings** area contains the following components:

- **Organizational Units** - Represent containers that you can use to group resources together. Organizational units might represent a location that you can dispatch resources out of, or you can use them to group resources based on a region or service center.
- **Business Closures** - Specifies when an organization is not open, such as holidays.

Four security roles are associated with Customer Service scheduling. Two of the following roles were previously associated with legacy service scheduling, which has been replaced with Customer Service scheduling powered by Universal Resource Scheduling.

- **Scheduler Manager** - Set up and manage the service scheduling experience, and access and set up all service scheduling tables.
- **Scheduler** - Create and schedule legacy service activities.
- **Customer Service Schedule Administrator** - Manage the service scheduling in Universal Resource Scheduling.
- **Customer Service Scheduler** - Create and schedule service activities in Universal Resource Scheduling.

Set up service scheduling

You can use organizational units to group resources in containers for scheduling purposes. For Customer Service scheduling, an organizational unit would typically represent a location where services are provided to customers.

Important

Every organizational unit must have a defined, valid latitude and longitude address. Scheduling won't function correctly without it. The organizational unit table is not geo-coded like other tables. You will need to use a mapping provider (such as Bing) to find the physical location address and then copy the latitude and longitude information to the organizational unit.

When you create a business closure, define the following components:

- **Name** - A descriptive name, such as the holiday name.
- **All Day Event** - Defines whether it is an all-day event or only a specific length of time.
- **Start Time** - Start time of the closure.
- **End Time** - End time of the closure.

Service scheduling includes the ability for you to define resource categories. After creating the categories, you can add them to specific resources and schedulable items, like a service. This approach helps ensure that only resources with that role are suggested as people who can work on an item. Examples of resource roles might include technician, service bay, consultant, exam room, or stylist. You can assign multiple roles to a single resource. For example, you can assign the developer role and technician role to one resource.

You can associate facilities and equipment with facility or equipment resource records, and you can schedule them as part of services in the application. When you create a facility/equipment record, make sure that you define the following elements:

- **Name** - The name that will be used to reference the piece of equipment.
- **Organizational Unit** - Specifies the organizational unit that the facility or equipment is associated with.
- **Business Unit** - Specifies the business unit that the resource belongs to.
- **Time Zone** - Indicates the time zone that the item is located in.
- **Description** - General description of the item.

Define resources

To help in these scenarios, Universal Resource Scheduling lets organizations define these options in the application:

- **Roles**: Specifies a specific role(s) in an organization that can be associated with different resources. Roles can be added to specific recourses and schedulable items like collision repair to ensure that only resources with that role are suggested as people to work on an item.
- **Skills**: Skills represent specific a skill or certification that can be associated with different resources. They're also referred to as characteristics in Field Service. Each characteristic needs to have a Characteristic Type defined. There are two options available:
  - Skill
  - Certification

Because Universal Resource Scheduling handles scheduling across all potential applications, any defined resource would be used in other applications, such as Dynamics 365 Field Service. Due to the nature of service scheduling, when you're defining service resources, you'll typically use the following resource types:

- **User** - Specifies the resource as an internal user who is mapped to a Dynamics 365 user record. This type will likely be the most common type of resource that will be used with service scheduling.
- **Generic** - Generally used as a placeholder to define a type of resource that is needed until a specific named resource can be used in its place.
- **Contact** - Specifies that the resource is associated with a Dynamics 365 contact record.
- **Account** - Specifies that the account is associated with a Dynamics 365 account record.
- **Equipment** - Defines the resources as a specific piece of equipment.
- **Facility** - Represents a facility that can be scheduled, such as a building or room.
- **Pool** - Resource pools allow you to assemble groups of similar resources to manage capacity and give schedulers the option to assign specific resources at a later time.
- **Crew** - Resource crews allow you to search and schedule multiple resources at once.

On the Scheduling tab, you can define scheduling details that will control how resources are presented in the schedule board, including what scheduling options are available. **An important item to define is the location information that will be used by the schedule board for the resource.** Make sure that you define the following items:

- **Start Location** - Defines where the resource begins their day.
- **End Location** - Defines where the resource ends their day.
- **Organizational Unit** - Defines the specific organizational unit that the resource belongs to and will be scheduled from.
  When you define a starting and ending location, you can define three components:
- **Organizational Unit Address** - Uses the latitude and longitude that is associated with the organizational unit that the resource belongs to.
- **Resource Address** - Uses the latitude and longitude that is associated with the corresponding record based on the resource type.
- **Location Agnostic** - Doesn't have a specific location defined. This definition can be useful when resources don't have a clearly defined starting and ending location.

You can define a resource's working hours by selecting the **New** button and then selecting one of the following options:

- **Working hours** - Defines set working hours for a resource.
- **Non-working** - Defines specific nonworking time for a resource.
- **Time off** - Specifies that a resource has time off, such as vacation or paid time off.

After you have specified the type of entry that you're creating, you'll need to define the specific details that are related to the work hours record. Based on which type of record that you selected, the following options will be available:

- **All Day** - Toggle switch that specifies that it's an all-day event. Typically, you would use this option when setting up time-off entries for items like vacation.
- **Capacity** - Turns on capacity scheduling for a resource. This toggle is only available when you're setting up working hours. When the toggle is enabled, you can specify a resource's capacity in increments of one.
- **Date** - Defines the first day that the item should start.
- **Start and End Times** - Sets the time range for the item. For example, if you select 8:00 AM to 5:00 PM for working hours, you can schedule the resource during that time.
- **Repeat** - Defines the time frame for the item. Items can be defined as follows:
  - **Never** - Specifies that this event is a one-time occurrence.
  - **Every day** - Allows you to define which day that the item should apply to, such and Monday through Friday
  - **Every Week** - Allows you to define which days on a weekly basis.
- **Observe Business Closure** - Specifies that business closures should be considered.

Because facilities represent a physical location, such as a conference room or meeting space, you're required to associate them with an organizational unit that contains a valid latitude and longitude address. Make sure that you set the starting and ending locations for a facility to the organizational unit address.

Define resource groups, facilities, and sites

> In Dynamics 365 Customer Service, service scheduling, resource groups are used to group different types of resources together. For example, you could create a resource group that specifies the need for the service bay, a technician, and a piece of equipment. When the resource group is selected the system will identify resources from each bucket.

Resource groups are created in the Customer Service admin center app. Under the Operations group, navigate to **Service Scheduling** > **Resource group** section > **Manage**.

When defining a resource group, you'll need to define the following:

- **Name**: Defines the name that will be used to identify the resource group.
- **Business Unit**: Defines the business unit that the resource group will be associated with.
- **Description**: Provides details about the resource group, including the criteria that you used to determine which resources to add to the resource group.

After you save the record, you'll need to define the resources that make up the group. From the **Resources** tab, select **Add Resources**. Select the users, facilities/equipment, teams, or other resource groups to add to this resource group.

> Facilities and equipment are resources you use to perform services for your customers. Facilities can be physical spaces like service bays or conference rooms, and equipment could be tools or other assets. Add these resources to Dynamics 365 Customer Service to ensure optimal services to customers.

In the Customer Service admin center, navigate to **Service Scheduling** > **Facilities/Equipment** > **Manage**.
When you define a facility or equipment record, you'll need to provide:

- **Name**: Defines the name of the facility or equipment record as it will be displayed in the system.
- **Business Unit**: Defines the business unit the record will be associated with.
- **Site**: Defines the location where the facility or equipment is located.
- **Primary Email**: Specifies the email address of the site manager or equipment manager. If there are any updates or cancellations related to the schedule, facilities, or equipment, notifications are sent to this email address.
- **Time Zone**: Defines the time zone the resource is located in.
- **Description**: Specifies details about the facility or equipment, such as the numbers, size, make, or model.

> In Dynamics 365 Customer Service, sites are used to define the locations where you provide service to your customers. As resources are being scheduled, you can define which resources

will work on which site. Sites can be created in the Customer Service admin center by selecting **Service Scheduling** in **Operations**. In the **Sites** section, select **Manage**.

Schedule services with Customer Service scheduling

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Introduction

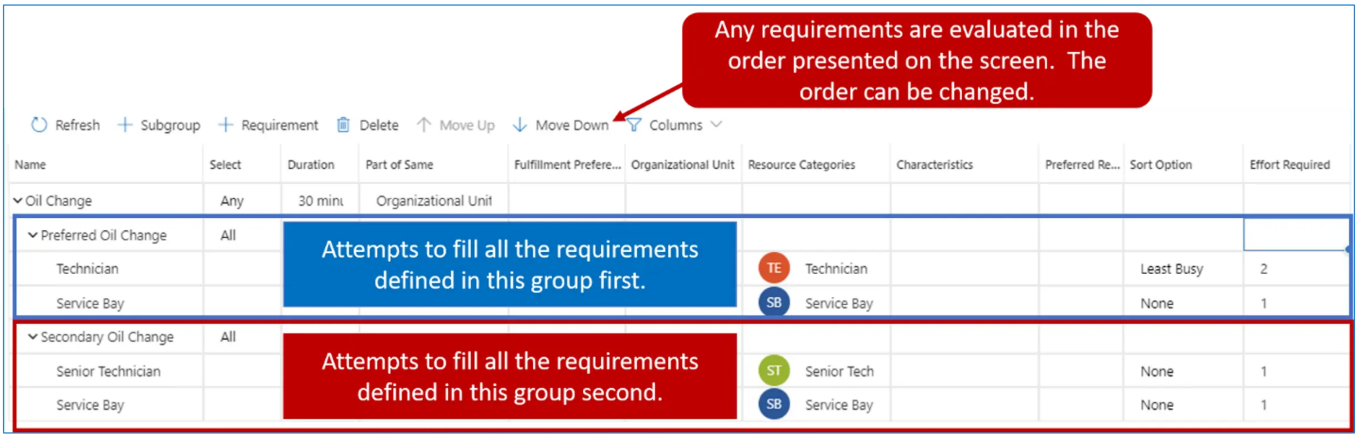
You can create services by selecting the **New** button. When initially creating a service, you'll need to define the following items:

- **Name** - Specify the name of the service.
- **Initial Status Reason** - Specify how the item should appear on the schedule board. You can select **Requested** or **Tentative**.

When defining a service, you can define the required resources for the service. The requirements will be grouped together for scheduling, which enables dispatchers to schedule an entire team of resources for a single service activity.

When you have created the service, you can specify if all requirements need to be fulfilled or if only some need to be fulfilled. You can accomplish this task by using the **Select** column, which contains two options:

- **All** - Specifies that all defined requirements need to be fulfilled.
- **Any** - Specifies that only one of the defined requirements needs to be fulfilled.



Requirement group items that you can define include:

- **Part of Same** - Allows you to define whether the resources should belong to the same organizational unit, resource tree, or location.
- **Fulfillment Preferences** - Defines if fulfillment preferences should be used when the system is suggesting resources.
- **Organizational Unit** - Defines that all resources should come from a specific organizational unit.
- **Resource categories** - Defines which resource role should be associated with this resource. Additional items to consider at a requirement level are:

- **Sort Option** - Defines how resources should be presented in the search results. The four options that you can choose from are:
    - **None** - Does not perform sorting.
    - **Randomized** - Presents a randomized available resource.
    - **Most Busy** - Presents the available resource that has the most bookings.
    - **Least Busy** - Presents the available resource that has the least bookings.
- **Effort Required** - Defines the number of resources that are required for that type. While booking, you can use this option to view all resources who satisfy the minimum effort requirement. For example, if the required effort is defined as 100, only resources with the capacity value of 100 and more will be displayed in the list while you are booking the service in the schedule board.

Set up fulfillment preferences

Fulfillment preferences include two features:

- **Intervals** - Display schedule assistant results in time slots that dictate the start time of subsequent bookings.
- **Time groups** - Enable schedulers to search and view results as blocks of time when they are using the schedule assistant. Typical examples might include mornings, afternoons, nights, and two-hour windows.

> Fulfillment preferences are associated with requirements records. When the schedule assistant is run against the requirement, it will suggest items that are based on the defined fulfillment preferences. You can define fulfillment preferences by going to **Scheduling > Fulfillment Preferences** and then selecting the **New** button.

You can define intervals for interval scheduling on the **Interval** tab of the **Fulfillment Preference** record. Three key settings that you can define for an interval record include:

- **Interval** - Defines the duration between available time slots, such as 30 minutes, 45 minutes, one hour, and two hours.
- **Intervals Begin** - Defines when to begin counting the interval.
- **Results per Interval** - Dictates how many options that a scheduler will receive for each interval. If this field is left blank, the system defaults to **1**.

After saving the fulfillment preference record, you can define time groups from the **Details** tab by selecting the **Add Time Group** button in the time group's subgrid. When specifying a time group, you'll need to provide the following information:

- **Name** - Descriptive name for the group, such as morning, afternoon, or evening.
- **Start Time** - Defines the first time that a booking can be scheduled within the time block.
- **End Time** - Defines the last time that a booking can be scheduled within the time block.

When you are working with a requirement record that has time intervals defined, the intervals/time groups that are defined in the fulfillment preference will be loaded when you select the **Book** button, which will also launch the schedule assistant.

- **Intervals** - Presents options that are available based on the interval screen that has been selected. For example, the following image shows that the 30-minute interval is being used.
- **Time groups** - Results that are displayed will be based on the time group setting that is defined in the calendar. The following image shows how resources are noted (based on the time group) and how they are displayed.

Occasionally, you might want to use a combination of intervals and time groups together. You can define a fulfillment preference that uses both intervals and time groups; however, you need to consider some key differences when using both.

- You can't add a value for the **Interval Begins** field. The interval will begin at the time of the earliest time group.
- If the **Reset Intervals Per Time Group Detail** option is set to **Yes**, the intervals will reset when a new time group detail overlaps with an interval.

Create service activities

You can create service activities by going to **Scheduling > Service Activities** in the Customer Service Hub. Selecting the **Service Activities** button in the command bar will open the **New Service Activity** form.

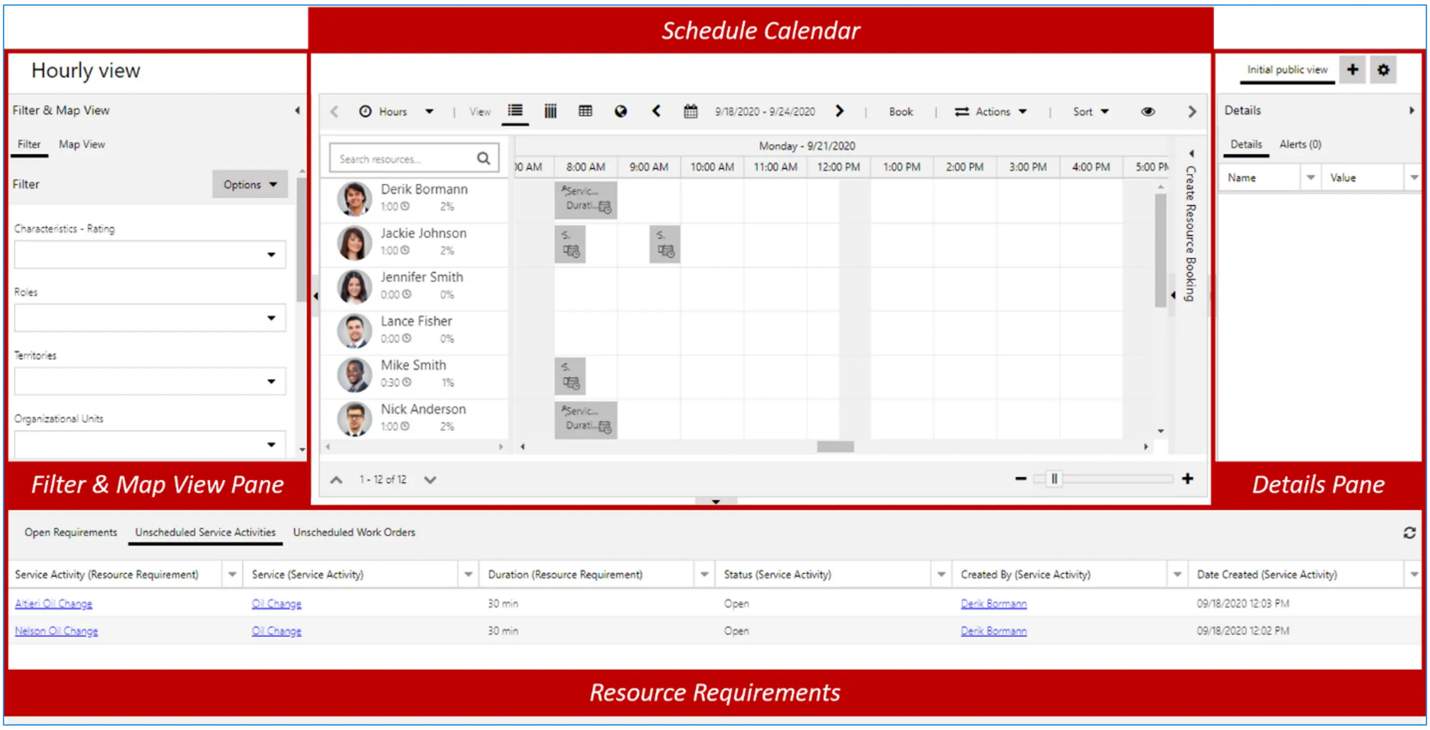
On the **Service Activity** tab on the **New Service Activity** form, make sure that you:

- Enter the **Subject** of the service activity.
- Select the **Service** that has been requested by the customer.
- Select the customer who requested the activity.
- Set the **Show Time As** field to **Requested** or **Tentative**.
- Choose the **Organizational Unit** where the service will be performed.

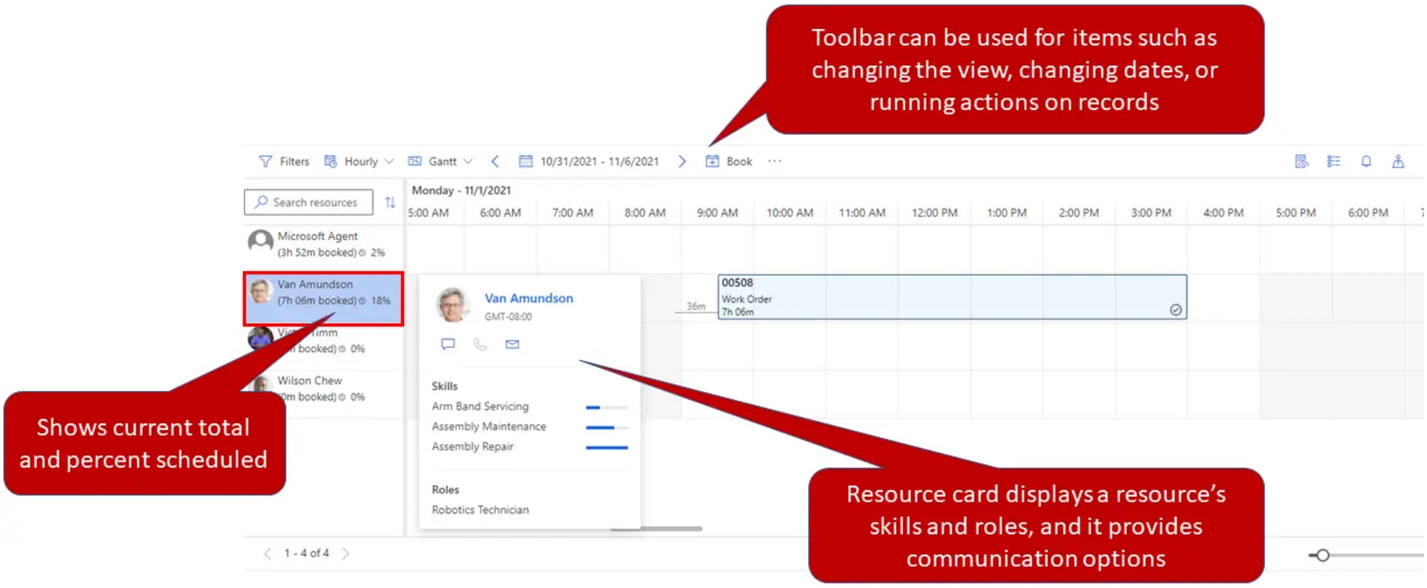
Schedule service activities

In the schedule board, you can perform the following tasks:

- View your organization's daily, weekly, and monthly schedule of service activities.
- View work schedules and service activity schedules for a variety of resources.
- Schedule service activities.
- Change the status of an existing service activity.
- Search for conflicts in the schedule.



The schedule board displays all resources that are available to be scheduled in the application. As resources are scheduled, the time that they are scheduled for and the percent that they are scheduled for will be displayed on their resource record.



The available options from the schedule board toolbar include:

- **View Mode** - Defines the scale that will be used when you are presenting resource schedules on the board. Four options that you can choose from are: hours, days, weeks, and months.
- **View** - Defines how the resources on the board will be presented. Four options that you can choose from are: horizontal, vertical, list, and map.
- **Dates** - Allows you to specify the specific date(s) that will be displayed on the board.
- **Book** - Allows you to create a booking for a specific resource.
- **Actions** - Provides a list of actions that you can run against items on the schedule board. Those actions include:

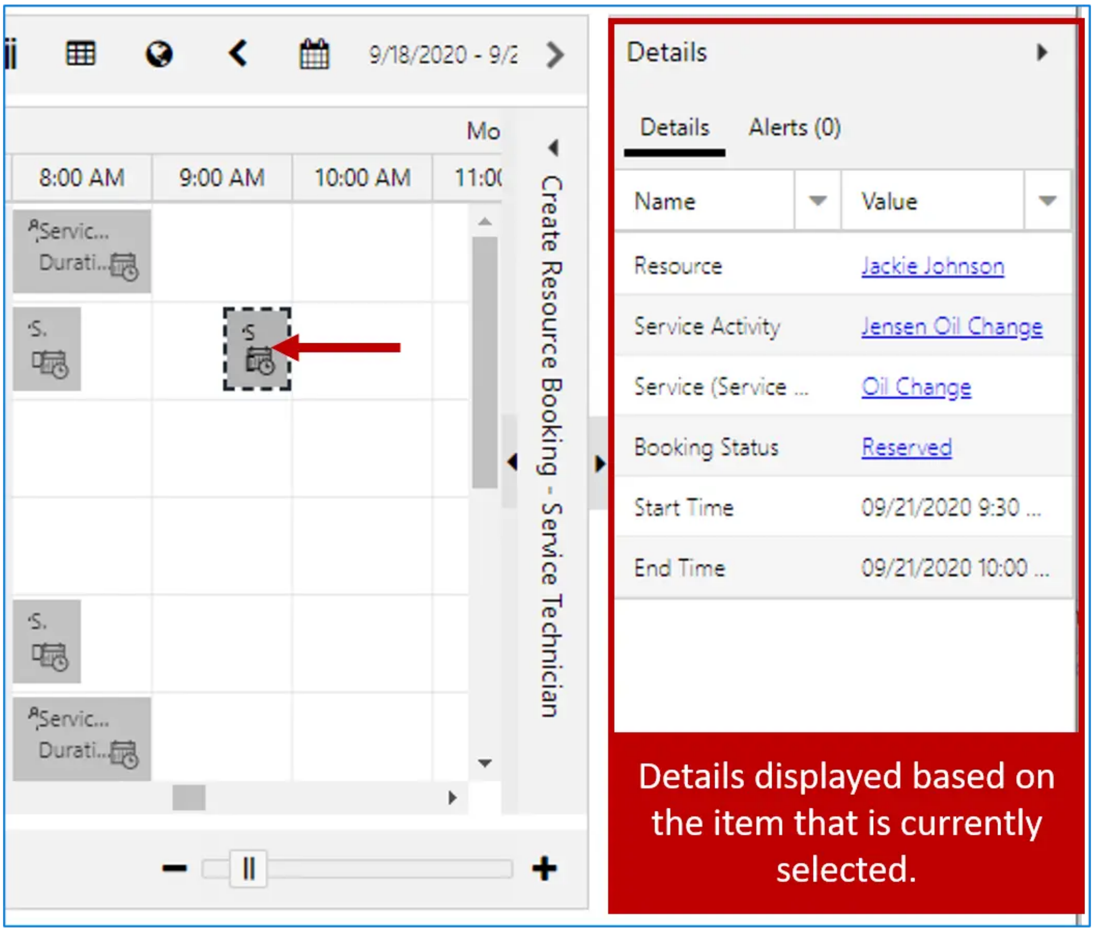
    - **Get Driving Directions** - Allows you to get directions from one location to another. You can share directions with a resource in multiple ways
    - **Move Booking to a Different Day** - Allows you to move a booking to a different day. For example, if a resource is running behind on a specific day, those bookings could be moved to tomorrow.
    - **Print Schedule Board** - Allows you to print the entire schedule board or only specific elements.
    - **Create Booking Alert** - Allows you to create an alert that will be presented to the dispatcher in the alerts section of the board. You can use alerts to communicate important or unique information to the dispatcher. For example, you might use a booking alert if a piece of equipment has broken and should not be scheduled.
- **Sort** - Allows you to determine how items on the board are sorted. By default, they can be sorted by name or rating value.

You can access the filter view by expanding the filter and map view. The filter lets dispatchers filter the specific resources that are displayed on the board, based on the criteria that is defined within the filter.
The filter provides the following options:

- **Define filter criteria** - By default, displayed resources can be filtered by characteristics, roles, territories, organizational units, resource type, pool type, teams, and business units. (You can add more filtering criteria through filter customizations.)
- **Modify how resources are sorted** - By default, the returned resources are displayed in alphabetical order. You can sort them by name or rating value.
For example, if you are filtering the resources by characteristics, you might want to sort the board to display resources with the highest proficiency first. (You can use more sorting options through filter customizations.)
- **Default filters** - You can define a default filter that will be loaded when the **Schedule Board** tab is loaded. It can be reapplied at any time.
- **Select resources** - By using the select resources, you can specify the resources that you want to display on the **Schedule Board** tab. After you have defined those resources, you can apply the filters only to those resources.

The tabs that are displayed in the requirements panel will vary depending on what the installed solutions include. For organizations that use Dynamics 365 Customer Service scheduling, the tabs will include:

- **Open Requirements** - Displays a list of all active requirement records that are related to any table that is enabled for Universal Resource Scheduling.
- **Unscheduled Service Activities** - Displays a list of all active requirement records that are related to unscheduled service activities.



Resources might not be displayed in the schedule assistant for several reasons. You might need to check values on records to ensure that they can be returned by the assistant. The most common factors to check first are:

- **No resources meet the defined roles** - Examine the filter criteria that is being used. Make sure that you have resources that meet those requirements. You can remove criteria to determine whether results are returned. If you are still not receiving results, it could be an address issue.
- **Starting and ending locations are associated with the resources** - If the address that is associated with a resource can't be located, the resource won't be returned. A resource's starting and ending locations are defined on the resource record. Typically, for service scheduling, these locations should be set to an organizational unit address. When using the organizational unit, you need to ensure that it has valid latitude and longitude values.