

Resource management in project service automation capabilities for Microsoft Dynamics CRM

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Audience

Customers, partners, and independent software vendors of Dynamics CRM Online are the target audience of this document. The goal of this document is to provide awareness about the supported scenarios and features that are built into resource management for project service automation capabilities for Microsoft Dynamics CRM.

Key concepts

Concept	Definition
Project team member	An entry in project team that can be a named resource with or without booking. A project team member can be a generic resource with booking as well.
Project generic resource	A resource placeholder that is used to form a team and staff a project plan without knowing the named resource. Project calendar is set as the generic resource calendar. Generic resources can be hard-booked, assigned to tasks, and overbooked.
Booked hours	A resource capacity that's hard-booked against a project.
Assigned hours	Booked hours that are assigned to tasks in project work breakdown structure. Assignment cannot happen before booking.
Required hours	Required capacity that is not yet fulfilled by a named resource.
Demand	Resource requests that can be expressed as: <ul style="list-style-type: none">• Resource requirements associated with a project team member• Resource request• Standalone resources requirement
Resource requirement	The entity that is used to capture required hours, start and end dates, skills, geography, and pricing information for the required resources. Requirements can be one of following two types: <ul style="list-style-type: none">• New• Extend

Resource request	The entity that is used as an envelope to carry the resource requirement to be fulfilled by a resource manager.
Resource default role	The role that a resource will be grouped under. The role assumes that a resource has the skills that the role requires and meets the target utilization for the role.
Work hours	The entity that is used to identify resource capacity, working hours, and non-working hours. It's also called calendar.

Supported scenarios

Resources are the most important asset of a service-based organization. The ability to find the right resources at the right time, book resources on projects, and keep resources utilized helps organizations meet revenue targets and improve customer satisfaction. Here is the high-level list of supported scenarios:

Web experiences

- Forming a project team by booking qualified resources that are available
- Automatically generating a project team from the roles that are required on tasks in project work breakdown structure
- Skills matching by identifying skills that are required on the demand against resource skills
- Skills matching by using skills that resources have reported time against and the time that is approved
- Substituting resources
- Aligning project schedule and resource allocations when a project has a work breakdown structure
- Interactive visual resource availability view that provides visibility into what resources are doing and makes changes to resource bookings by factoring in resource out-of-office status
- Support for central or hybrid resource allocation
- Resource request collaboration tool to enable collaboration between project managers and resource managers
- Resource utilization heat map to help with historical resource utilization and breakdown of how resources have utilized their time
- Visibility into what resources are doing by using resource project and work order bookings
- Approval or rejection of requests by resource line managers for resource skills and proficiency update
- Maintaining skills and skills proficiency repository
- Planning required capacity that's based on demand on projects
- Resource management dashboard
- Setup experience
- Resources
- Roles
- Skills
- Proficiencies
- Central/hybrid toggle
- Controlling the content that will be visible in the mobile experience

Mobile experiences

- Enabling resources to have visibility into selected projects and being able to sign up for project work
- Enabling resources maintain their skills and skills proficiency
- Providing a notification experience to notify users of resource sign up, accepting an applicant or rejecting an applicant.

Highly collaborative

- Collaboration among stakeholders by using Skype for phone calls, instant messaging, or email
- Email notifications when resources sign up for work, when requests are approved, or when requests are rejected

Global pool of resources for organizations with both field service and project service automation

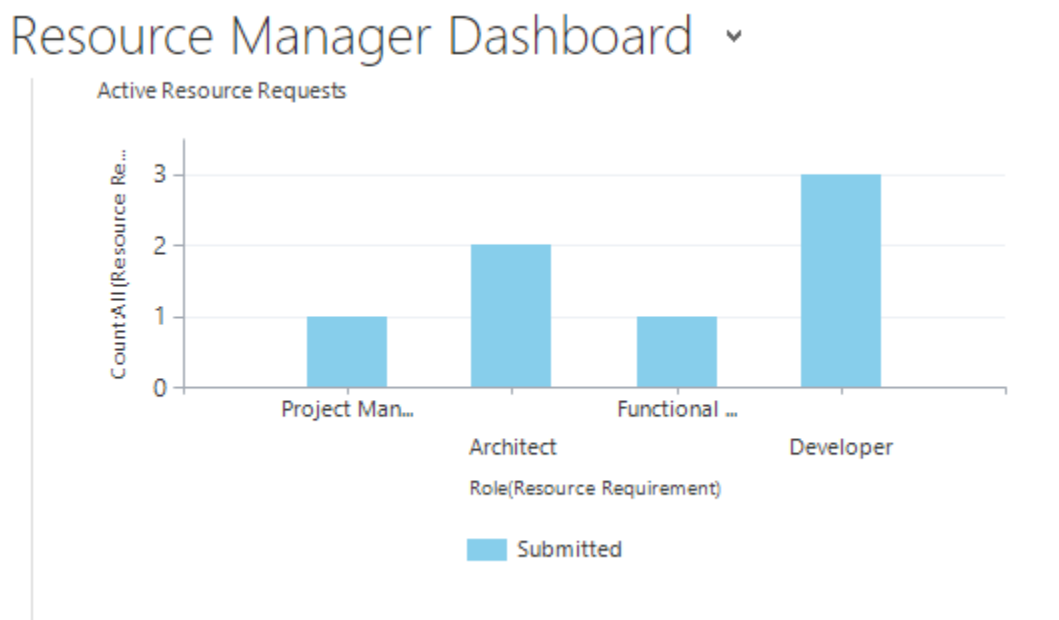
- Shared pool of resources that can be booked on projects and work orders
- Unified view into resource bookings made on projects and work orders
- Lightweight navigation to provide visibility into the work that resources are doing by using the field service capabilities for Microsoft Dynamics CRM schedule board and resource availability view)

How to

Go to the resource manager dashboard

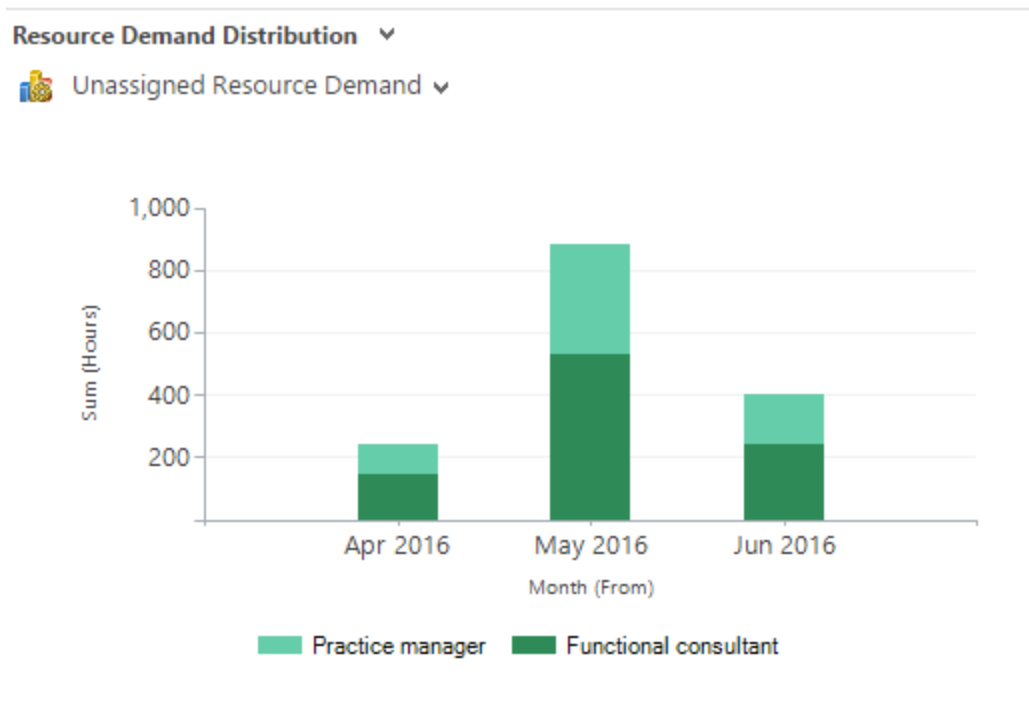
The Resource Manager Dashboard is the tool that a resource manager uses to inquire into:

- Firm demand, which is submitted resource requests that are aggregated either by role or by project.

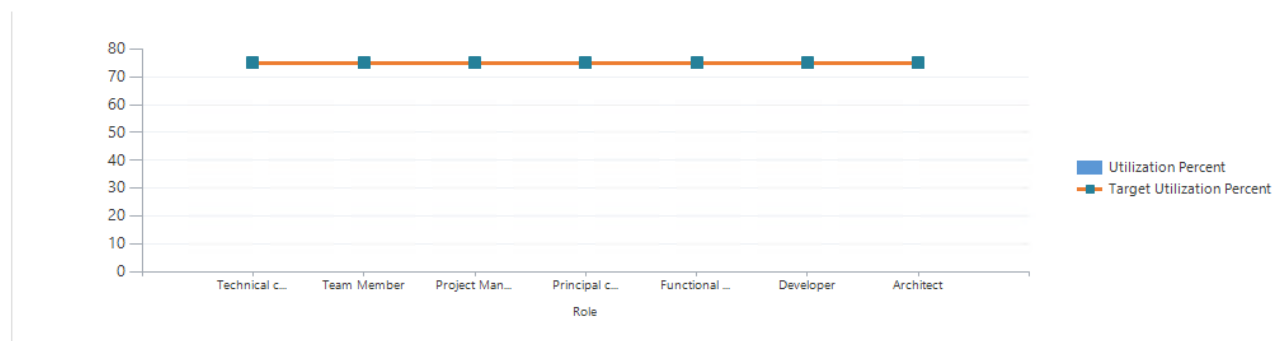


- Unassigned resource requirements (submitted demand).

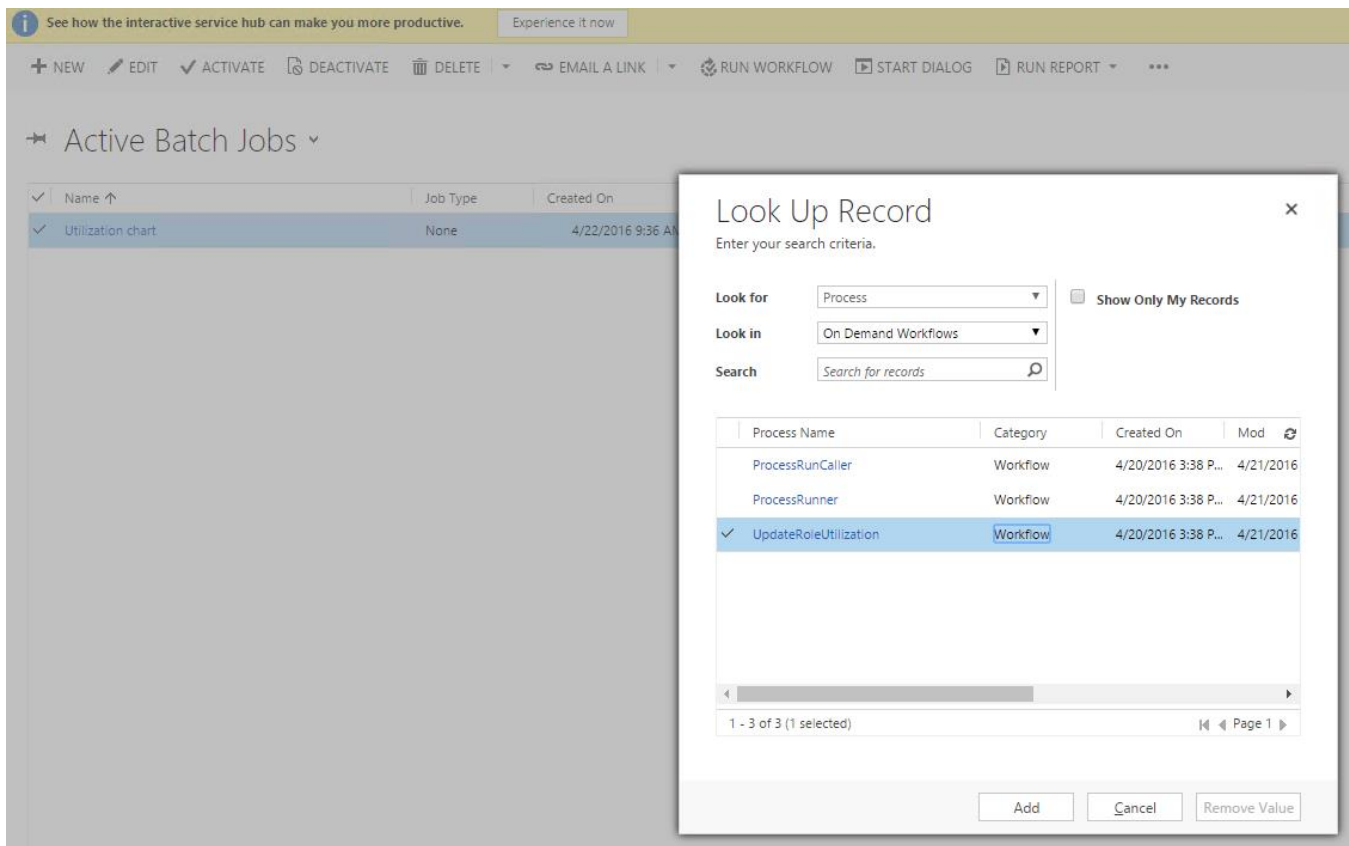
This chart represents all resource requirements that are not submitted. The chart helps a resource manager view demand that is not firmed and may or may not be submitted.



- Billable utilization chart (past-week billable utilization).

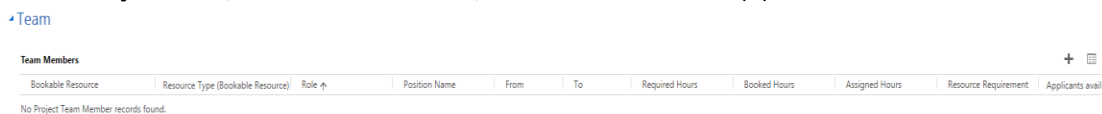


To display this chart, you need to run the **UpdateRoleUtilization** process. The process will be a recurring job that starts every seven days and calculates billable utilization for the last seven days aggregated by role.



Add a project team member

1. In the **Project** area, in the **Team** section, click the **Add** button (+).



2. In the **Project Team Member** form, choose an option:
 - Book a named resource in the **Bookable Resource** field.
Choose the name of the resource, the role, the time period, and an allocation method. The process will book the named resource by using the allocation method and resources calendar.
 - Book a generic resource.
Leave the **Bookable Resource** field empty. Choose the role, time period, and preferred allocation method. A resource placeholder (generic resource) will be added to the team to hold the demand pattern, which will be used to book resources on the team. The booking will be made according to the project calendar.
 - Add a named resource to the team without booking resource capacity.
Select a resource in the **Bookable Resource** field, select the time period, and select **None** for the allocation method. The resource will be added to the team without any booking.
 - Allocation method has the following options:

- **Full capacity**
Book all resource capacity between the **From** value and the **To** value according to the project calendar for generic resources and according to the resources calendar for named resources.
- **Percentage capacity**
Book the specified percentage of resource capacity between the **From** value and the **To** value.
- **By hours – distribute evenly**
Distribute the hours that a user enters evenly between the **From** value and the **To** value.
- **By hours – front load**
Book the first available slots in the resource calendar.

Book a team member to fulfill resource requirements captured by a generic resource

In project service automation, demand can be defined by booking a generic resource on the team where you specify how the required capacity needs to be distributed. You can also specify additional attributes like skills, cost price, and preferred resource, on the resource requirements that are associated with the generic resource.

1. Book a generic resource on the team (same as the [Book a generic resource](#) option in the previous list).

Project Team Members Associated View Search for records

+ NEW + HARD BOOK + MAINTAIN BOOKINGS + SUBMIT REQUEST + CONFIRM + ENABLE RESOURCE SIGNUP + EXCEL TEMPLATES + EXPORT PROJECT TEAM M. +

Bookable Resource	Resource Type	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Status (Resource)	Applicants available
Generic Resource	Generic	Developer	Developer 1	3/29/2016	5/9/2016	240.00			Requirement		No

2. Add skills that are required for the generic resource.

In the Team section, in the **Resource Requirement** column, click the **Requirement** link.

Team

Team Members

Bookable Resource	Resource Type (Bookable Resource)	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Applicants available
Generic Resource	Generic	Developer	Developer 1	3/29/2016	5/9/2016	240.00			Requirement	No

3. In the **Skills** area, add skills.

RESOURCE REQUIREMENT - INFORMATION

Requirement

General

Role **Developer**

From **3/29/2016**

To **5/9/2016**

Status **--**

Allocation Method **Full capacity**

Work Hour Template **--**

Hours **240.00**

Location

Country/Region **--**

State/Province **--**

City **--**

Pricing

Currency **--**

Cost Price **--**

Skills

No Competency Requirement records found.

Preferred Resources

No Bookable Resource records found.

Preferred Organization Units

No Organizational Unit records found.

4. Click **Hard Book**.

+ NEW SUBMIT REQUEST **HARD BOOK** DEACTIVATE DELETE ASSIGN SHARE EMAIL A LINK RUN WORKFLOW ...

RESOURCE REQUIREMENT - INFORMATION

Requirement

General

Role **Developer**
 From **3/29/2016**
 To **5/9/2016**
 Status **--**
 Allocation Method **Full capacity**
 Work Hour Template **--**
 Hours **240.00**

Skills

Name	Bookable Char...	Rating Value
Skill - .net	Skill	Good
Skill - Accounting and Fin...	Skill	Good

Location

Country/Region **--**
 State/Province **--**
 City **--**

Pricing

Currency **--**
 Cost Price **--**

The most skilled resources will be on the top of the list, and their availability status will be highlighted on the screen.

Filters

Organizational Units

Select Organizational Units

Business Units

Select Business Units

Resource Types

Select Resource Types

Teams

Select Teams

Roles

Select Roles

Developer

Skills

Select Skills

.net Good

Accounting and Fin... Good

Match Resources Using

Skills in Profile

RESET APPLY

VIEW SORT FILTER OPTIONS

Book Resources

Requirement Developer

Required Capacity: 240 Hours

Search

< 3/29/2016 - 5/9/2016 > DAY WEEK MONTH

	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8
Dick Cowley Developer	32	40	40	40	40	40	8
Eva Dawson Developer	40	40	40	40			
Gracie George Developer							
Mike Fogarty Developer	35.1	35.1	35.1	35.1	35.1	35.1	35.1
Orville Eagle Developer							

Demand pattern based on allocation method chosen when booking a generic resource

Most skilled resources on the top of the list

- Point to a resource to show additional information about the resource and the skill match relative to demand.

The screenshot shows the 'Book Resources' interface. On the left, there are filters for various categories. The main area displays a calendar view for the requirement 'Developer' with a required capacity of 240 hours. A resource card for 'Dick Cowley' is highlighted, showing his skills (CRM, Agile Methodology, Accounting and Finance, .NET, C++) and availability. The bottom of the screen shows a legend for resource status: Available, Partially Available, Overbooked, Hard Booked, Soft Booked, Proposed, Non-Work Day, and Vacation.

- To change how resources are sorted on the screen, click **Sort**.

The screenshot shows the 'Book Resources' interface with the 'Sort' dropdown menu open. The menu options are Name, Availability, and Skill. The 'Skill' option is highlighted, indicating that resources will be sorted by skill match.

When skills are defined on demand, the sort will be automatically set to **Skill**, and the most skilled people will be at the top of the list. If you select **Availability**, the resources with the largest number of available hours (total) will be at the top of the list.

7. Select the resource, and then click **Book**.

Filters

- Organizational Units: Select Organizational Units
- Business Units: Select Business Units
- Resource Types: Select Resource Types
- Teams: Select Teams
- Roles: Select Roles
- Skills: Select Skills
- Match Resources Using: Skills in Profile

Book Resources

Requirement: Developer

Required Capacity: 240 Hours

Calendar Grid (Developer):

Resource	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8
Gracie George (Developer)	32	40	40	40	40	40	8
Orville Eagle (Developer)							
Eva Dawson (Developer)	40	40	40	40			
Mike Fogarty (Developer)	35.1	35.1	35.1	35.1	35.1	35.1	35.1
Dick Cowley (Developer)	32	40	40	40	40	40	8

Resource will be booked to match the demand on top of the screen.

Booking is an automatic action, and just one resource can be booked to satisfy the demand.

8. Verify that the resource is booked on the team.

Team Members

Bookable Resource	Resource Type (Bookable Resource)	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Applicants avail
Gracie George	Contact	Developer		3/29/2016	5/9/2016		240.00			No

Hard-booked hours are displayed under the **Booked Hours** field in the **Team Members** list.

Make changes to resource bookings after resources are booked on the project

You can make changes to bookings for generic resources or named resources after you add them to the project.

- In the **Team** section, click **Maintain Bookings**.

Maintain Bookings

Project Name: CRM Implementation

Total Hard Booked Hours: 0.00 | Total Soft Booked Hours: 240.00 | Requested Hours: 0.00



Calendar Grid:

Resource	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8	MAY 15	MAY 22	MAY 29
Functional consu... (Status: Not Submitted)	32	40	40	40	40	40	40	40	40	40
Gracie George (Developer)	32	40	40	40	40	40	8			

The project team member will indicate hours that are booked against this project or other projects to consume the member's capacity. Now you can double-click a cell on a project in a

time period and make changes, or use Autofill to fill out the cells.

Maintain Bookings

Project Name	Total Hard Booked Hours	Total Soft Booked Hours	Requested Hours							
CRM Implementaion	0.00	240.00	0.00							
	< 3/29/2016 - 6/3/2016 >		DAY	WEEK	MONTH					
✓	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8	MAY 15	MAY 22	MAY 29
 Functional consu... Status: Not Submitted	20	20	20	40	40	40	40	40	40	40
CRM Implementaion	205	20	20	40	40	40	40	40	40	40
 Gracie George Developer	32	40	40	40	40	40	8			
CRM Implementaion	32	40	40	40	40	40	8			

Submit resource requests to be fulfilled by a resource manager

A resource request is the entity that carries the demand that a resource manager fulfills. You can submit a resource request directly for a generic resource on the team. Out of the box, the following two resource request types are supported:

- New resource requests
 - To submit a resource request for a generic resource on the team, select the generic resource, and then click the **Submit Request** button in the team list:

Project Team Members Associated View

+ NEW + HARD BOOK MAINTAIN BOOKINGS **SUBMIT REQUEST** CONFIRM ENABLE RESOURCE SIGNUP EXCEL TEMPLATES EXPORT PROJECT TEAM M.

Bookable Resource	Resource Type	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Status (Resource)	Applicants available
Generic Resource	Generic	Functional cons...	Functional cons...	3/28/2016	6/3/2016	340.00			Requirement	No	
Gracie George	Contact	Developer		3/28/2016	5/13/2016		140.00			No	

- The system will ask to you to provide comments that will be visible to the resource manager who fulfills the request. After submission, the **Status** field changes to **Submitted**.

Project Team Members Associated View

+ NEW + HARD BOOK MAINTAIN BOOKINGS EDIT SUBMIT REQUEST CONFIRM ENABLE RESOURCE SIGNUP DELETE SHARE

Bookable Resource	Resource Type	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Status (Resource)	Applicants available
Generic Resource	Generic	Functional cons...	Functional cons...	3/28/2016	6/3/2016	340.00			Requirement	Submitted	No
Gracie George	Contact	Developer		3/28/2016	5/13/2016		140.00			No	

When a resource manager proposes a resource, the **Status** field will change to **Proposed**.

Project Team Members Associated View

+ NEW + HARD BOOK MAINTAIN BOOKINGS SUBMIT REQUEST CONFIRM ENABLE RESOURCE SIGNUP EXCEL TEMPLATES EXPORT PROJECT TEAM M.

Bookable Resource	Resource Type	Role	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Status (Resource)
Generic Resource	Generic	Functional cons...	Functional cons...	3/28/2016	6/3/2016	340.00			Requirement	Proposed
Gracie George	Contact	Developer		3/28/2016	5/13/2016		140.00			

- Double-click the record that has the **Proposed** status and scroll down to see the proposed resources.

Proposed Resources

✓ ACCEPT PROPOSALS ✗ REJECT PROPOSALS

Bookable Resource ↑	Resource Cate...	Commit Type (B...	Start Time	End Time
Abraham McCormick	Functional consu...	Proposed	3/28/2016 9:00 A..	4/22/2016 5:00 P..
Bernadette Foley	Functional consu...	Proposed	4/25/2016 9:00 A..	6/3/2016 5:00 PM

⚙️ OPTIONS

Proposed Resources

Requirement

Required Capacity: 340 Hours

Functional consultant

MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8	MAY 15	MAY 22	MAY 29
20	20	20	40	40	40	40	40	40	40

- To accept the proposed resources, click **Accept Proposal**. The yellow bar on the top of the screen identifies that resources are booked. You will go to the Team list where the proposed resources will be hard-booked as team members.

Note: You cannot partially accept proposed resources. You can accept as a whole or reject as a whole.

- Extension to an existing resource booking

In many scenarios, you will need to extend the booking of a team member.

- Click **Maintain Booking**, select the time period and resource that you want to extend on the project, and then click **Create Extension Requirement**.

⌂ CANCEL BOOKING ⚙️ FIND SUBSTITUTE **📅 CREATE EXTENSION REQUIREMENT** ⚙️ OPTIONS

Maintain Bookings

Project Name **Total Hard Booked Hours** **Total Soft Booked Hours** **Requested Hours**

CRM Implementaion 0.00 480.00 0.00

	< 3/28/2016 - 6/3/2016 >	DAY	WEEK	MONTH						
	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8	MAY 15	MAY 22	MAY 29
✓ Abraham McCor... Functional consultant	20	20	20	40						
CRM Implementaion	20	20	20	40						
✖ Bernadette Foley Functional consultant					40	40	40	40	40	40
CRM Implementaion					40	40	40	40	40	40
✖ Gracie George Developer	40	40	40	40	40	40	40			
CRM Implementaion	20	20	20	20	20	20	20			

- Choose the allocation method, and then click **OK**. You can submit a request immediately or just add a generic resource as a placeholder. Click **Yes**.

- | Bookable Resource | Resource Type | Role | Position Name | From | To | Required Hours | Booked Hours | Assigned Hours | Resource Requirement | Status |
|-------------------|---------------|--------------------|-------------------------|-----------|-----------|----------------|--------------|----------------|-----------------------------|-----------|
| Abraham McCormick | Contact | Functional cons... | | 3/28/2016 | 4/22/2016 | 100.00 | | | Original booking | |
| Bernadette Foley | Contact | Functional cons... | | 4/25/2016 | 6/3/2016 | 240.00 | | | Extension request | |
| Generic Resource | Generic | Functional cons... | Functional consultant 3 | 4/25/2016 | 6/3/2016 | 240.00 | | | Abraham McCormick Extension | Submitted |

- Team

Team Members									
Bookable Resource	Resource Type (Bookable Resource)	Role ↕	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement
Abraham McCormick	Contact	Functional consultant		3/28/2016	6/3/2016		340.00		
Bernadette Foley	Contact	Functional consultant		4/25/2016	6/3/2016		340.00		
Gracie George	Contact	Developer		3/28/2016	5/13/2016		140.00		

1. On the project team, select the resource that you need to find a substitute for, and then click **Maintain Booking**. You can substitute the resource for an entire project duration or for a specific time period. In this example, we want to substitute the resource from mid-May to the end of May.

Cancel Booking
Find Substitute
Create Extension Requirement
Options

Maintain Bookings

Project Name	Total Hard Booked Hours	Total Soft Booked Hours	Requested Hours
CRM Implementaion	0.00	340.00	0.00

<

3/28/2016 - 6/3/2016

>

DAY

WEEK

MONTH

	MARCH 27	APRIL 3	APRIL 10	APRIL 17	APRIL 24	MAY 1	MAY 8	MAY 15	MAY 22	MAY 29
<div> <div>✓</div> <div>Abraham McCor...</div> <div>Functional consultant</div> </div> <div>CRM Implementaion</div>	20	20	20	40						
	20	20	20	40	40	40	40	40	40	40

- Click **Find Substitute** to show recommended resources that have the same role and the availability status of the resources.

Filters

Business Units

Select Business Units

Resource Types

Select Resource Types

Teams

Select Teams

Roles

Select Roles

Functional consultant

Skills

Select Skills

Match Resources Using

Skills in Profile

RESET

APPLY

SUBSTITUTE RESOURCE

FILTER 1

OPTIONS

Substitute Resource

User

Abraham McCormick

Time period to substitute

MAY 15	MAY 22	MAY 29
40	40	40

Search

< 5/15/2016 - 6/3/2016 >

DAY WEEK MONTH

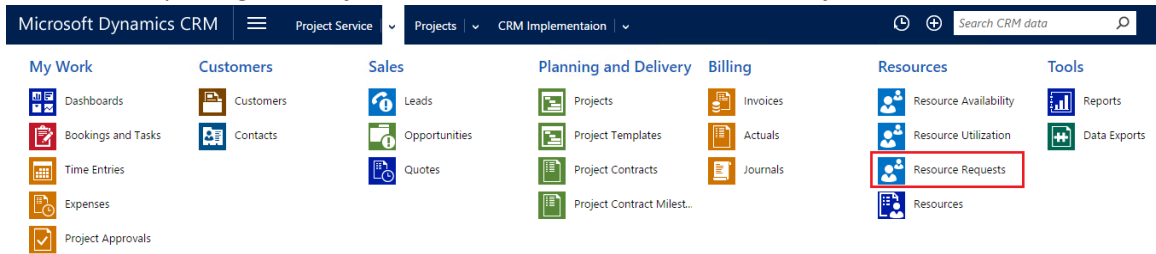
	MAY 15	MAY 22	MAY 29
Winifred Pollard Functional consultant	35.1	35.1	35.1
Kenya Briggs Functional consultant			
✓ Tony Sellars Functional consultant			
Greta Rodriguez Functional consultant			
Lucille Frazier Functional consultant			
Morgan Bird Functional consultant			
Dawn Phelps Functional consultant			
Reba Potts Functional consultant			
Hal Matheson Functional consultant			
Marianne Watson Functional consultant			
Katelyn Merritt Functional consultant			

- Select a resource, and click **Substitute Resource**.

Fulfill resource requests

Resource managers are in charge of fulfilling resource requests that different personas submit to get needed resources.

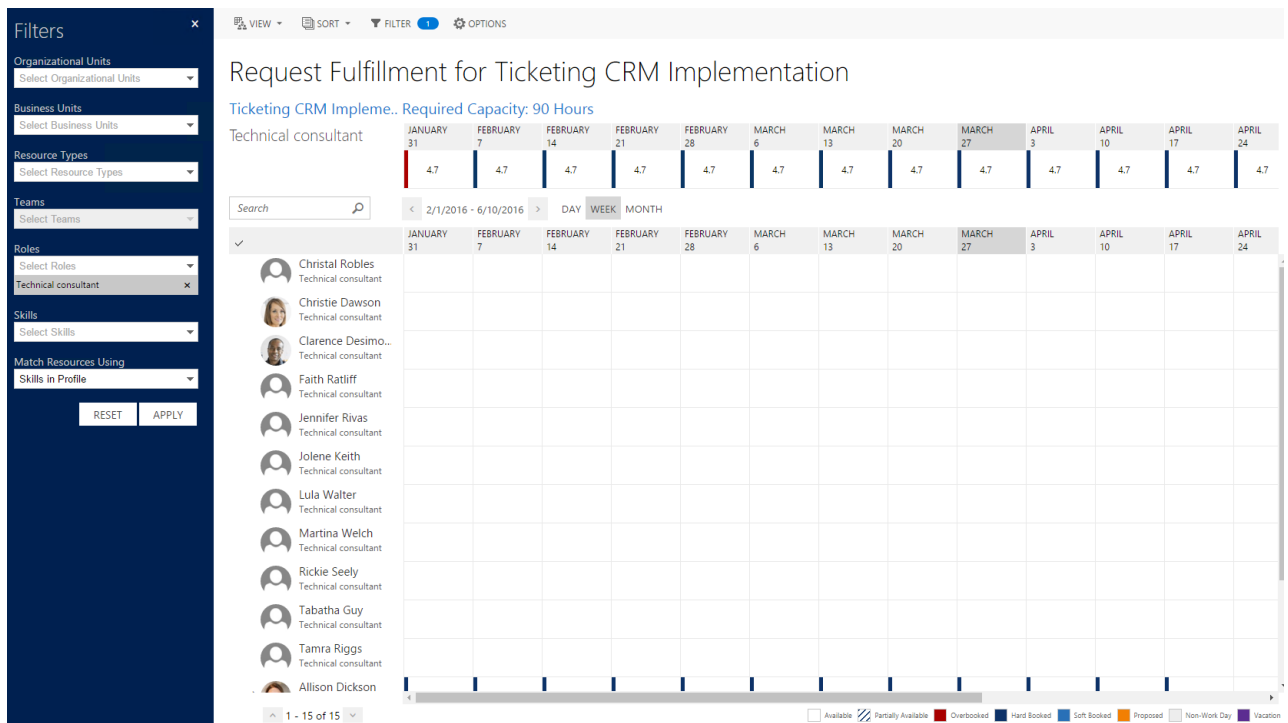
1. To fulfill a request, go to **Project Service > Resources > Resource Requests**.



You will see the list of resource requests sorted by request creation date.

FIND RESOURCES EDIT ACTIVATE DEACTIVATE DELETE ASSIGN SHARE EMAIL A LINK ADD TO QUEUE									
Active Resource Requests									
✓	Type (Resource R...	Status	Role (Resource R...	Project (Resource...	From Date (Reso...	To Date (Resourc...	Hours (Resource ...	Requested By	Created On ↑
	Extend	Submitted	Functional consu...	CRM Implement...	5/15/2016	6/4/2016	120.00	First name Last n...	3/29/2016 3:26 PM
✓	New	Submitted	Technical consu...	Ticketing CRM Im...	2/1/2016	6/10/2016	90.00	Prakash Kovvuru	3/28/2016 4:40 PM
	New	Submitted	Functional consu...	Ticketing CRM Im...	2/1/2016	6/10/2016	90.00	Prakash Kovvuru	3/28/2016 4:40 PM
	New	Submitted	Developer	Ticketing CRM Im...	2/1/2016	6/10/2016	90.00	Prakash Kovvuru	3/28/2016 4:39 PM
	New	Submitted	Developer	Ticketing CRM Im...	2/1/2016	6/10/2016	90.00	Prakash Kovvuru	3/28/2016 4:39 PM
	New	Submitted	Developer	RM Tool	4/1/2016	6/6/2016	70.00	Prakash Kovvuru	3/28/2016 4:38 PM
	New	Submitted	Developer	RM Tool	4/1/2016	6/6/2016	70.00	Prakash Kovvuru	3/28/2016 4:38 PM
	New	Submitted	Developer	RM Tool	4/1/2016	6/6/2016	70.00	Prakash Kovvuru	3/28/2016 4:38 PM
	New	Submitted	Architect	RM Tool	4/1/2016	6/6/2016	70.00	Prakash Kovvuru	3/28/2016 4:38 PM
	New	Submitted	Functional consu...	Fabrikam Phase 2	9/1/2015	4/5/2016	640.00	First name Last n...	3/28/2016 4:35 PM
	New	Submitted	Principal consult...	Fabrikam Phase 2	9/1/2015	4/5/2016	640.00	First name Last n...	3/28/2016 4:35 PM
	New	Submitted	Architect	Fabrikam Phase 2	9/1/2015	4/5/2016	640.00	First name Last n...	3/28/2016 4:35 PM
	New	Submitted	Project Manager	Chic CRM Consu...	3/1/2016	4/29/2016	120.00	Prakash Kovvuru	3/28/2016 4:33 PM
	New	Submitted	Developer	Chic CRM Consu...	3/1/2016	4/29/2016	120.00	Prakash Kovvuru	3/28/2016 4:33 PM
	New	Submitted	Functional consu...	Chic CRM Consu...	3/1/2016	4/29/2016	120.00	Prakash Kovvuru	3/28/2016 4:33 PM
	New	Submitted	Functional consu...	Chic CRM Consu...	3/1/2016	4/29/2016	120.00	Prakash Kovvuru	3/28/2016 4:33 PM
	New	Submitted	Functional consu...	Alpine CRM Proj...	2/1/2016	3/23/2016	120.00	Prakash Kovvuru	3/28/2016 4:33 PM
	New	Submitted	Developer	Alpine CRM Proj...	2/1/2016	3/23/2016	120.00	Prakash Kovvuru	3/28/2016 4:32 PM
	New	Submitted	Developer	Alpine CRM Proj...	2/1/2016	3/23/2016	120.00	Prakash Kovvuru	3/28/2016 4:32 PM

2. Select a resource request, and then click **Find Resources**.



Because a resource manager is a power user, the following capabilities are available only to a resource manager:

- **Propose a resource**
Propose one resource to satisfy the required number of hours. This will provide an option for the requestor to either accept or reject the proposed resource.
- **Propose more than one resource to satisfy the demand**
Proposed hours are split between multiple resources that together can satisfy the required hours. The hours cannot overlap in this scenario. This happens when no single, available resource can fulfill the required hours.
- **Propose fewer resources than are needed**
Proposed resource capacity is less than the required hours that the requestor specified. In this scenario, when the requestor accepts the proposed resources, a resource requirement will be created to capture the remaining demand.
- **Book multiple resources to satisfy the demand**
Because one resource is not available to get the work done, more than one resource can be booked.
- **Book fewer resources than are needed**
Booked hours are fewer than required hours. The system will guide the user to propose resources instead of booking so that the requestor can verify and keep track of remaining demand.

Inquire about historical utilization

Resources have a target utilization that's defined as an attribute on their default role or that's set in an individual resource record. Calculation of utilization is based on actual hours that resources have reported. The following formulas calculate utilization:

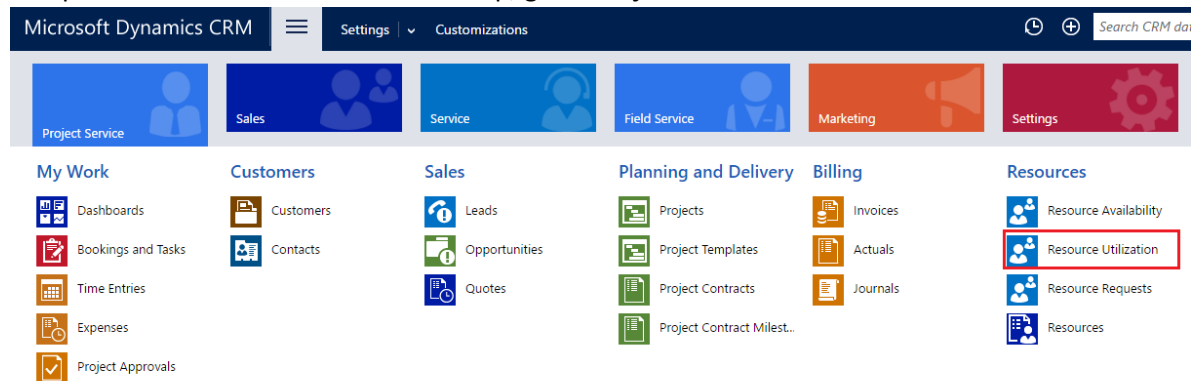
$$\text{billable utilization} = \text{chargeable actual hours} / \text{resource capacity}$$

non-billable utilization = actual time with billing type id as non-chargeable, complementary or not available/ resource capacity

internal = actual time with no sales contract / resource capacity

resource capacity = resource work hours – out of office - non working days

To open the resource utilization heat map, go to **Project Service > Resource > Resource Utilization.**



Here's the utilization heat map:

Resource Utilization



Each cell represents the billable utilization of the resource in a time period and uses the following formulas to color the cells:

Green: billable utilization \geq resource target utilization

Yellow: target utilization – 20 \leq billable utilization < target utilization

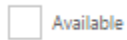
Red: billable utilization < target utilization – 20

Point to a resource to show a resource card that shows the utilization of resources, which includes the start date and end date next to the search box.

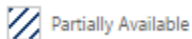
Inquire about availability of resources

Enabling resource managers to view the availability of resources and make changes to bookings is a crucial task. In some instances, there is no formal demand (resource request), and a resource manager needs to respond to an impromptu demand that comes through an email, phone call, or other method. Resource managers use the availability view to update resources and bookings.

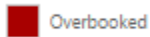
Resource work hours are the basis for the calculation of the availability of resources. Color coding that's used on the user interface (UI) to mark availability status of resources are:



Resource is fully available according to his or her working hours.



Resource is partially available. This can happen when part of a resource capacity is hard-booked on other projects or when a resource is on vacation for part of a time period.



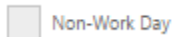
Resource hard-booked hours exceed resource capacity for the displayed time period.



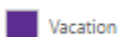
Resource has soft-booked hours in the displayed time period.



Resource has the proposed capacity on projects. Proposed hours are visible only to resource managers and project managers who submitted the resource request.



Resource has non-working days according to resource work hours.



The entire capacity of a resource is marked as out of office.

Book resources on projects (hard and soft booking)

- Select resources, and then select **Book**.

In this scenario, selected resources will be booked for the time period on the date selector on a project.

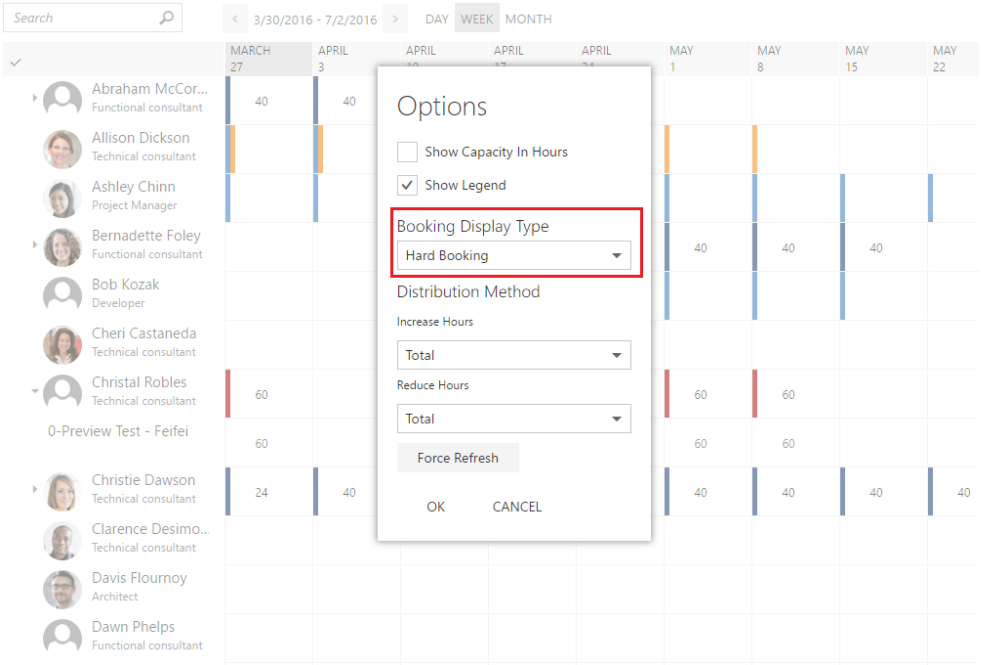
The screenshot displays the Microsoft Dynamics CRM Resource Availability page. On the left, there are filters for Organizational Units, Business Units, Resource Types, Teams, Roles, Skills, and Match Resources Using. The main area shows a calendar grid for resource availability from April 21 to July 10, 2016. A 'Book' dialog box is open, showing options for Project, Booking Type (Hard Book), and Booking Method (Full Capacity). The 'Book' button in the top left of the interface is highlighted with a red box.

Booking Type provides **Hard Book** or **Soft Book** options. Hard bookings are marked as solid blue in the resource calendar. When you exceed the resource capacity in a time period, the resource will be overbooked. To select non-adjacent cells from multiple resources, press the Ctrl key while you select the time periods that you want to book on projects.

Make changes to resource bookings (increase, reduce, and release)

The number of booked hours that is displayed on the availability UI is hard booked by default. To show other types of bookings, go to **Options**, and select **Booking Display Type**.

Resource Availability



To edit booked hours of resources on projects, click the “▶” indicator next to the resource name, and then double-click the cell that you want to edit. You can autofill or manually enter hours.

▶ Bernadette Foley Functional consultant	20	20	20	20	40	40	40	40
Adventure HR Staffing Sy...	20	20	20	20	20	20	20	20
ABC Sales Management					20	20	20	20

To control how the increase or decrease of hours will be distributed, go to **Options**, and then select the desired

option for **Increase Hours** and **Reduce Hours**.

Options

☐ Show Capacity In Hours

☒ Show Legend

Booking Display Type

Hard Booking

Distribution Method

Increase Hours

Total

Reduce Hours

Total

Force Refresh

OK CANCEL

Increase hours:

- Total
Cancel existing booking and assignments and redistribute hours equally between start date and end date.
- Proportional
Add hours proportionally to the original booked hours pattern.
- Front load
Add hours by using available spots in resource capacity.
- Equal
Add hours equally between start date and end date.

Reduce hours:

- Proportional
Release the delta proportionally to the original booked hours pattern.

- Total

Cancel the original booked hours, and rebook the new hours that the user entered.

Filter resources by using rich filters (skills, team, organizational unit, and so on)

When you schedule availability without demand (resource request or a generic resource):

- Organizational unit

Current resource organizational unit

- Business unit

Current user business unit

- Resource types

Users and contacts

- Team

Access teams that the current user is an administrator of. When the business unit is set, teams that are in same business unit will be filtered.

Match resources by using:

- Skills in profile

Skill-matching uses the skills and skills proficiency that are set in a resource profile. When this option is selected, required skills and the skills proficiency that is set on the skills filter will be matched against resource skills and skills proficiency.

The screenshot shows the 'Resource Availability' interface. On the left, there are several filter sections: 'Organizational Units', 'Business Units', 'Resource Types', 'Teams', 'Roles', and 'Skills'. The 'Skills' filter is highlighted with a red box, showing a dropdown for 'Select Skills' with two items: '.net' (Good) and 'Accounting and Fina...' (Good). Below this is a 'Match Resources Using' section with a dropdown set to 'Skills in Profile' and 'RESET' and 'APPLY' buttons. On the right, a list of resources is shown, including Christal Robles, Christie Dawson, Davis Flournoy, Dawn Phelps, Florine Wilkerson, Francine Duran, Lula Walter, and Reba Potts. Dawn Phelps is highlighted with a red box, showing her profile details: 'Dawn Phelps', 'Functional consultant', 'GMT-08:00', and a list of skills with proficiency bars: CRM, .net, Accounting and Finance, Project Management, and Agile Methodology. Below the skills is a 'Utilization' section showing a target of 75% and a 'Cost' section showing a cost rate of \$50.00 and a bill rate of \$150.00. A red arrow points from the 'Skills' filter to the 'Matching' label at the bottom of the resource list.

The ranking algorithm lists the resources that are at or above the skills requirement (required skills and skills proficiency) on the top of the list.

- Skills demonstrated

In many companies, skills might not be tracked for resources. Almost all service industry organizations track time that resources use in a time entry or directly in the journal. The roles that are used to record time against will be the proxy so that users get credit for all the skills that are associated with a role.

Resources will get credit for skills when:

In time entry, reporting time against a project on a specific role and time is approved

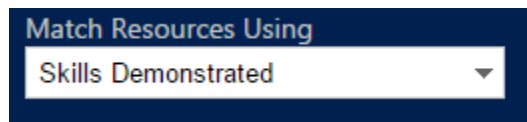
Or

Directly going to Journal and reporting Time (transaction class = Time)

Set the project status to Complete



- In the Availability view, set the **Match Resource Using** filter to **Skills Demonstrated**.



Signing up for work by using the Project Finder phone app

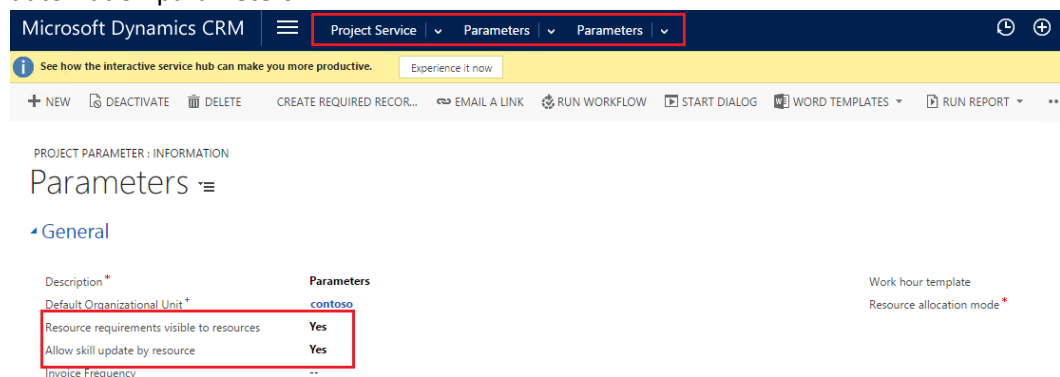
This app enables resources to:

- Have visibility into selected project work and sign up for it.
- View and update their skills and skills proficiency on the phone.

The app is available on the following three platforms:

- iPhone
- Android
- Windows phone

To enable app features, an administrator will need to set the following two attributes to **Yes** on project service automation parameters:



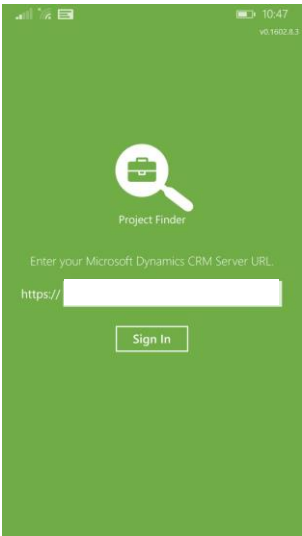
This is a global setting. Each project manager can also control whether project work will be visible to resources on a project-by-project basis on the project team grid.

Project Team Members Associated View ▾

NEW HARD BOOK MAINTAIN BOOKINGS SUBMIT REQUEST CONFIRM ENABLE RESOURCE SIGNUP EXCEL TEMPLATES EXPORT PROJECT TEAM M.L.

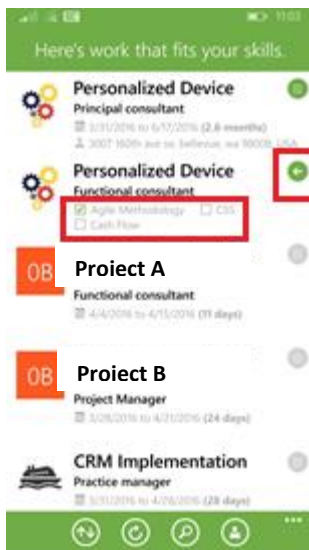
Bookable Resource ↑	Resource Type...	Role ↑	Position Name	From	To	Required Hours	Booked Hours	Assigned Hours	Resource Requirement	Status (Resource)	Applicants available
First name Last name	User	Project Manager									No
Generic Resource	Generic	Functional cons...	Functional cons...	4/1/2016	7/1/2016		528.00		Requirement		No

After you install the Project Finder app, you must enter the URL of the CRM Online server that your organization is using. This app does not work for on-premises CRM installations.
Enter the URL of the server that your organization is using:



The app models each project work item as a generic resource with required hours on the project team. For each work item, the app will rank skills and skill proficiencies against the skills and skills proficiencies of the resource. Project work items that a resource meets or exceeds will be at the top of the list.

If you click the arrow next to a work item, you'll see the project work requirements. A check mark indicates that the resource satisfies the requirements:



You can also sort the projects by using the following filters:

- Skills

Default filter, the project work for which the skills of the resource exceed or meet the requirements will be on the top of the list.

- Connections

Using Delve, indicates the project in which you have the most connections will be on the top of the list.

- Earliest start date

Project work that starts sooner will be on the top of the list.

- Duration

The project that has the shortest duration will be on the top of the list.

A resource can open a project work item to see details about the item and apply for it.

To view their profiles, resources click the profile icon, where they can add or modify their skills and skill proficiencies.



When submitted, skills that have **Yes** in the **Require Approval** field will be sent to a line manager of the resource to be approved. Skills that have **No** in the **Require Approval** field will be automatically approved.

Microsoft Dynamics CRM | Project Service | Resource Skills | .net

See how the interactive service hub can make you more productive. Experience it now

+ NEW | DEACTIVATE | DELETE | ASSIGN | SHARE | EMAIL A LINK | RUN WORKFLOW | START DIALOG | WORD

CHARACTERISTIC : INFORMATION

.net

General

Name * .net

Owner * First name Last name

Description .net

Characteristic Type * Skill

Require Approval * No

To approve or reject skills, a line manager (approver) goes to the **Project Approvals** page to click the **Skill Approval** button.

My Work Customers

Dashboards Customers

Bookings and Tasks Contacts

Time Entries

Expenses

Project Approvals

SKILL APPROVAL | EXPORT TO EXCEL | CHART PANE

Email notifications

Email notifications will be sent to following personas in specific scenarios:

Persona	Scenario
Project manager	When a resource signs up for work by using the Project Finder app.
Consultant	When the project work that a resource has signed up for is already fulfilled by another resource.
	When a resource skill approval request is approved or rejected.
	When a resource sign-up request is accepted.

Here is the list of share concepts, although the physical entity name could be different:

- Booking (reservation table)
- Booking status
- Resource category (role)
- Resource
- Rating model
- Rating value
- Characteristics (skills, certification)
- Work hour

Frequently asked questions

What is the difference between a team member and a resource requirement?

A resource requirement can exist without a project team member. A resource requirement functions as a draft note of what you need. Project team members can be assigned to tasks, can be overbooked, and can be set as approvers.

What is the difference between proposed hours and soft-booked hours?

They differ in two ways: visibility and weight. Proposals are visible just to resource managers and the project manager who has initiated the demand. Soft-booked hours are visible to everybody. When you're doing capacity planning, which is not supported out of the box, soft-booked hours have higher weight than proposed hours.

How can I see the resource soft-booked hours on the team?

Only resource managers can make soft bookings. You need to add the soft-booked hours on the project team grid manually.

I have booked a resource (generic or named resource). How can I change the required hours, start date, and end date?

After the resources are booked, changes to bookings are done by using **Maintain Booking**.

What types of resources are supported out of the box?

User and contact are the two supported types of resources. You can create other types of resources, such as equipment, group. etc., but there is no supported end-to-end story in project service automation for them.

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