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Round Robin

GTR RAMCO

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# Introduction

The Round Robin solution is used to automatically assign records to any Member of a Team. The round-robin allows for easier work assignments for managers.

## What’s Expected when Reading This Document

This document is expecting users to familiarize themselves with Dynamics 365 Workflows, Entities, and dashboard customization.

# Solution File

You can find the components and solution file under this GitHub repo. [michaelgappa22/RoundRobin (github.com)](https://github.com/michaelgappa22/RoundRobin) All components are written in C#, Javascript, and HTML.

# Entities

This solution has one new custom entity. The **User Login** entity is used to track user logins that are created by an API call from the Dashboard Login web resource. Once the user is logged in, the plugin will call the list of logged-in and assign users to records as needed. User and Team are required in order for it to be created. There is no specific convention needed for Name and can be named anything.

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# Forms

## Team

A new Round Robin form will be used to allow users to change the hours of operations for the Round Robin and list users that have logged in for the day. New fields have also created the track of the count of users logged in and total team members to ensure team members are available before the Round Robin assignment.

### Open and Close Date Time

This is used to track the hours of operation to create the User Login records within the time frame. Users may change it at any time. Once the workflow reaches Close Date Time, the plugin will update the field for the next day. Users may adjust the hours of operation at any time, as the workflows running will adjust the postpone until field as needed.

### Round Robin Threshold

If there are not enough users before the Round Robin threshold time, the Round Robin will initiate the Custom Workflow to start assigning records with current users logged in after the Round Robin Threshold.

\*Note if records need to be assigned, and users have not yet logged in, a user may create a User Login record with the inactive User to allow for the Round Robin to assign records to the inactive User.

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### Last User Assigned

Last User Assigned is used by the RoundRobin plugin to ensure the assignment of the next user is available.



### Count of Login Users and Total Team Members

The Count of Login Users is used to track the number of users. The purpose of this is to ensure that the number of users is equal to the total number of team members. The Round Robin will check for this for initiating the recorded assignment, unless the Threshold is met, the workflows will wait until the number of logged-in users is equal to the Total Team Members.

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Logged In Users Sub-grid

This sub-grid can be used to manage the logged in Users. A user may create records to ensure that users are available when round robin is initiated. A user may deactivate logged-in users if a user leaves for the day or needs to be added early.

**\*Note If a Team’s Default Queue is private, if a manager wants to add users outside of the team, you will need to ensure that the Default Queue is public. Otherwise, the workflows will fail due to RAMCO’s policy for queues that are public versus private.**

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# Web Resources

## Dashboard Login

There’s one web resource that is used for the project. The web resource, called Dashboard Login, is used to check the User’s list of teams they are a member of and if their records are within the hours of operations for the team’s Round Robin. If the user lands on the Dashboard, and it’s between the hours of operations, it will create a User Login record.

The user **must** be a member of the team for the solution to work. If the member is not part of the team, the JavaScript that tracks their login will not work properly. The JavaScript web resource should be somewhere that a user lands on when they login to the portal. Due to the version limitations, we had to write a JavaScript file that would send an API request to confirm hours of operations for the team they are in before creating a login record.

**\*Note Although this is mainly for Dashboards, the web resource can be set in any type of entity form, as long as web resources can be added.**

There’s two places I’ve added the the resource, the Member Service Dashboard and the RAMCO Contact form. That way, it guarantees the login of the user once the form or dashboard has been loaded on the user’s screen.

# Custom Workflow Activity

## AddTeamMemberFromCount

This custom action is used to add 1 to the Count of Login Users field. RAMCO does not allow for updating Team record out-of-box, so a custom workflow was created to allow for updates. This is mainly used for User Login records. You may create a workflow that checks if the record is active to add 1 to the Team record.

The custom workflow requires you to add the team you are managing.

## RemoveTeamMemberFromCount

Same as the AddTeamMemberFromCount action, it only subtracts 1 for the Count of Login Users field. You may create a workflow that checks if the User Login record is Inactive. EOD Inactivation also needs to be checked, since the workflow to deactivate all users at EOD will be used and this field will prevent inaccurate counts for logged-in Users.

## SetCountOfTeamMembers

Custom workflow used to get total number of Members in team and set the number to Total Team Members field. RAMCO does not allow for rollup fields on Team members and a custom workflow was developed to allow to track the count.

## AddOneDayToHoursofOperation

Custom workflow used to add one day. It’s mainly used for workflows that wait until the EOD of Round Robin so it may update Hours of Operations for the next workflow to wait until the next day.

## SetCountOfTeammembersToZero

Custom workflow used for EOD Round Robin to ensure Count of Login Users are set to 0 once Round Robin ends. This is used with AddOneDayToHoursOfOperations and SetCountOfTeamMembers to ensure flow of Round Robin assignments.

## GetTeamHoursOfOperations

This plugin will be used when creating records and adding to the Queue. It will confirm if the record needs to be assigned using the Round Robin or left in the queue with no assignment. If hours of operations are on or after the threshold or before closing, you then can use the RoundRobinAssignment activity to assign the next user.

## RoundRobin.RoundRobinAssignment

The final piece of the Round Robin solution. This takes in the Team you are using to assign the records and a custom/system view you will use for the Round Robin. The views \*must be a Queue Item, as records are assigned using the Queue system built into Dynamics 365.

The workflow will get the list of logged-in users in the team and get a list of queued Items and the last User assigned in Round Robin. It will search for the user who was last assigned in logged-in users and assign the next person and set the Last User Assigned to that user. If a list of queue Items is greater than 1, it will continue assigning the records until the last item is assigned, then set the Last User Assigned field to that user.

# Round Robin Setup

You can use the following images to set up your Round Robin. However, this can be done using any team and dashboard of records as long as they are added to the Default Queue that your team is using.

## Dashboard Setup

Once imported, all you need to do is find the web resource and add it to the dashboard (or form) and that’s it. When the page loads, it will run the JavaScript needed to add the user to the teams they are in for the Round Robin assignment. As mentioned, Dashboard is recommended if it’s set on their account to land on the dashboard that they will use to manage their Queued Items to ensure Round Robin workflow.

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## Member Services - Add/Remove Team Login Count

This will check the User Login record and Add/Remove Count of Logged In Users Field.

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## Member Services - Hours of Operations

This template can be used to setup the Hours Of Operations needed to setup the Round Robin. The Team entity will be used to run this workflow.

If you’re familiar with Kaskela’s Workflow Elements, you use this to run a workflow on all Active Logged In users to deactivate them for the day. The Fetch XML used is below.

<fetch version="1.0" output-format="xml-platform" mapping="logical" distinct="false"> <entity name="ramcosub\_userlogin"> <attribute name="ramcosub\_userloginid" /> <attribute name="ramcosub\_name" /> <attribute name="createdon" /> <order attribute="ramcosub\_name" descending="false" /> <filter type="and"> <condition attribute="statecode" operator="eq" value="0" /> </filter> <link-entity name="team" from="teamid" to="ramcosub\_team" alias="aa"> <filter type="and"> <condition attribute="teamid" operator="not-null" /> </filter> </link-entity> </entity> </fetch>

The required Fields are explained above for the plugins.

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## Child Workflow - Inactivate User EOD

Template used for deactivating users at EOD.

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## Child Workflow - Member Services Round Robin

Child workflow used with Member Services – Hours of Operation for assigning records for Round Robin after Round Robin Threshold Time.

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## Creating your Own Trigger for assigning Round Robin.

The templates above should get you setup for assigning Round Robins before and after Hours of Operations. If a record comes in during the Hours of Operation, you’ll need to setup a workflow that triggers the round robin. You can use the plugin step when creating the workflow, but you’ll need to make sure the item is added to a queue that your team can see. Also ensure before running the round robin, make sure you use the GetHoursOfTeamOperations to check the Open and Closed times before adding item to the Queue and running the Round Robin.

# Components

You can find all of the components used in this solution below.

[Process: Child Workflow - Inactivate User EOD - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b5116EC30-CA67-43A5-AA9A-B72B45EA3CA1%7d)[Process: Child Workflow - Member Services Round Robin - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b6E21337D-E174-4A0D-9715-E7BEAFB3454E%7d)

[Process: Create - Case from Web Content (Round Robin) - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7bEB90271D-F320-EE11-9DB1-00155D102114%7d)

[Process: Create Office Transfer Case and Add to Queue - Round Robin - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b1A5CDFC8-9121-EE11-9DB1-00155D102114%7d)

[Process: Member Services - Add/Remove Team Login Count - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b0C3967E3-3EBB-4496-A702-E74874AEA06E%7d)

[Process: Member Services - Hours of Operations - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7bF9B099E3-6A74-43FB-83DC-89D499698406%7d)

[Process: Round Robin - Check Hours of Operation - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b7D367314-49EA-40A0-B3E0-FBA27BBE45AA%7d)

[Process: Create Office Transfer Case and Add to Queue - Round Robin - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/sfa/workflow/edit.aspx?id=%7b1A5CDFC8-9121-EE11-9DB1-00155D102114%7d)

[Dashboard : Member Service Coordinator (ramcoams.org)](https://greatertampacrm.ramcoams.org/main.aspx?pagetype=dashboardeditor&appSolutionId=%7bFD140AAF-4DF4-11DD-BD17-0019B9312238%7d&extraqs=%26formId%3d%7b99F84761-43F5-EB11-9C5B-00155D234424%7d%26dashboardType%3d1030#53129287)

[Form: Contact (ramcoams.org)](https://greatertampacrm.ramcoams.org/main.aspx?pagetype=formeditor&appSolutionId=%7bFD140AAF-4DF4-11DD-BD17-0019B9312238%7d&etc=2&extraqs=formtype%3dmain%26formId%3dAEEA86F8-CA1C-48A1-B7AE-2BF1B6632457%26action%3d-1#427858616)

[Web Resource: Dashboard Login - Microsoft Dynamics 365 (ramcoams.org)](https://greatertampacrm.ramcoams.org/main.aspx?etc=9333&pagetype=webresourceedit&appSolutionId=%7bFD140AAF-4DF4-11DD-BD17-0019B9312238%7d&id=%7b3D887CC1-F619-EE11-9DFF-00155D234437%7d#144875091)