DevOps Fundamentals

Lab 01: Plan - Agile at scale

Lab Manual

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Contents

LAB 1: AGILE AT SCALE USING AZURE DEVOPS SERVICES 6

EXERCISE 1: CREATE A TEAM PROJECT 7
EXERCISE 2: SET UP YOUR TEAMS' STRUCTURE 11
EXERCISE 3: PLAN WORK STREAMS COLLABORATION FLOW 24
EXERCISE 4: PORTFOLIO PLANNING 28
EXERCISE 5: PROGRAM PLANNING 32
EXERCISE 6: FEATURE TEAM PLANNING 41
EXERCISE 7: DELIVERY PLANNING 43

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Lab 1: Agile at scale using AZURE DEVOPS SERVICES

Introduction

In this lab, you will learn how to implement Agile at scale to promote “Aligned Autonomy”.

Objectives

After completing this lab, you will be able to:

- Understand the value of Agile at scale.
- Learn how to setup Azure DevOps Services Agile planning at scale.
- Realize the value of Agile planning in a DevOps organization.

Prerequisites

None

Estimated Time to Complete This Lab

120 minutes

For More Information

Agile at scale using Azure DevOps Services: https://docs.microsoft.com/en-us/azure/devops/boards/plans/scaled-agile-framework

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Exercise 1: Create a Team Project

Introduction

In this exercise, you will learn how to setup AZURE DEVOPS SERVICES team projects to host all your teams' collaboration and intellectual property. The steps in this exercise are usually done once during the setup of a project and are only revisited to update the teams' structures or the cadence. This may not be what you do daily, but it is important to understand what's possible for you and your team.

Objectives

After completing this lab, you will be able to:

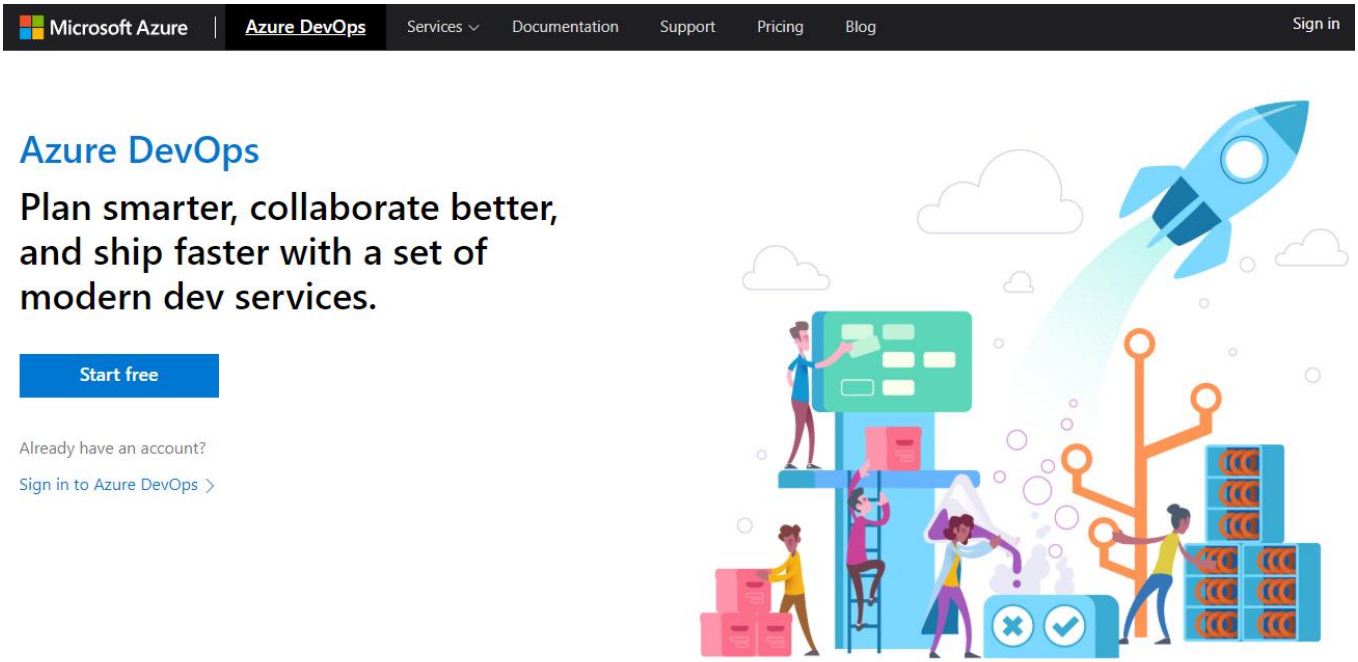
- Create team projects and set them up for collaboration.

Prerequisites

None

Tasks

1. Go to http://dev.azure.com



2. Click on "Start free" to create a new "Azure DevOps Services" account.
3. Enter your "Microsoft Account" email. (If you don't already have a Microsoft account, you can create one but clicking on the "No Account, Create One" link)

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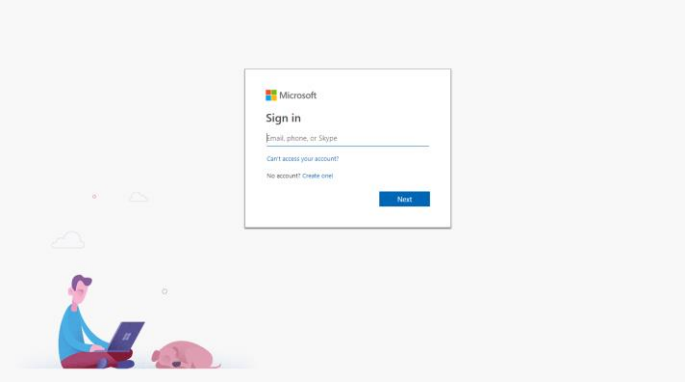
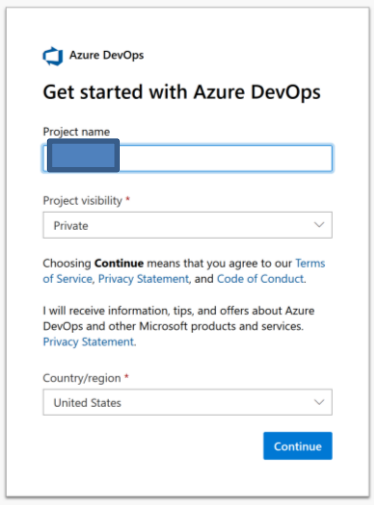
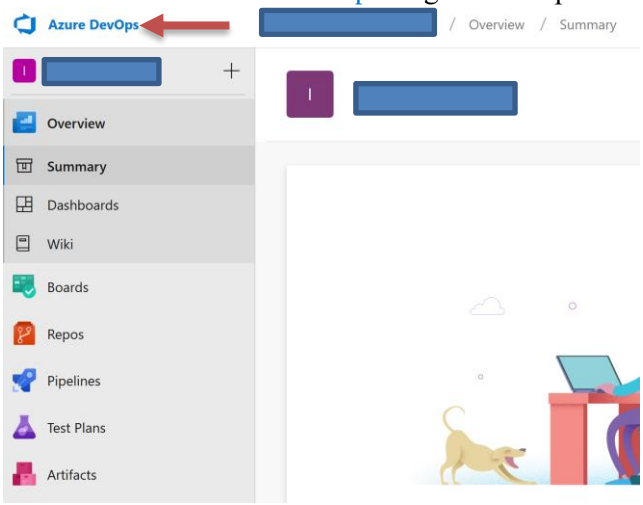


4. If this is the first time you use Azure DevOps Services, you will receive the following screen. Enter any project name you would like and click on "Continue". If you have previously used "Azure DevOps Services" using the same Microsoft account, you can skip to step 6:



The default project that was created for you uses the "Basic" process template. In the next steps, we will create a new project using the "Agile" process template instead.

5. Click on the "Azure DevOps" logo at the top of the screen:



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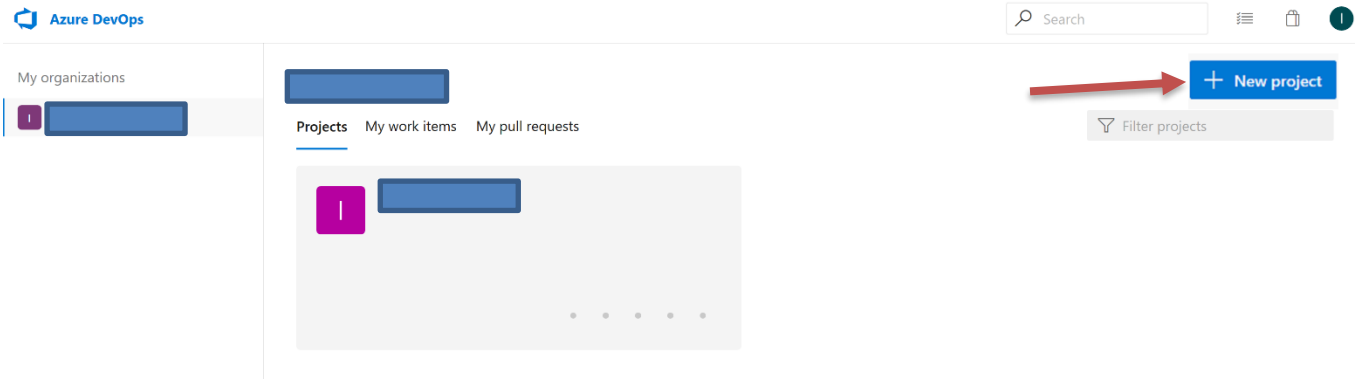
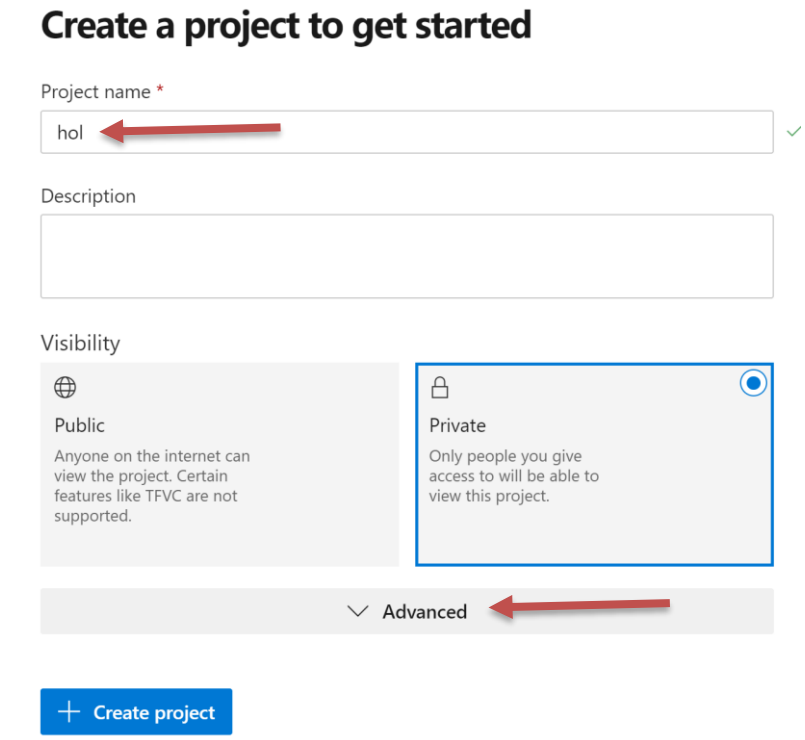
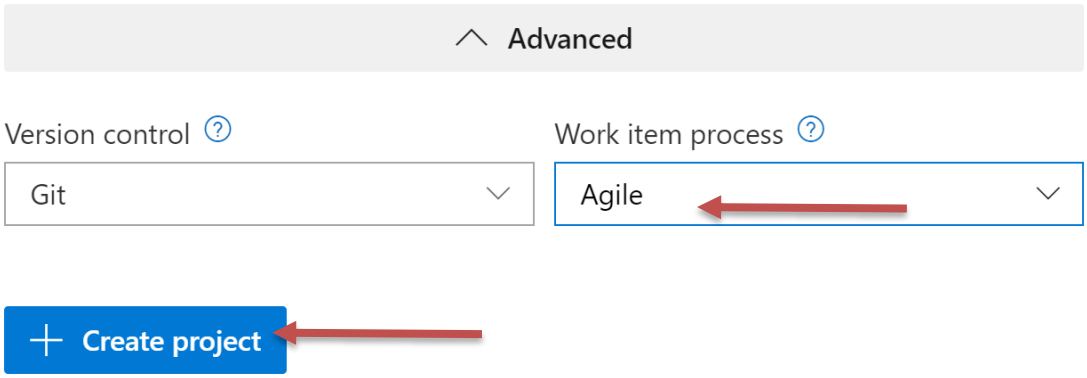
6. Click on "+ New project":



7. Enter "hol" the project name and then click the "Advanced" panel so that you can select the process template:



8. Choose "Agile" as the process template, then click "Create Project"



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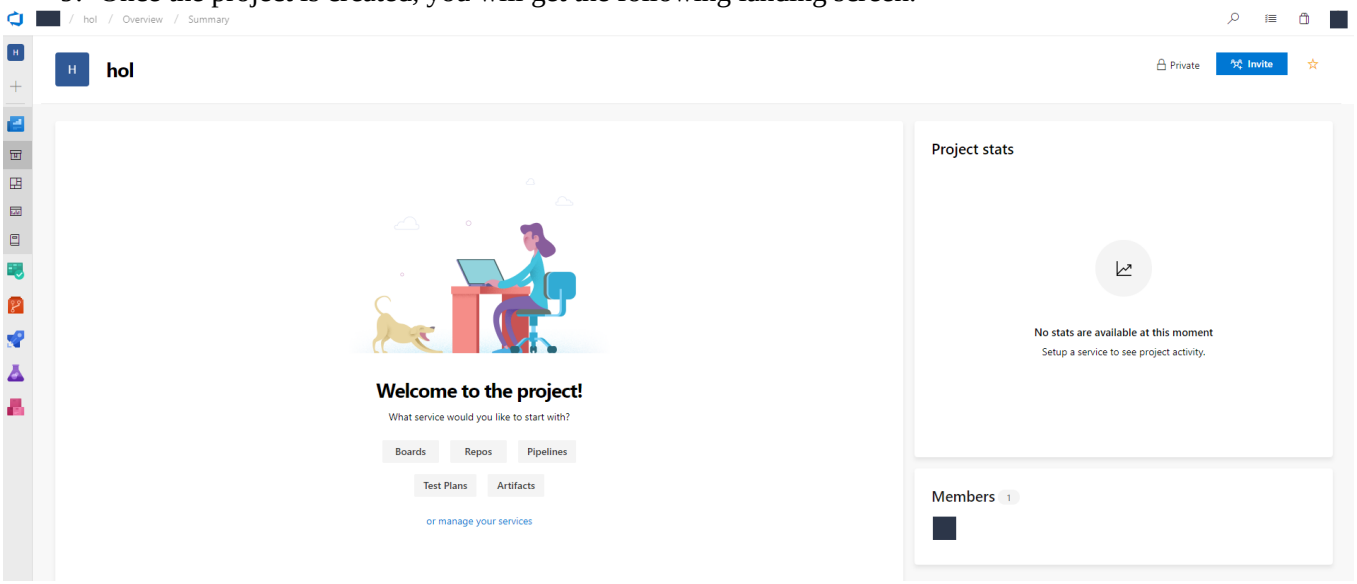
9. Once the project is created, you will get the following landing screen:



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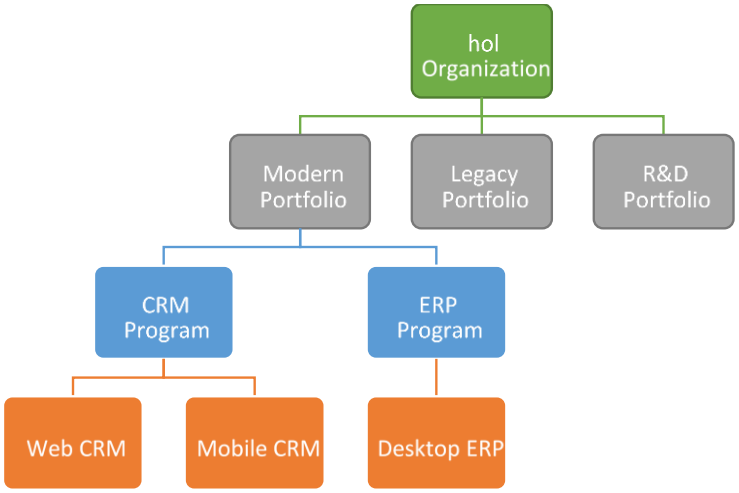
Exercise 2: Set up your teams' structure

Introduction

In this exercise, you will learn how to setup areas, cadences and teams to **support scaling Agile within your organization**. Areas and teams, allows you to distribute work across multiple workstreams. Iterations allow you to set up multiple cadence levels to be used by different teams or group of teams.

The following structure represents the organization structure we will implement during this exercise:



In the example we will implement:

- The portfolio teams plan using a **half yearly** cadence and **Epics** Boards.
- The program teams plan using **3 Sprints** increments and **Features** Boards.
- The feature teams plan using **3 weeks** sprints and **Story** Boards

Objectives

After completing this lab, you will be able to:

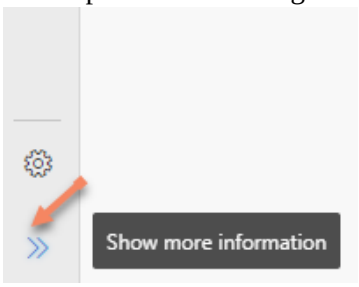
- Setup the foundation of Agile at scale in DevOps Azure Services.

Prerequisites

None

Tasks

1. Expand the left navigation menu:



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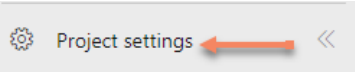
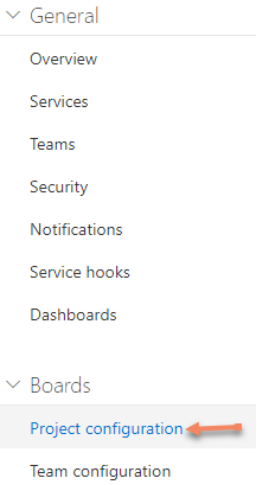
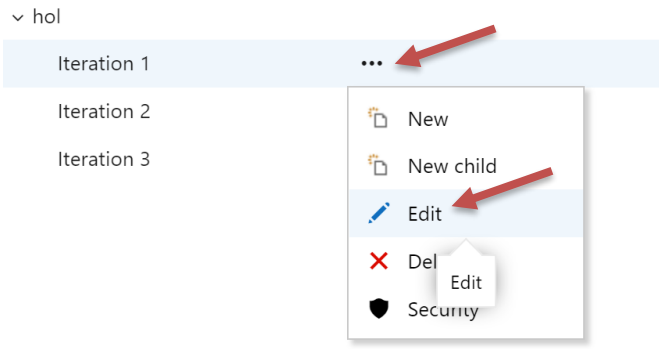
2. Click on the "Project Settings" button:



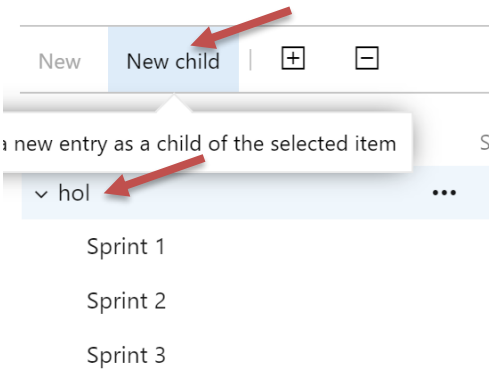
3. Click on "Project configuration":



4. Rename the initial iterations as follows:
   Iteration 1 → Sprint 1
   Iteration 2 → Sprint 2
   Iteration 3 → Sprint 3



5. Add 3 more sprints: Sprint 4, Sprint 5 and Sprint 6, by selecting the "hol" node and clicking "New child":



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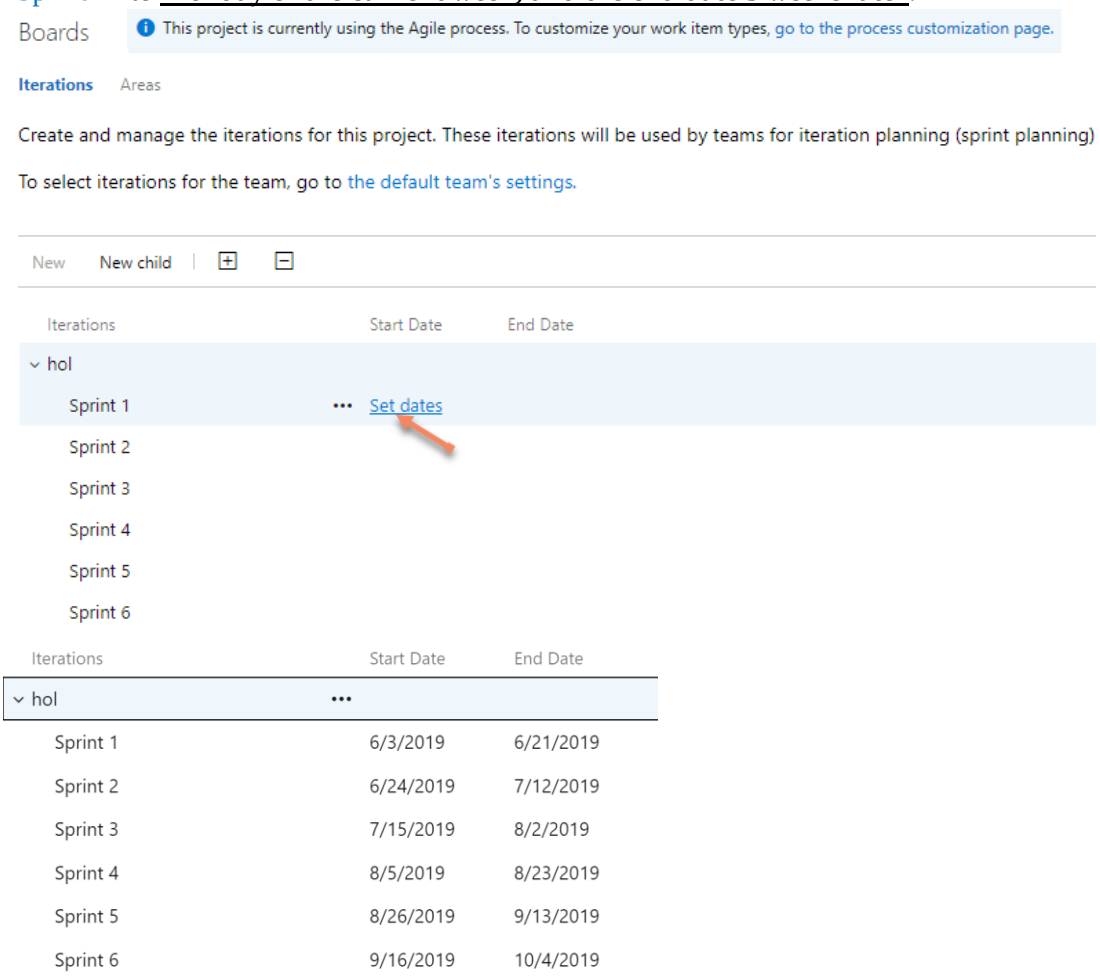
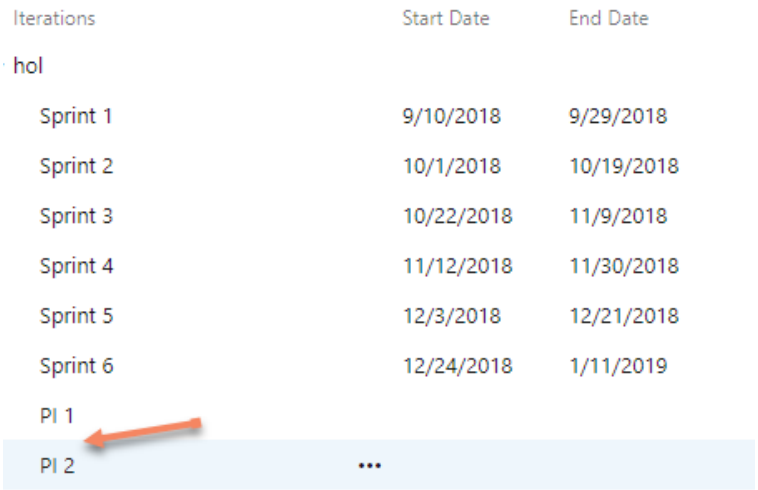
6. Set the dates for the first 6 sprints. **Each sprint will be 3 weeks long**. Set the start date of "Sprint 1" to **Monday of the current week, and the end date 3 weeks later**:



7. Create two more iterations without setting their dates, "PI 1" and "PI 2".
These are just sample names. In a real project you can use any naming convention you prefer. "PI" Refers to "Program Increment". The goal is to show hierarchical cadences:



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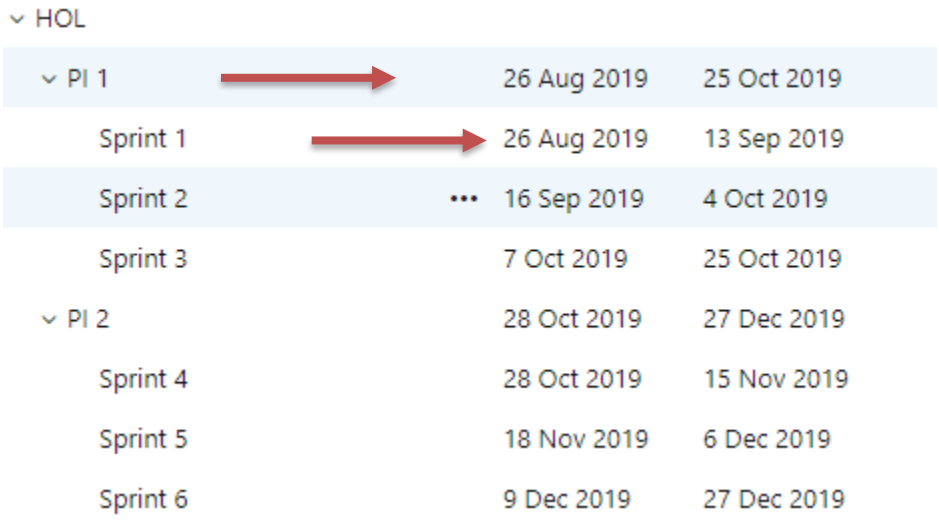
8. Move Sprint 1, Sprint 2 and Sprint 3 into PI 1. Move Sprint 4, Sprint 5 and Sprint 6 into PI 2. Then set the PI 1 and PI 2 dates from the included sprints:

9. Add two more iterations without settings their dates:
FY 19 – H2 and FY 20 – H1 (feel free to adjust the names and dates to match the current year).
10. Move the PIs (Program Increments) into the half year cadences and then set the dates:



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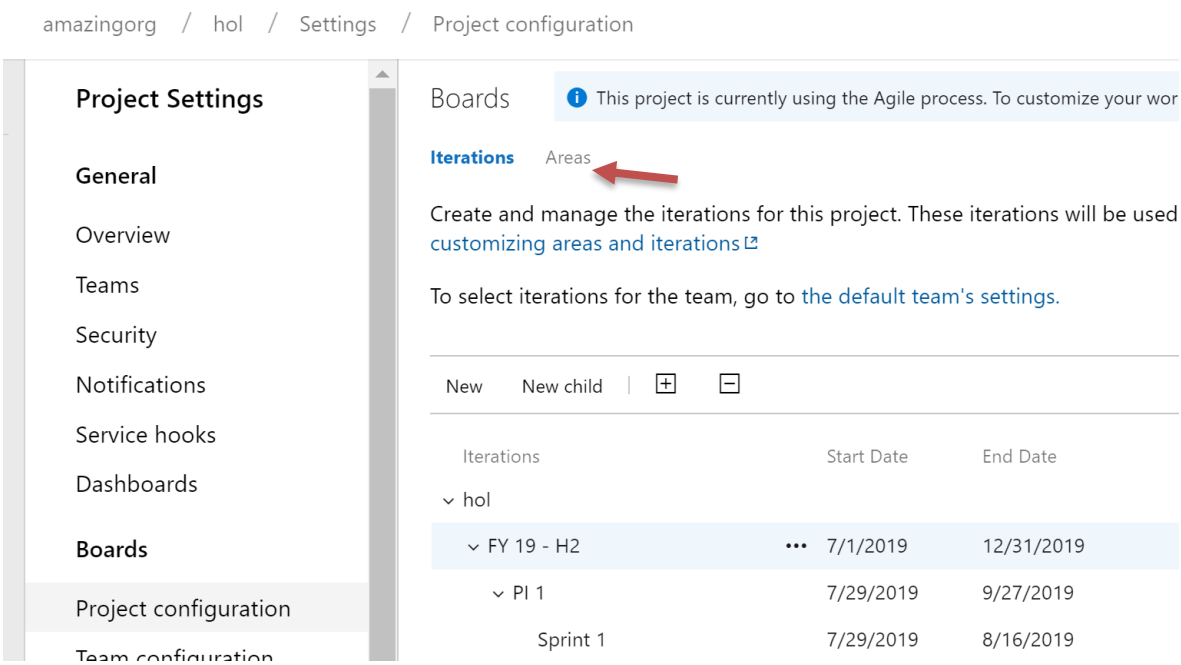
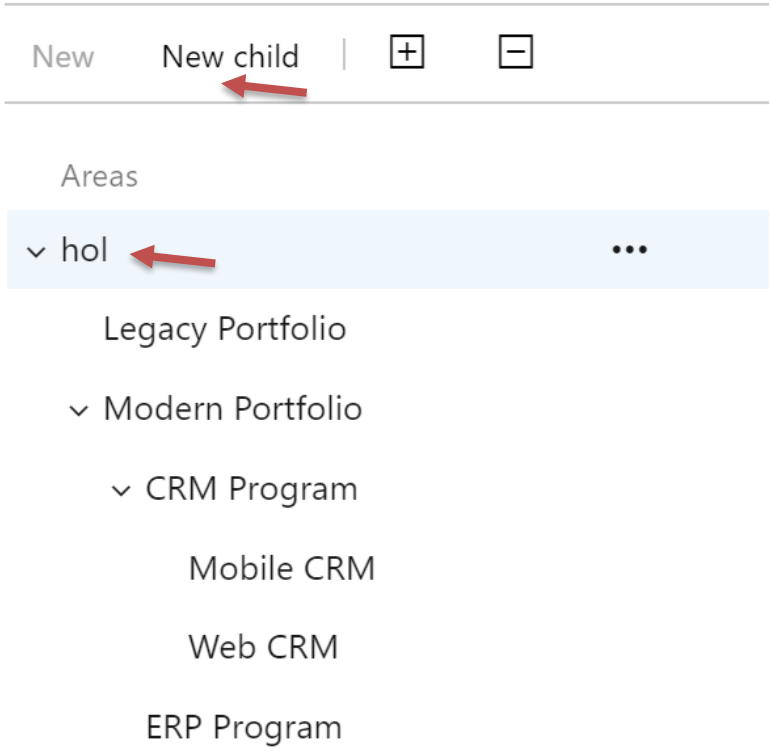
11. Click on the "Areas" tab



12. Select the root area "hol" and use the new child button to create the following areas hierarchy:



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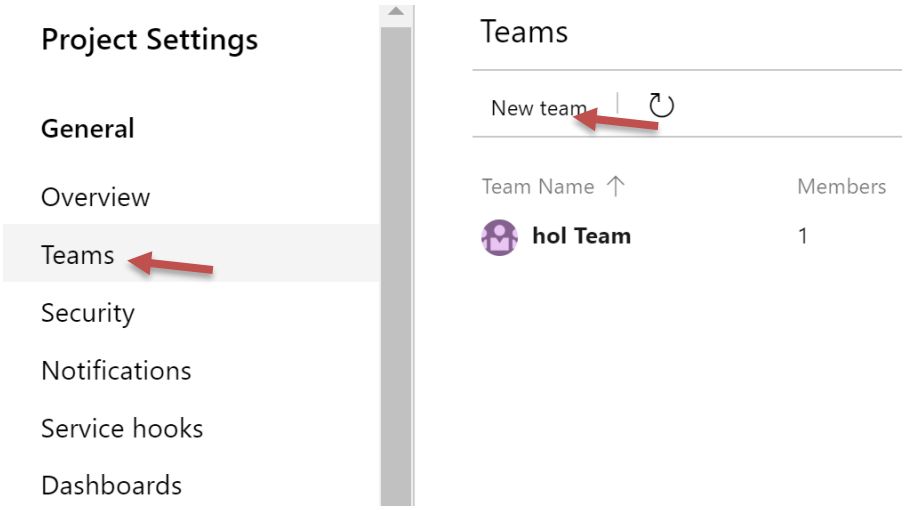
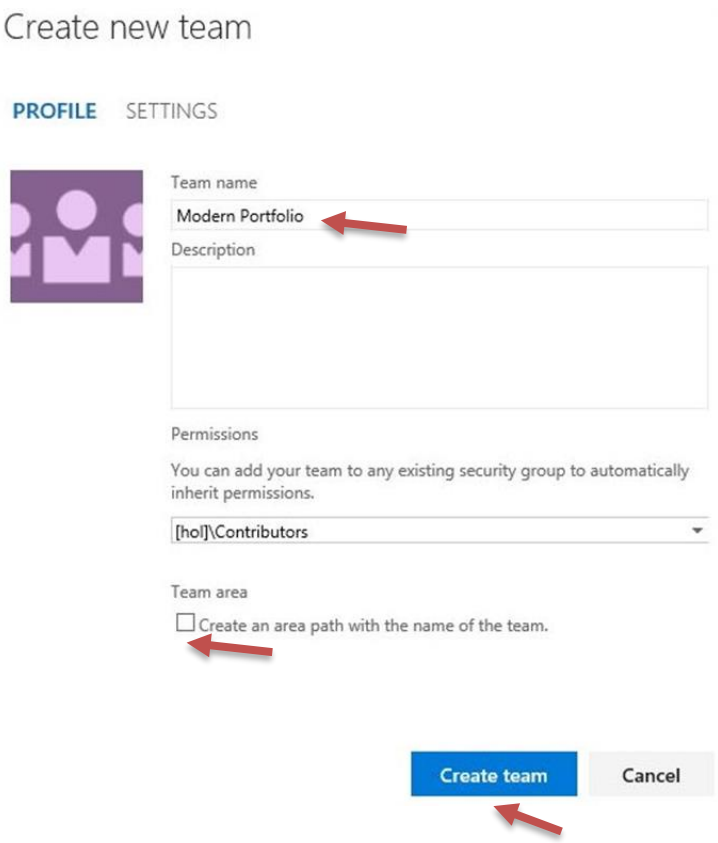
We will now create 3 teams matching the three levels of hierarchies we created in the areas section.

13. Click on the "Teams" section under the "General" settings section, then click on "New Team" button:



14. In new team dialogue use the following information to create the "Modern Portfolio".

    Make sure that you **uncheck** the "Create an area path with the name of the team" checkbox, then click on "Create team".



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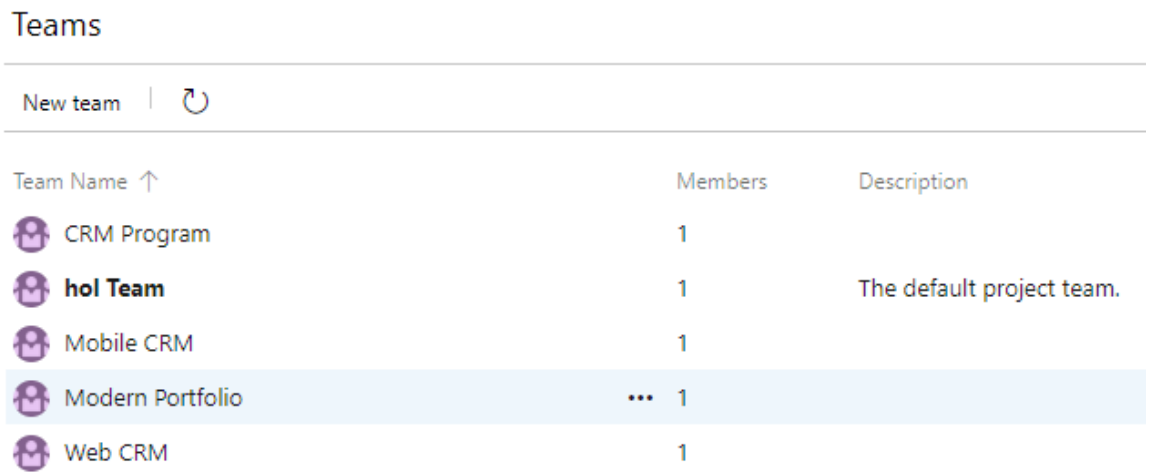
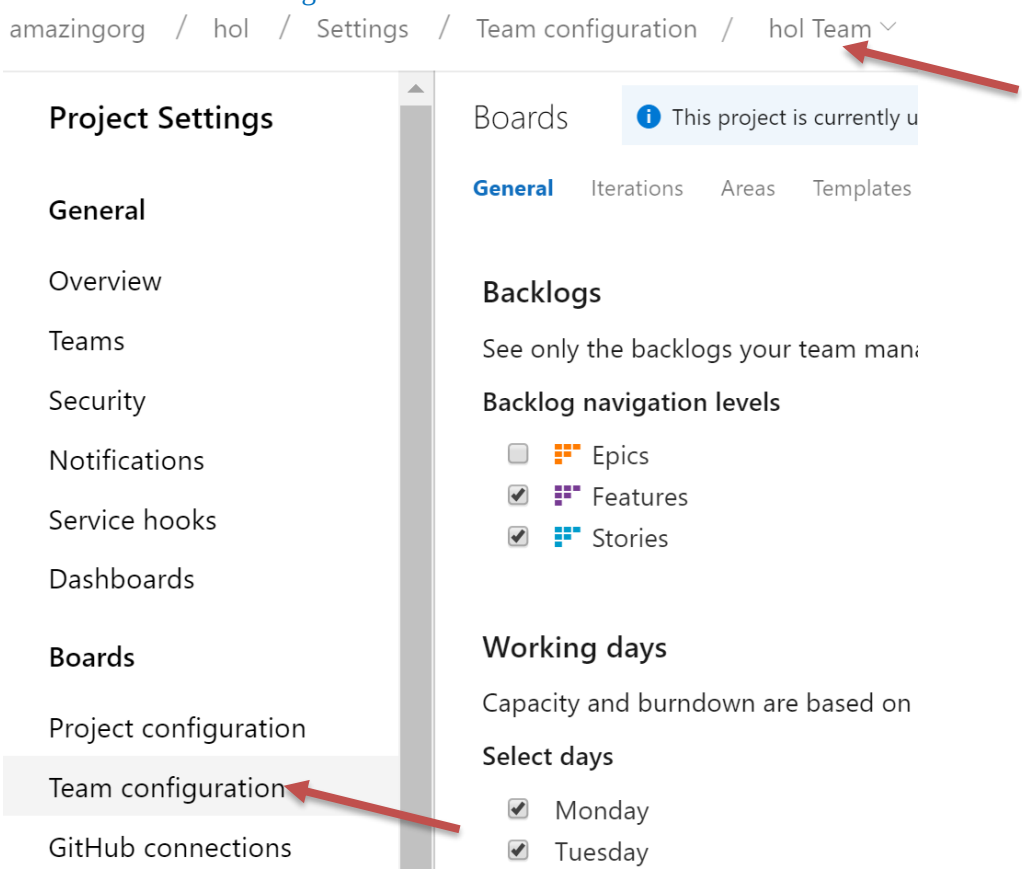
15. Repeat the same steps to create three additional teams:
    - "CRM Program"
    - "Web CRM"
    - "Mobile CRM"

You should now see the following teams in your list:



16. Click on the "Team configuration" section:



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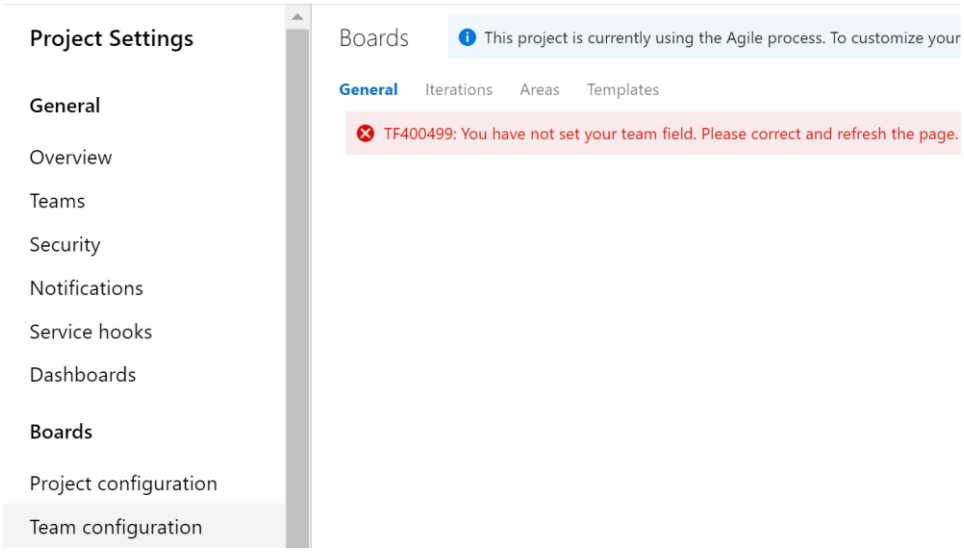
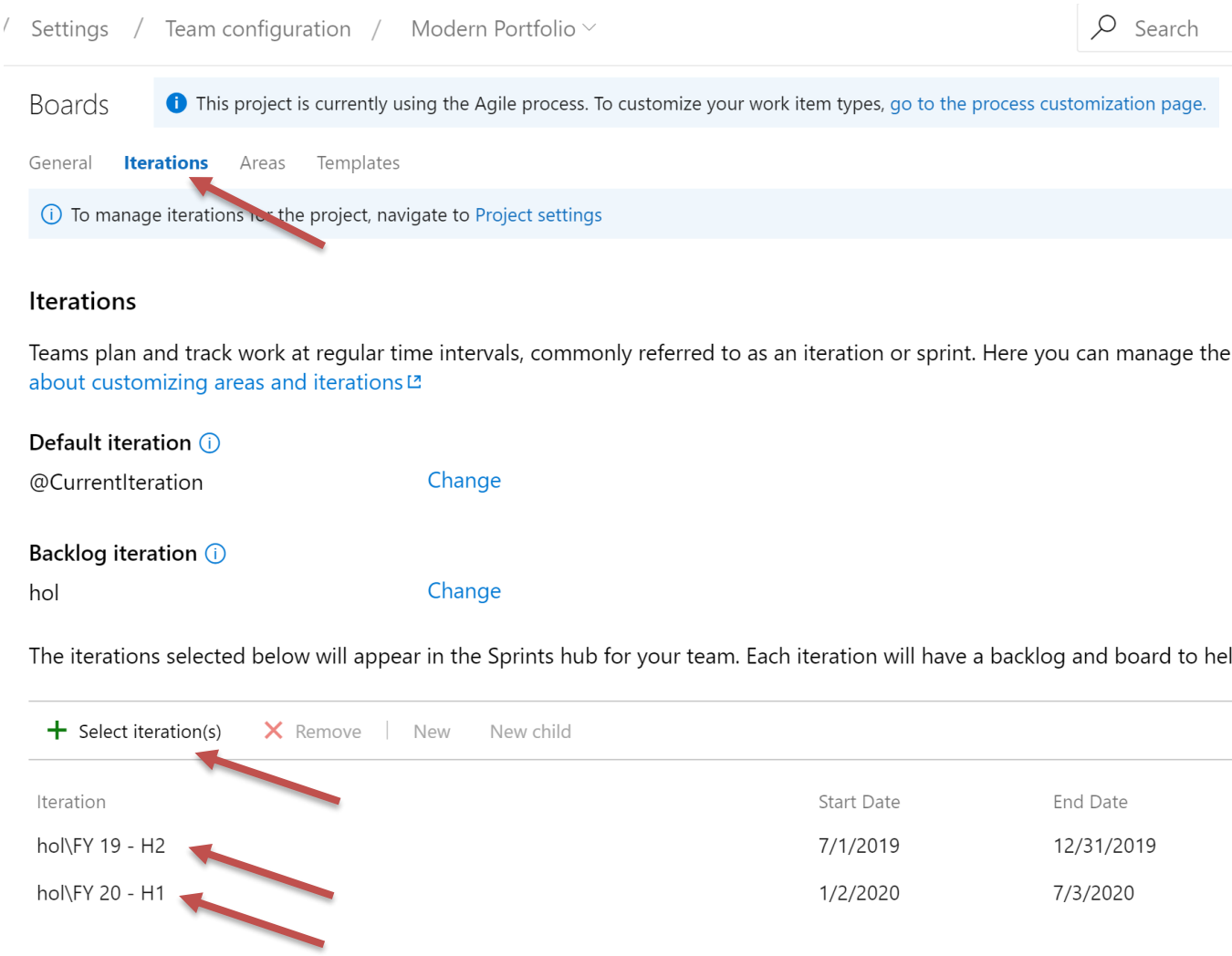
17. Use the team drown down selector to switch to the "Modern Portfolio" team configuration



18. Click on the "Iterations" tab, then choose the half yearly cadence:



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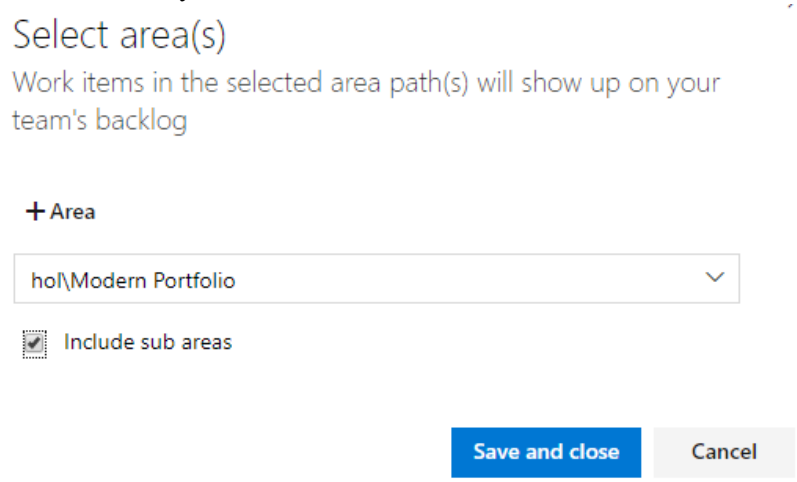
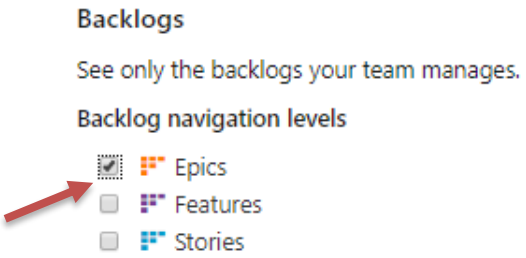
19. Click on the "Areas" tab.
20. Select "hol\Modern Portfolio" as the default area.
21. Make sure you check the "Include sub areas" checkbox.



22. Refresh your page from your browser, then go to "General" tab

23. Select "Epics" as the backlog navigation level



Explanation: These settings ensure that the portfolio team is:

- **Using Epics for planning.**
- **They are able to access children items and create Features or Stories but their main focus is on Epics.**
- **Using a planning cadence that includes all the program increments, and inherently all the sprints.**
- **Can track the progress of epics created at the portfolio level or any sub level.**

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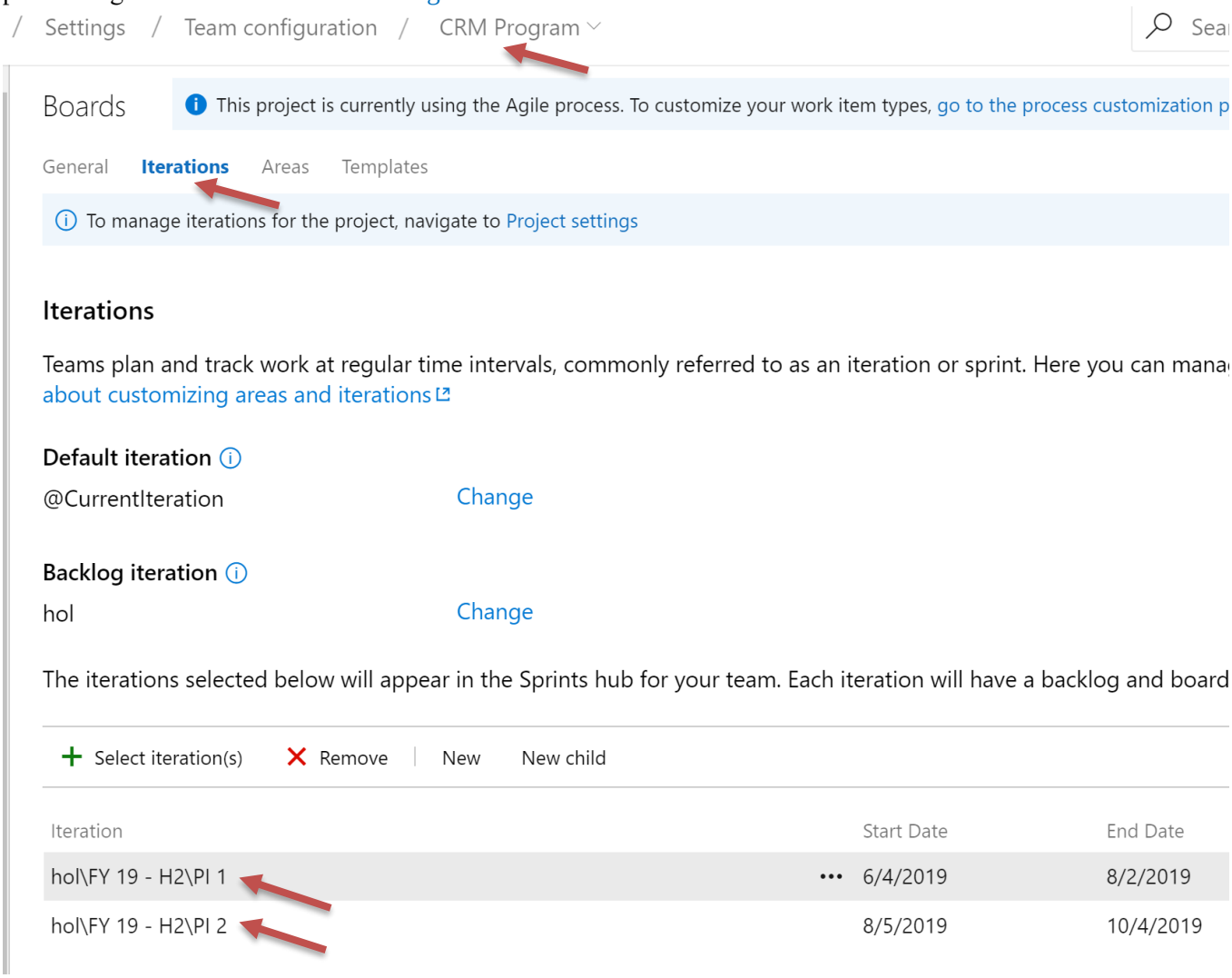
Now that you successfully have created your "Modern Portfolio" team, we will repeat those steps to create our "CRM Program" team.

24. Repeat the same steps to set up team configuration for the "CRM Program". The CRM Program plans using "Features" casted over "Program Increment" cadences:



Once you have selected the iterations cadence, switch to the areas tab:

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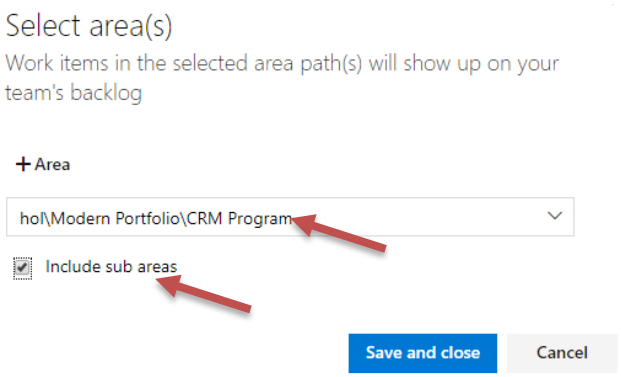
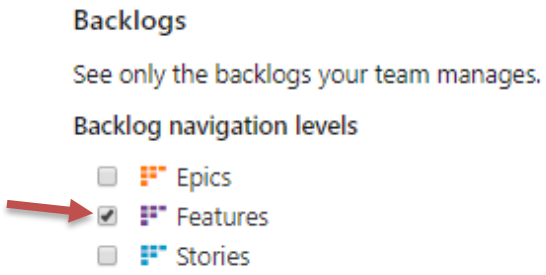


Once you have selected the area for the team, switch to the backlogs tab:



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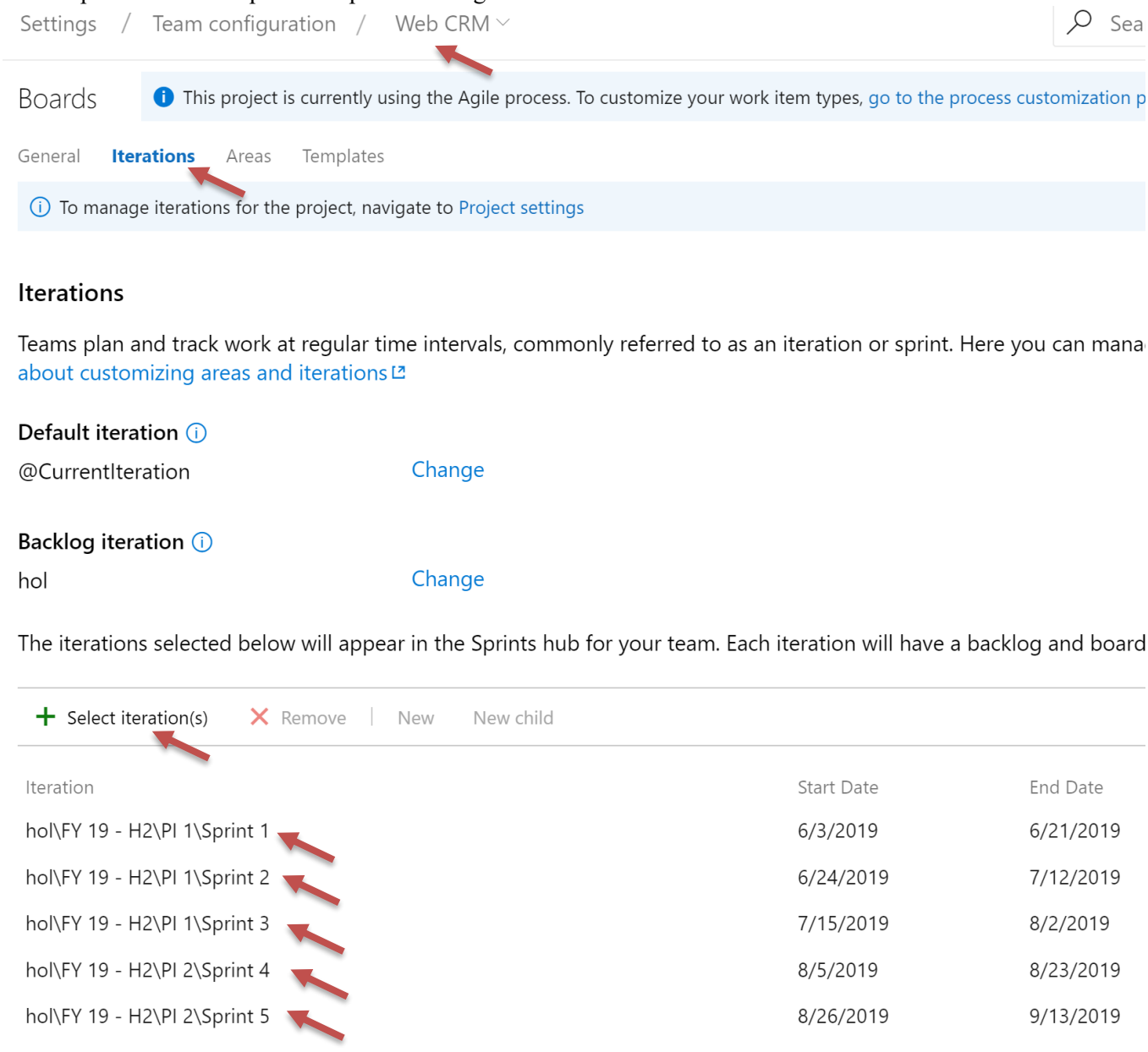
Now that you successfully have created your "CRM Program" team, we will repeat those steps to create our "Web CRM" team.

25. Repeat the same steps to set up team configuration for the "Web CRM" team:



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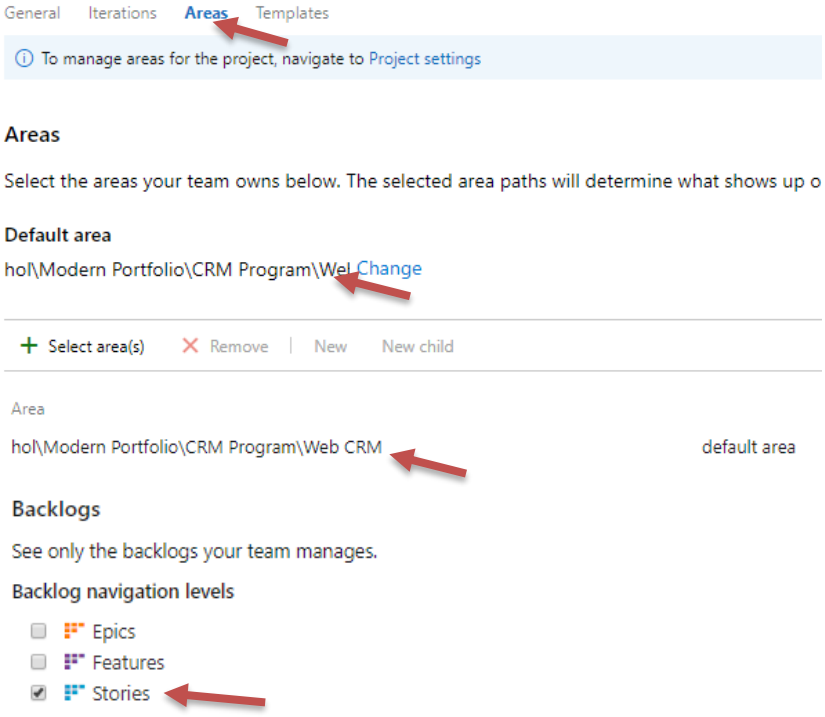
Switch to the Areas tab



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Exercise 3: Plan work streams collaboration flow

Introduction

In this exercise, you will learn how to use Kanban boards and backlogs to allow collaboration across teams, programs and portfolios. While alignment is needed across teams, a good level of autonomy is required to allow teams to scale Agile. Backlogs and Kanban boards are used by each team to organize how they work together to deliver value

Objectives

After completing this lab, you will be able to:

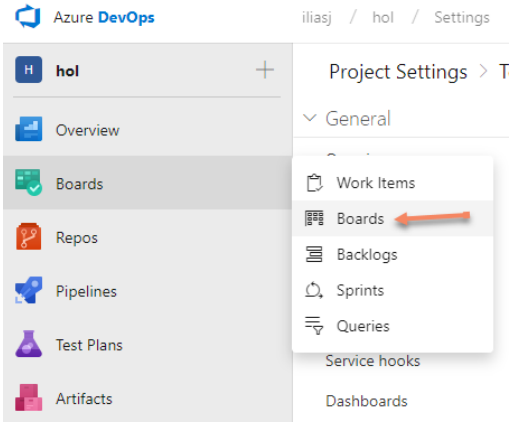
- Setup cross teams' collaboration.

Prerequisites

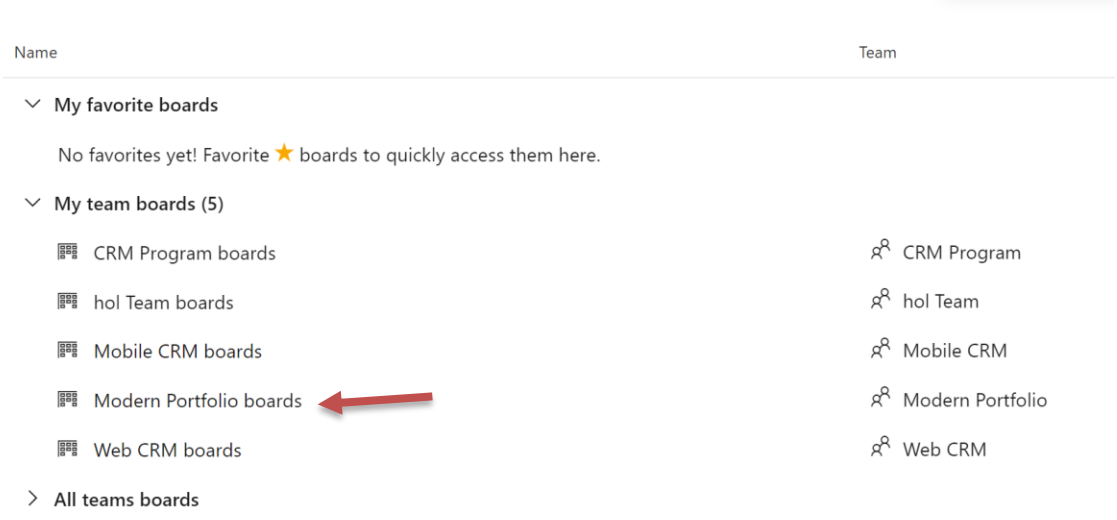
None

Tasks

1. Navigate to the "Boards" section



2. Select the "Modern Portfolio Boards"



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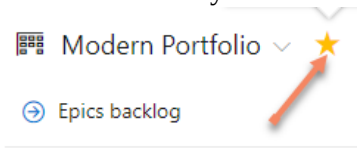
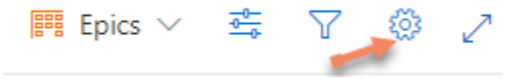
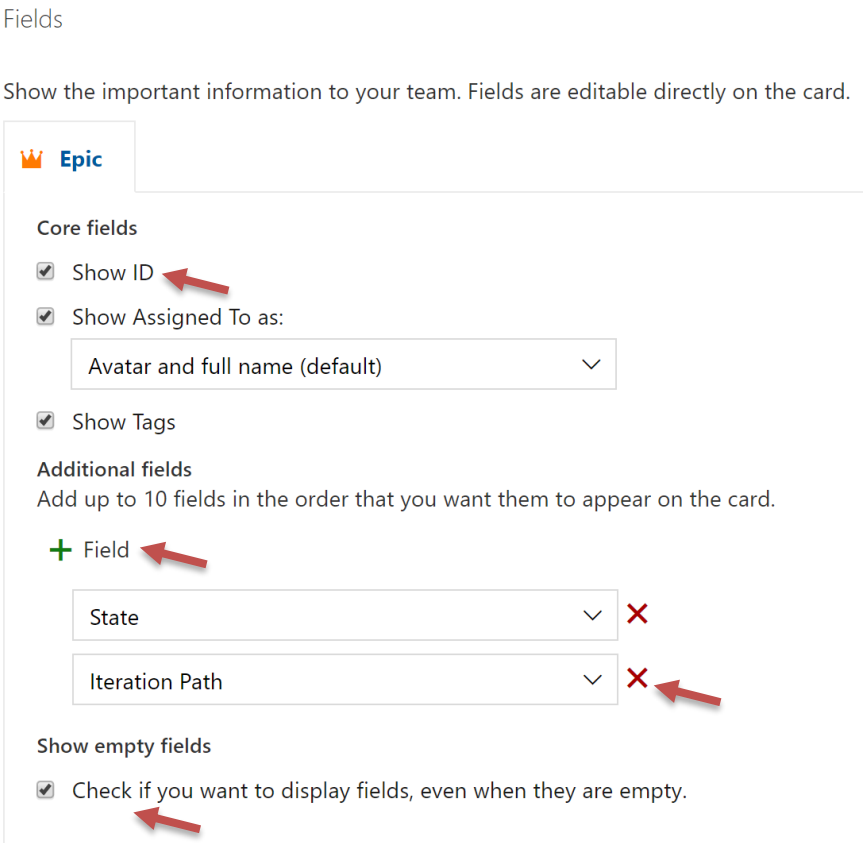
3. Add this board to your favorites:



4. Click on the "Configure team settings" icon:



5. Check the "Show ID" checkbox.
6. Under the "Fields" section, click on "+ Field" button, then add "Iteration Path".



7. Check the "Check if you want to display fields, even when they are empty" checkbox:
8. Under the "Columns" section:
    - Rename the "New" Column to "Backlog".
    - Rename the "Active" Column to "In Progress"
    - Rename the "Closed" column to "Live"
    - Click on "In Progress" then click the "+ Column" button:

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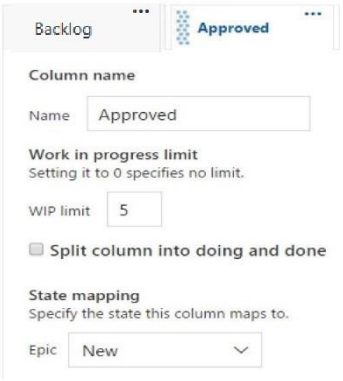
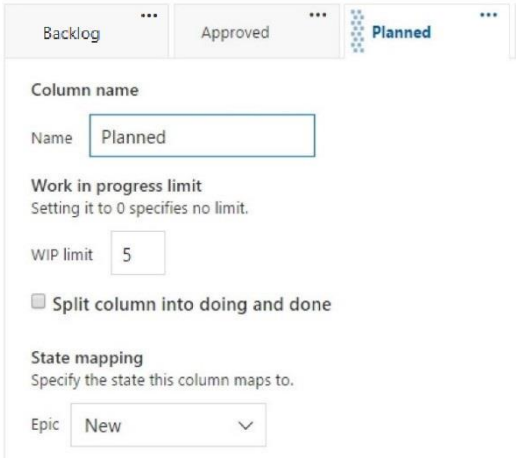
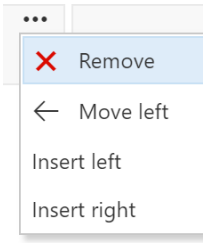
- Name the column "Approved" and ensure the State is set to "New"



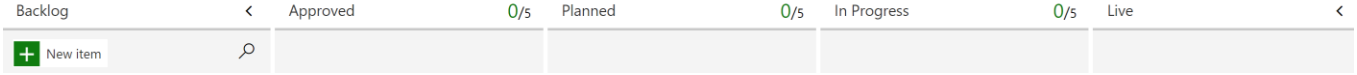
- Click on "In Progress" then click the "+ Column" button once more, and add "Planned" column:



- Delete the Column "Resolved"



The "Modern Portfolio Team" Epics board should now look as follow:



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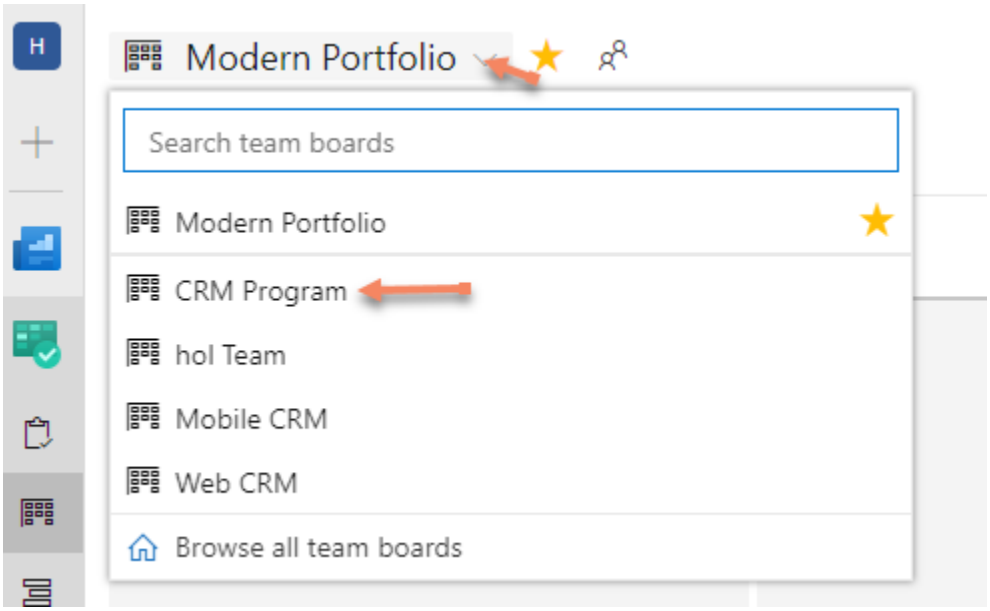
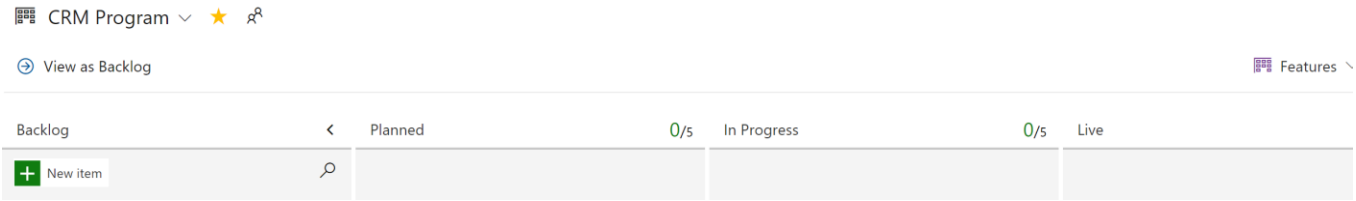
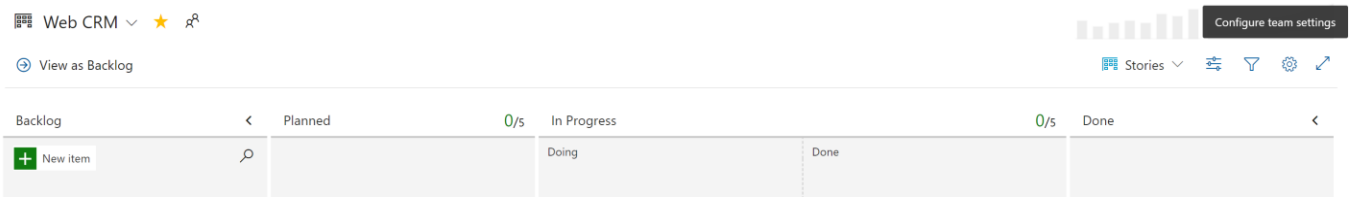
35. Using the team drop down, switch to the CRM Program board:



36. Without any visual assistance, navigate to the "CRM Program" board and set up the following features board columns. Add this board to your favorites:



37. Without any visual assistance, navigate to the "Web CRM" board area and set up the following stories board columns. Add this board to your favorites:



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Exercise 4: Portfolio planning

Introduction

The portfolio team is responsible of setting up the mid-term to long term goals and initiatives. They do that by creating Epics. In this exercise, you will learn how portfolio teams can use Kanban boards to plan for mid to long term objectives.

Objectives

After completing this lab, you will be able to:

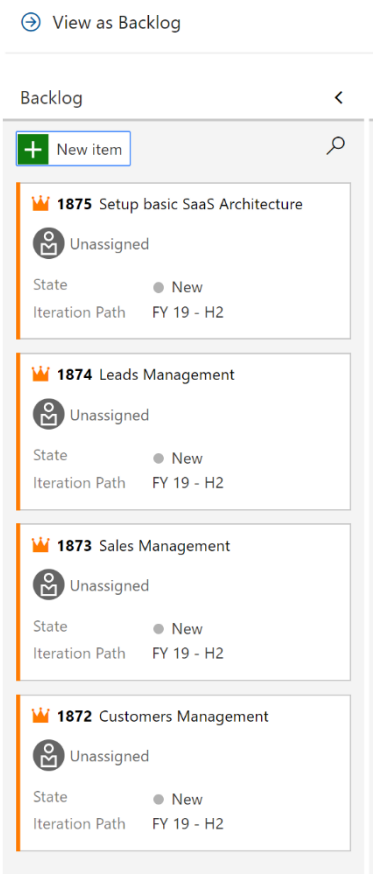
- Use boards to plan at the portfolio level.

Prerequisites

None

Tasks

1. Navigate to the “Modern Portfolio” board
2. Add the following 4 Epics (the ID numbers will be automatically generated):



3. Click on the “Unassigned” icon and assign these epics to yourself (In a real-world scenario these epics may be assigned to the product owner).

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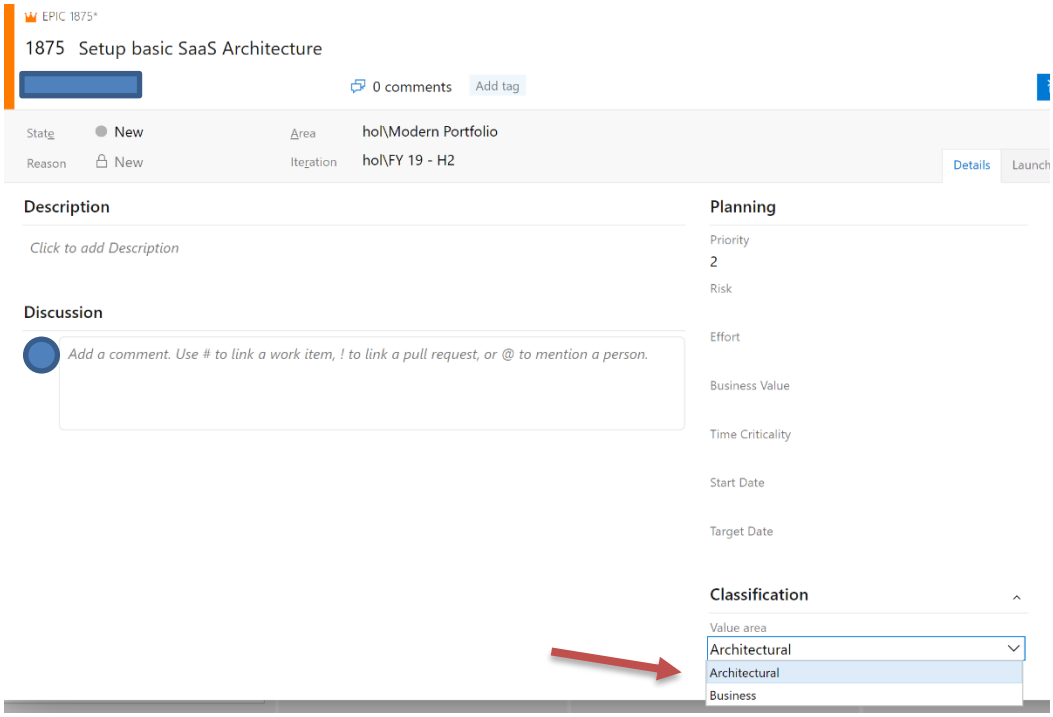
4. Open the "Set up basic SaaS Architecture" Epic, then assign "Architectural" in the Value Area:



5. Click on the "Add Tag" button and enter "MVP". Click on it Once more and enter "Compete".

Note: Using tags at this level, allows you to define the value streams, themes or funding sources of these epics. In other words, what is the value to your organization or your customer from trying to implement these business needs.

6. Use the same steps to assign the following values to the remaining epics in the:
   - Epic: "Leads Management"
     Value Area: Business
     Tags: MVP
   - Epic: "Sales Management"
     Value Area: Business
     Tags: MVP
   - Epic: "Customers Management"
     Value Area: Business
     Tags: MVP and Compete

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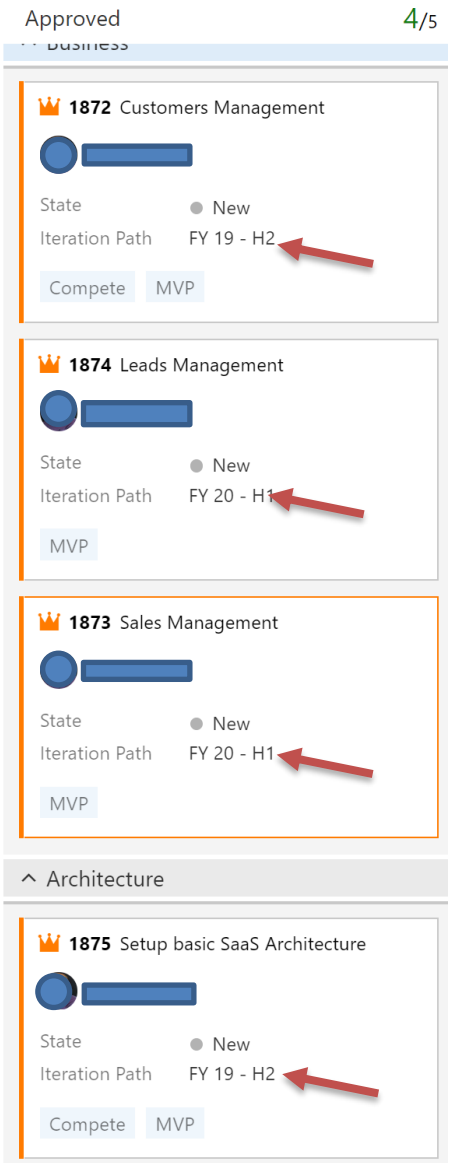
7. Click on the board settings icon:

8. Click on the "Swim lanes" section:
9. Click the "+Swimlane" button
10. Name the swim lane "Business"
11. Click on the default swim lane and rename it to "Architecture".

The use of swim lanes allows you to visually track the progress of your epics using additional angles in addition to your normal workflow which represented by the columns.

12. Drag the Epics to the "Approved" Column, but move them to the correct swim lane depending on whether the bring business or Architecture value:



13. Assign the first Epic from each value area (business and architecture) to the current iteration. Assign the last two Epics to the next iteration.

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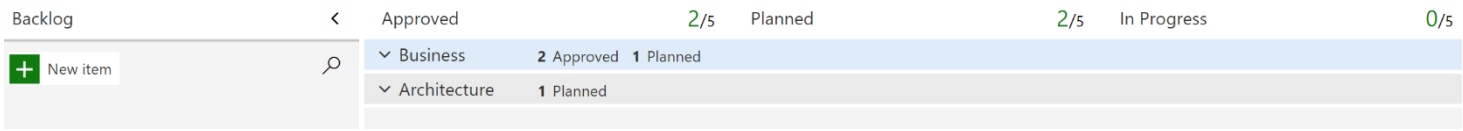
This last action means that the portfolio team, **would like** to get these Epics done within **the next 6 months**. The program teams will then have to figure out how they will be able to achieve that.

14. Drag the epics, that you have assigned to an iteration, to the Planned column, allowing to mark them as planned.
15. Try collapsing the swim lanes and note how you get a roll up view of how many epics are in each stage of your workflow:



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Exercise 5: Program planning

Introduction

The program team is responsible of defining how the organization will achieve the goals and value that the portfolio has defined. They do that by creating and managing Features. In this exercise, you will learn how program teams can use a feature backlog to plan for mid to long term objectives.

Objectives

After completing this lab, you will be able to:

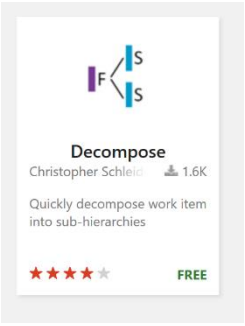
- Use backlogs to plan at the program level.

Prerequisites

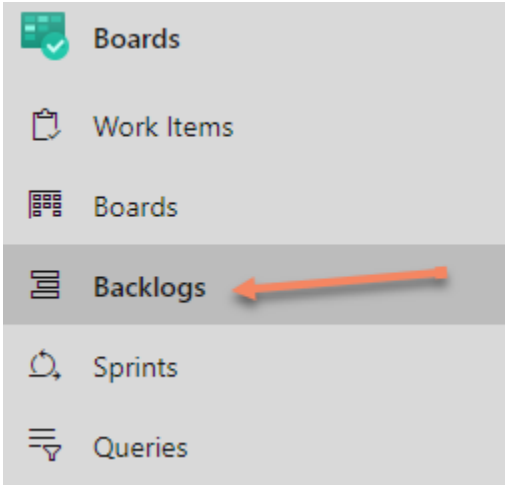
None

Tasks

56. Install the Decompose extension from the marketplace – hover over the shopping bag icon in the righthand corner, click 'Browse Marketplace' then search 'Decompose' and install it for free



57. Navigate to the "Backlogs" section:



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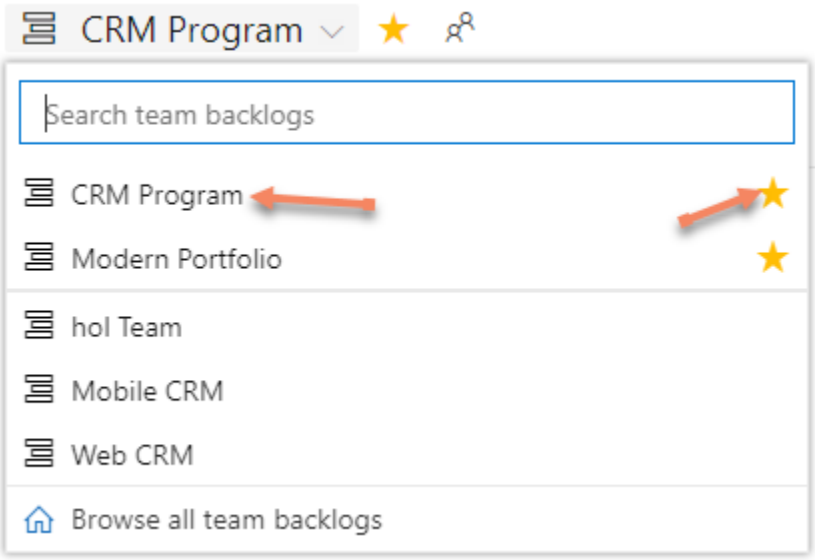
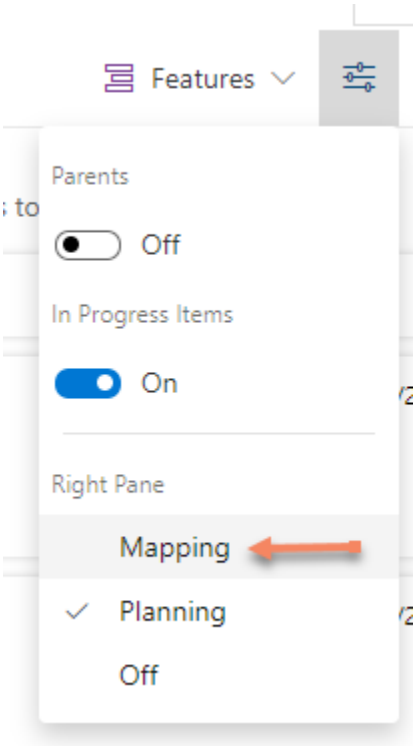
58. Switch to the "CRM Program" team backlogs:



59. Turn "Mapping" on:



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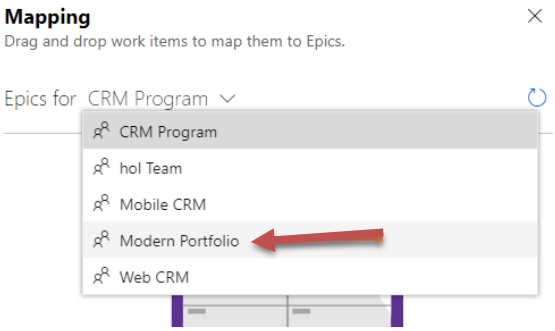
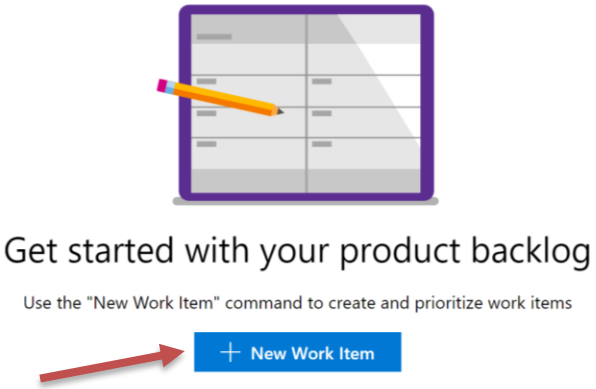
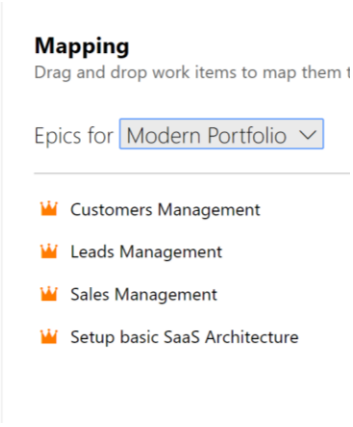
60. Click on the selected "mapped to team" drop down and select the Modern Portfolio:



61. Add the following Features, by clicking on the "+ New Work Item" button:
    - "Initial Multi-Tenant Database Architecture".
    - "Initial Multi-Tenant REST API"
    - "Initial Multi-Tenant User Interface".





62. Select these three features then drag and drop them onto the "Set up basic SaaS Architecture"

63. Add the following Features
    - "Create Customers"
    - "Edit Customers"
    - "Search Customers"
    - "Archive Customers"

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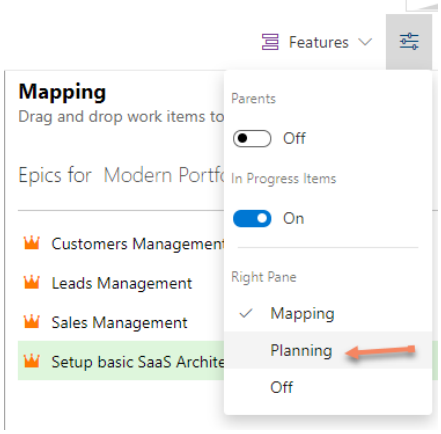
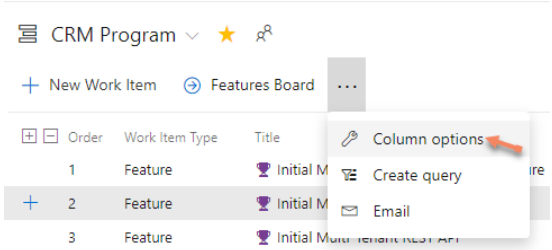
64. Select these four features and drag and drop them onto the "Customers Management" Epic: These features will eventually get implemented by different feature teams.

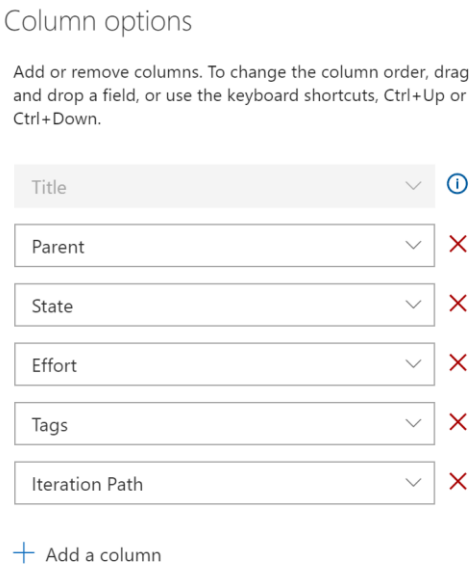
65. Switch to the "Planning" view:



66. Click on "Column Options":



67. Add "iteration path" and "parent" to the columns visible on the screen:



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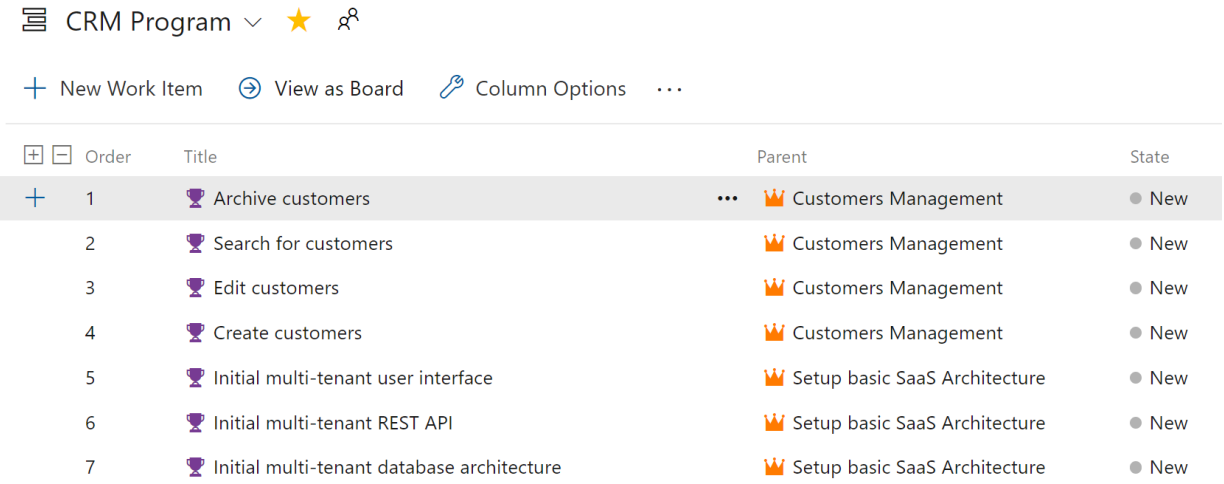
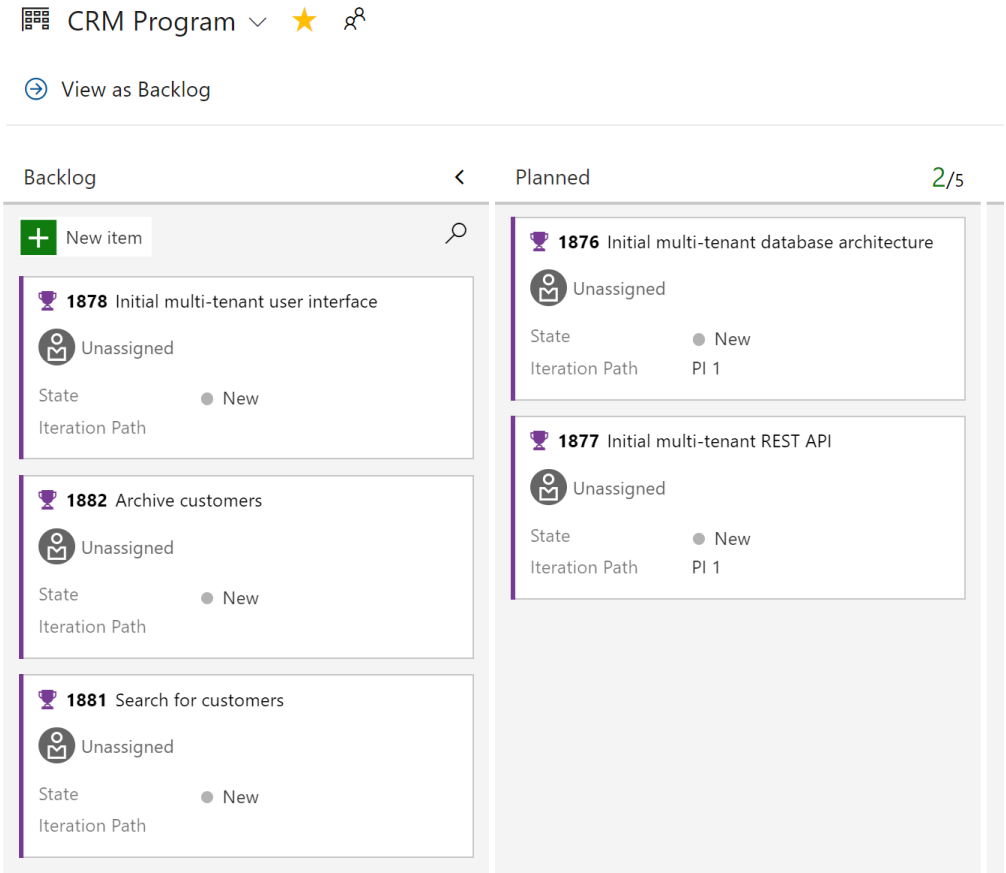
68. Click "Ok" to confirm your changes. Your features backlog should now look as follows:



69. Click on "View as Board":

70. Drag the first two features to the "Planned" column:



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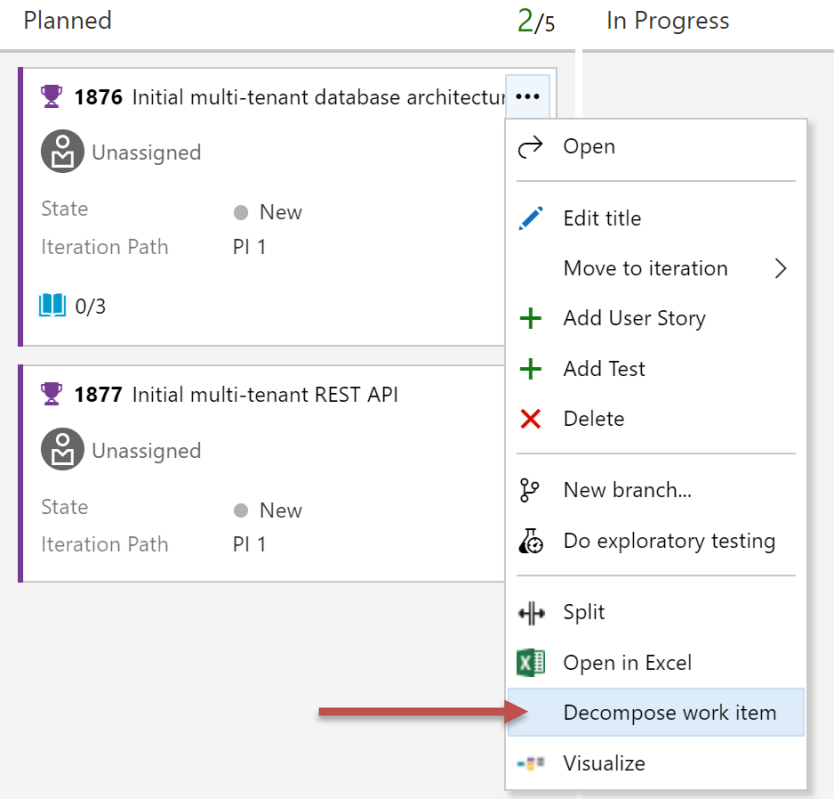
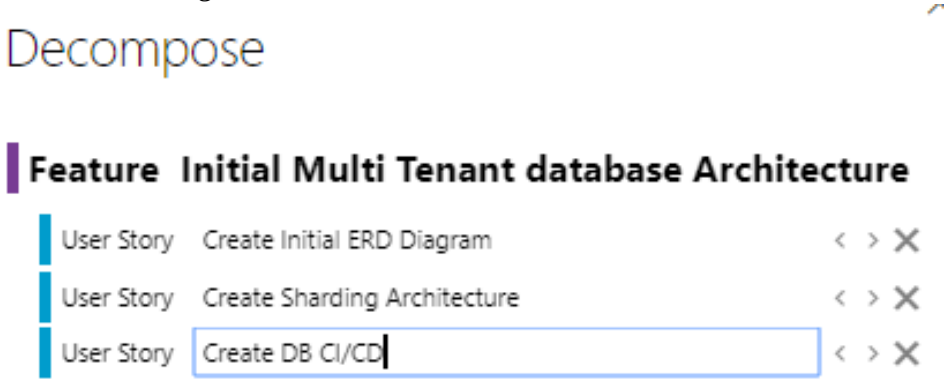
71. Using the context menu of the "Initial Multi-Tenant Database Architecture" click on decompose:



72. Enter the following stories



73. Click "Create" to save the changes.

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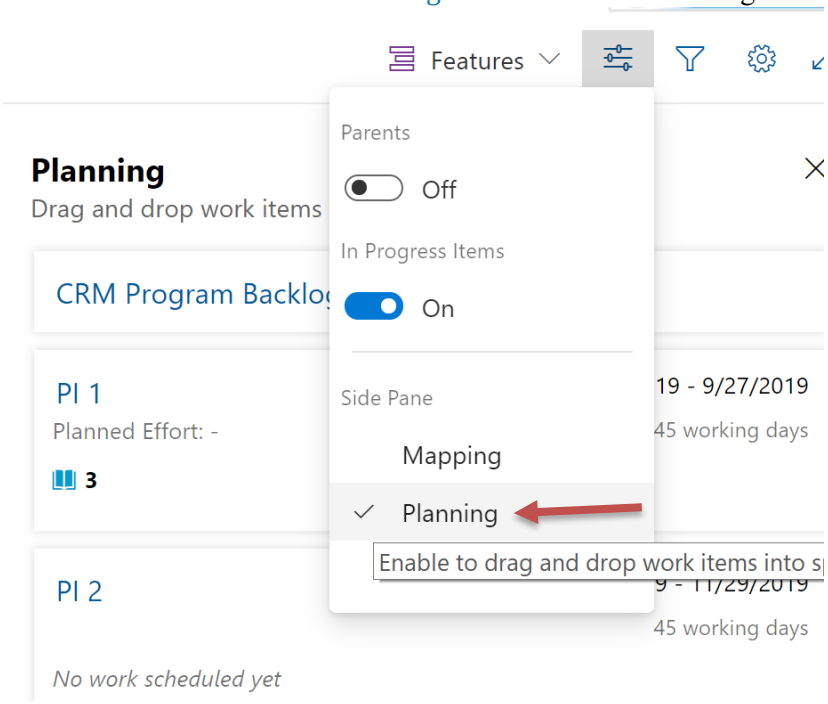
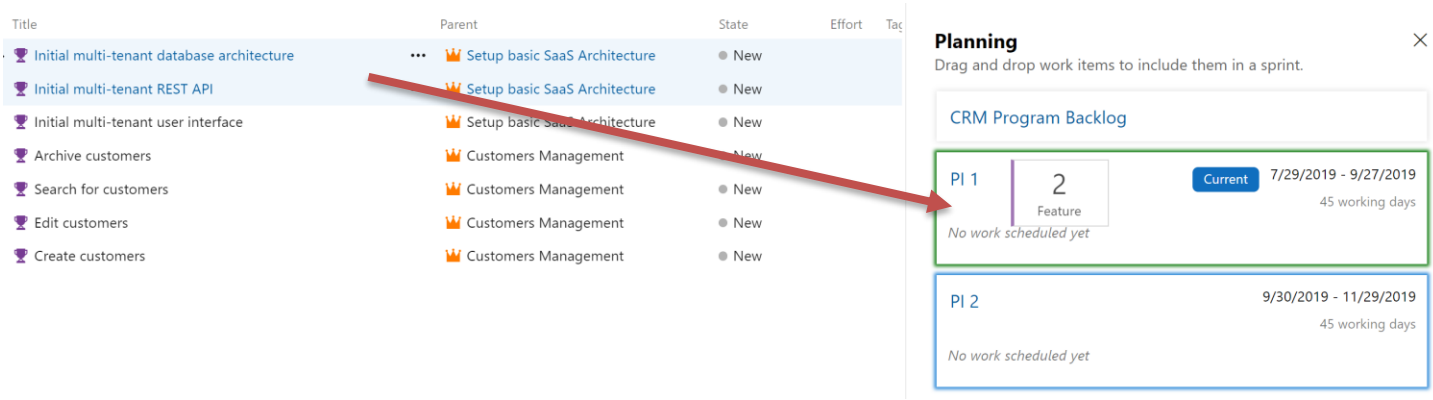
74. Switch back to the "Features backlog" and ensure the "Planning" side pane is turned on.



75. then drag the first two features towards "PI 1" Iteration.



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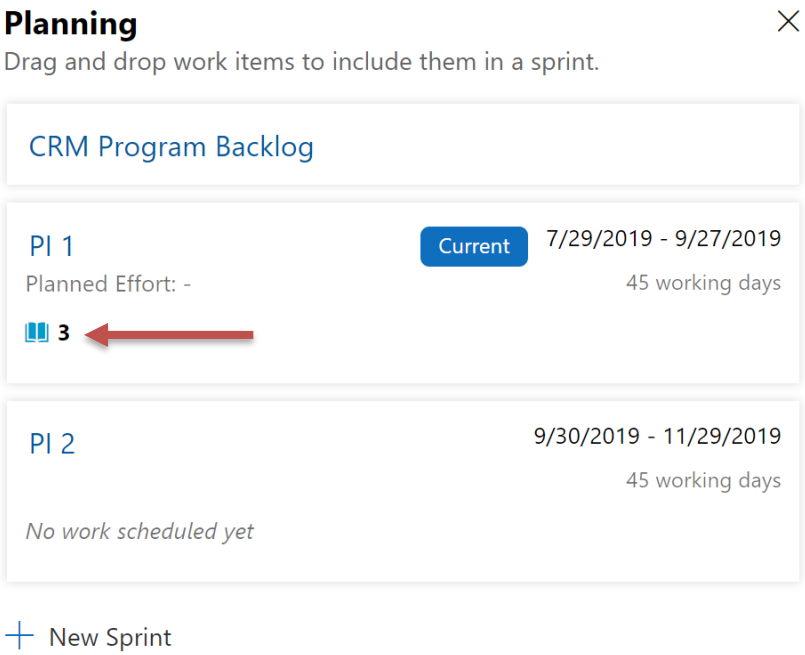
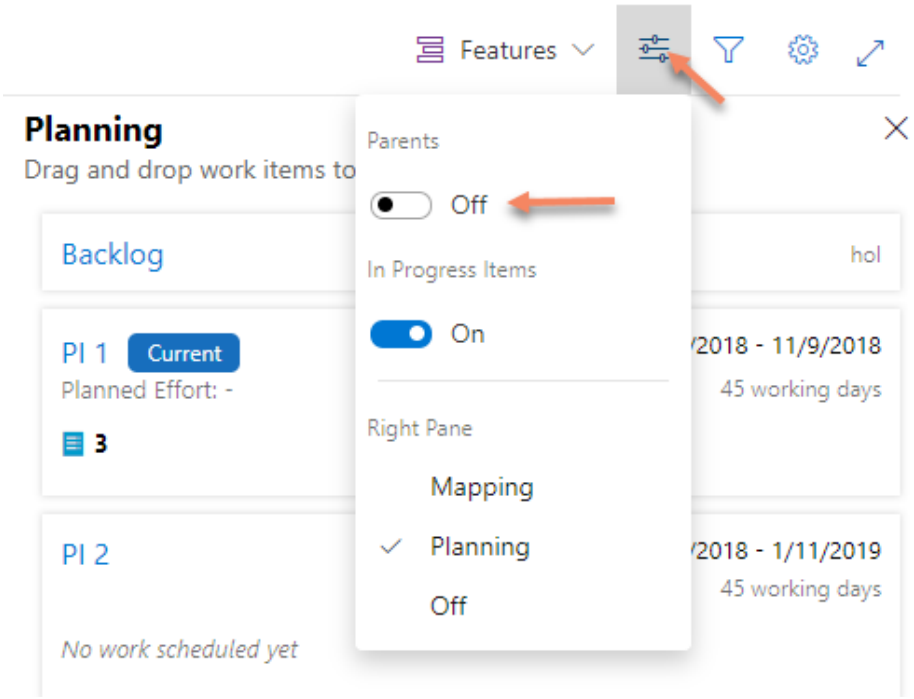
76. Once the Features are planned, we can see the total planned effort for the current program increment(stories and Bugs):



77. Toggle the "View Parents" option:



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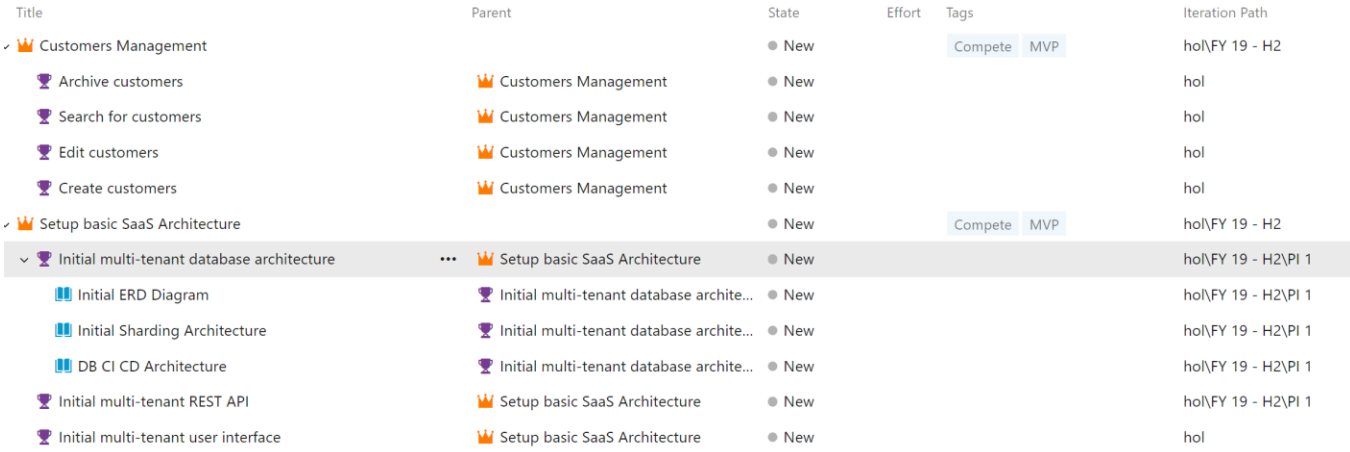
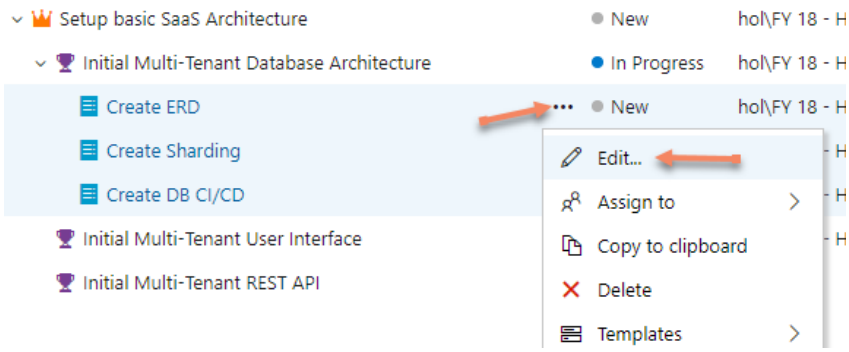
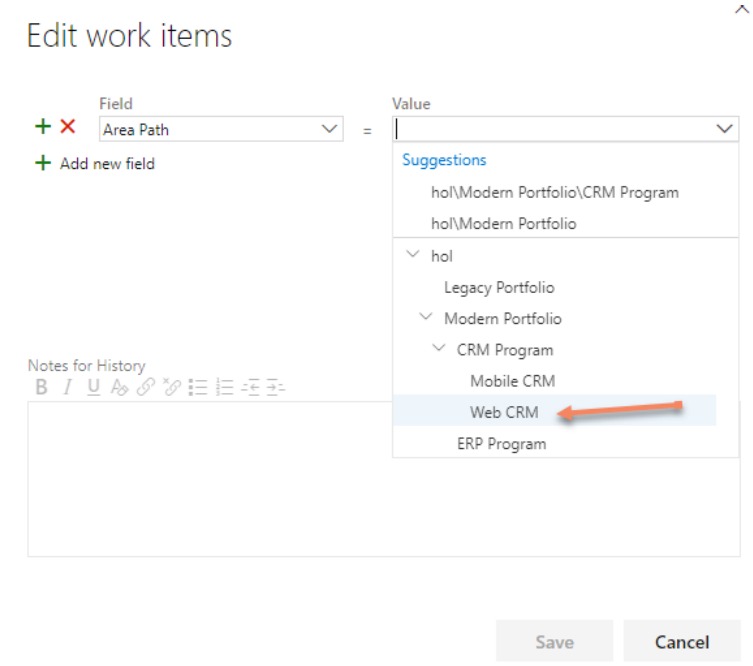
78. You should get the following view:



79. Select the three "Stories" then click on "Edit":



80. Assign "Web CRM" to the "Area Path" then hit save:



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Exercise 6: Feature team planning

Introduction

Feature teams are responsible of the technical implementation of features defined by the program teams. They operate in an autonomous, self-organizing way.

Objectives

After completing this lab, you will be able to:

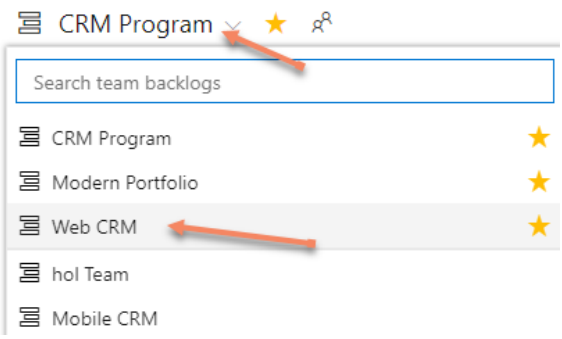
- Use Stories backlogs and boards to plan sprints.

Prerequisites

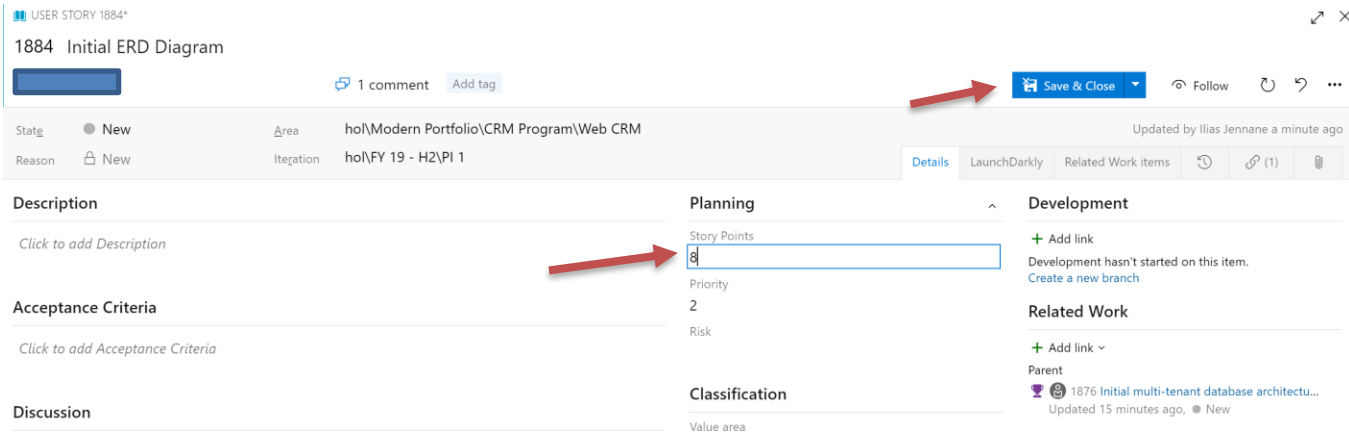
None

Tasks

1. Navigate to the "**Web CRM**" team backlog:



2. Open the "Create initial ERD Diagram" story:
3. Assign it to ***yourself***.
   - Enter "8" in the story points field. (Assuming you are using story points to estimate Stories and bugs complexity)
   - Click "Save & Close"



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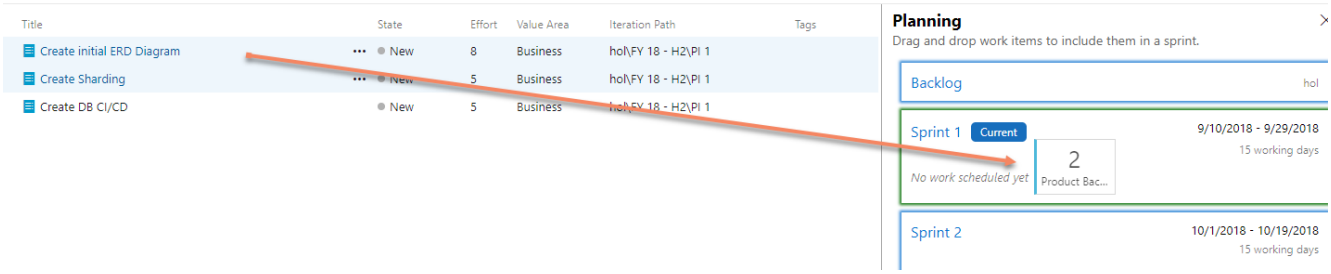
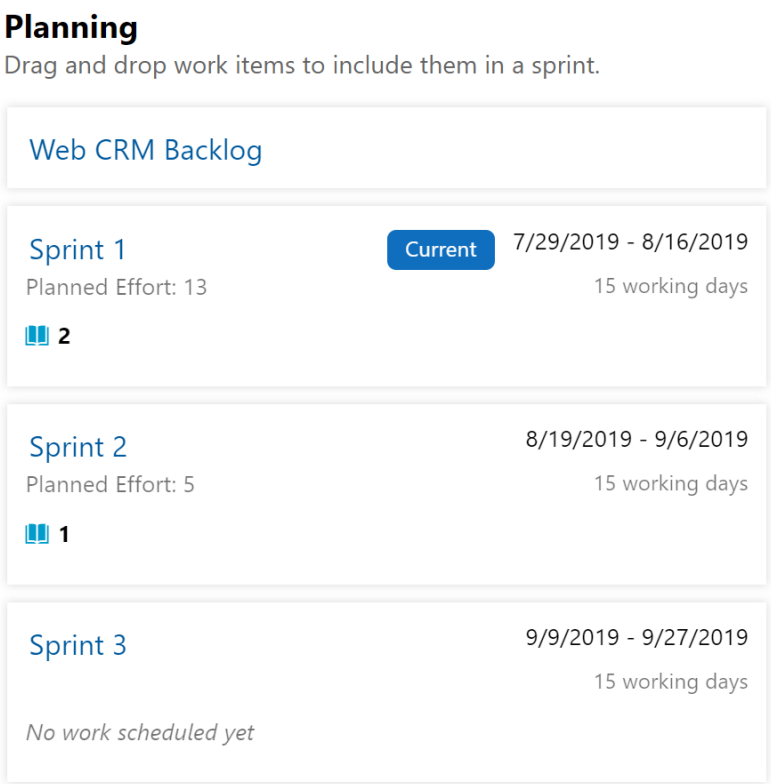
4. Open the "Create Sharding Architecture" story
   - Assign it to **yourself**
   - Assign 5 story points to it
5. Open the "Create DB CI/CD" story
   - Assign it to yourself
   - Assign 5 story points to it

Since this is the first iteration for this team, the team's velocity is not yet available. Hence, forecasts are not going to be high fidelity.

6. Drag and drop the first two Stories onto sprint 1.



7. Drag and drop the last story onto sprint 2.
8. Your planning summary should now look as follows:



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Exercise 7: Delivery Planning

Objectives

After completing this lab, you will be able to:

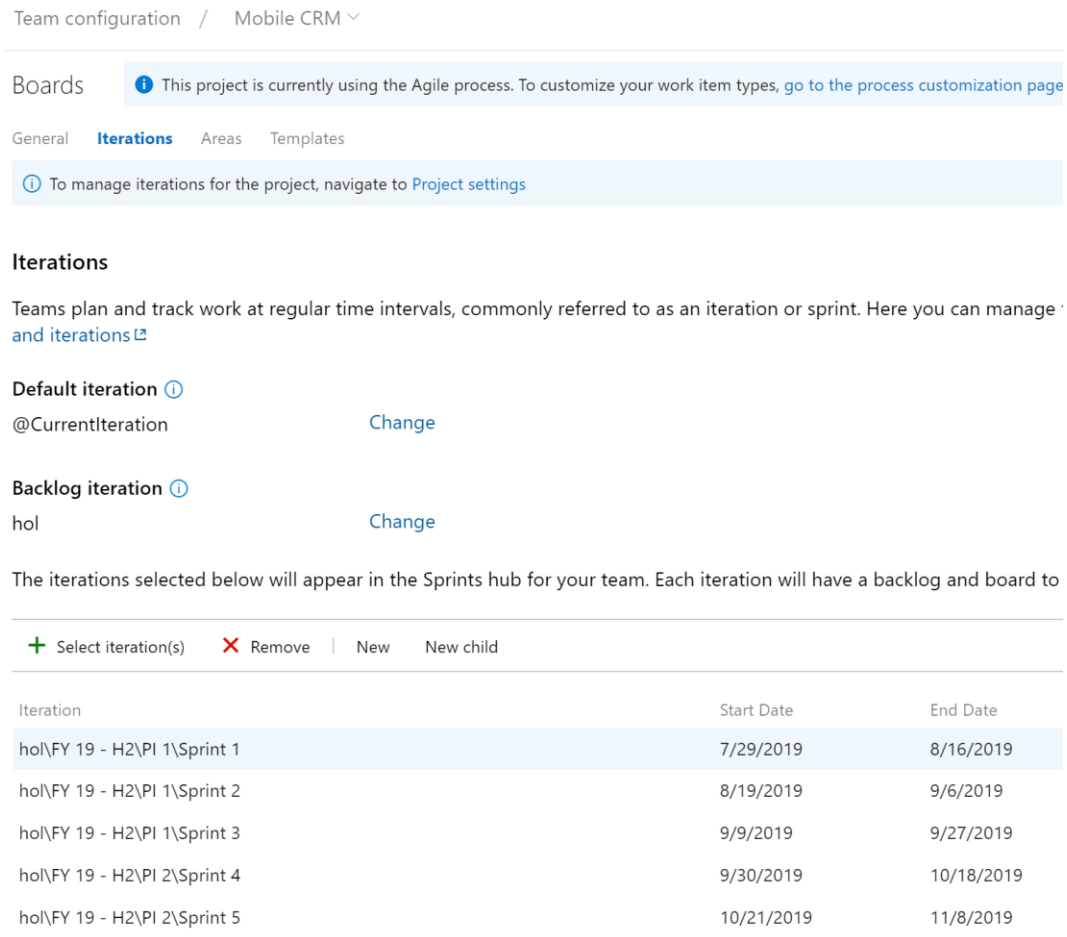
- Use delivery plans to track cross team collaboration and plan upcoming milestones.

Prerequisites

None

Tasks

1. Go to the settings page and sent the Mobile CRM team to use the same sprints as the Web CRM team, use the "Mobile CRM" area and Stories for planning.



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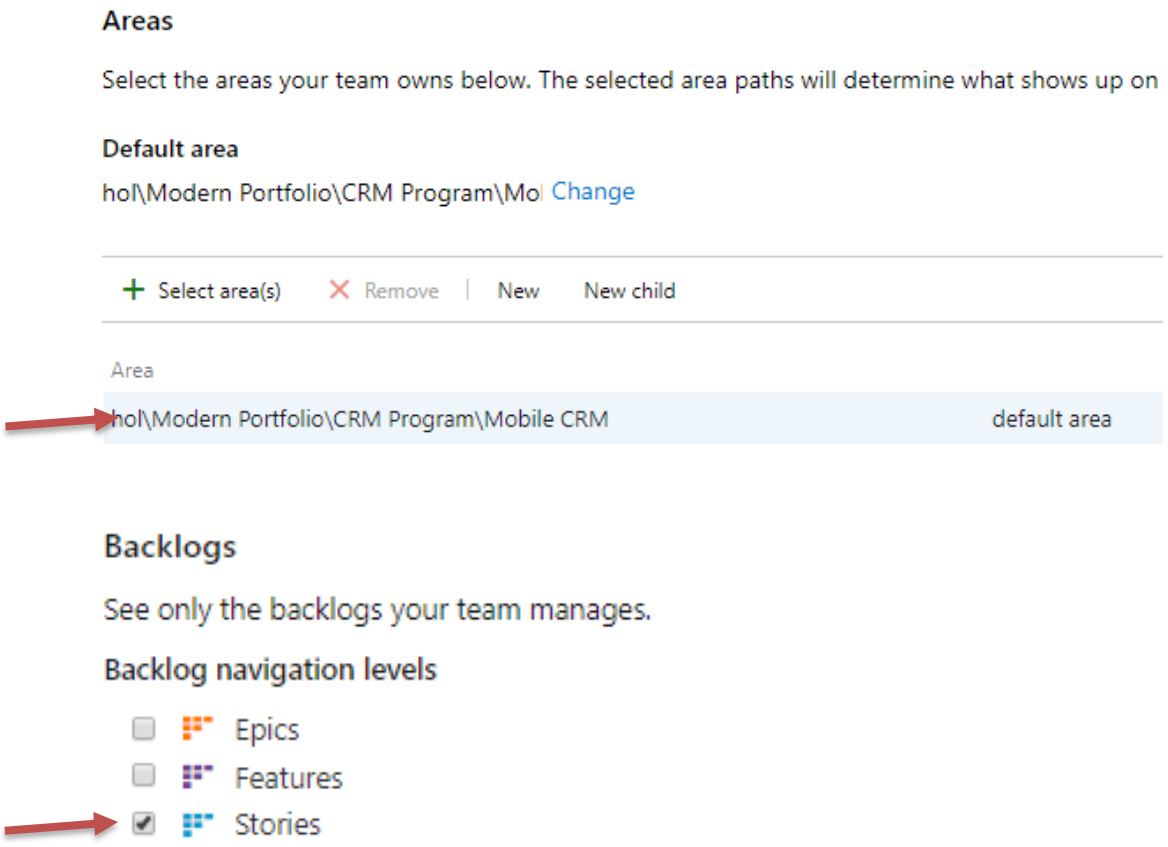
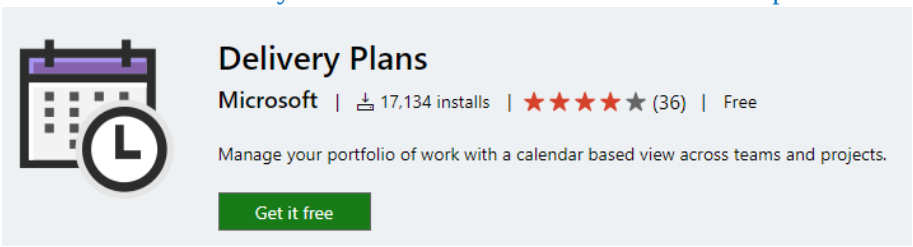
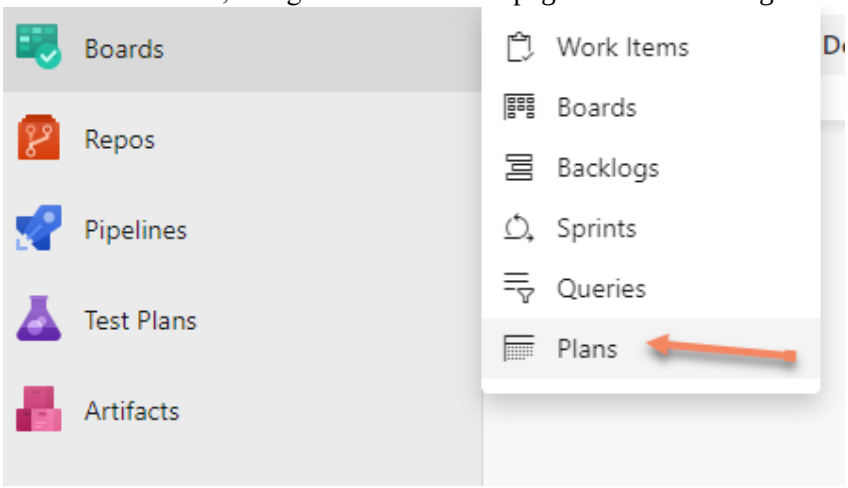


2. Install the "Delivery Plans" extension from the "Azure DevOps Services" marketplace:



3. Once installed, navigate to the "Plans" page via the left navigation menu:



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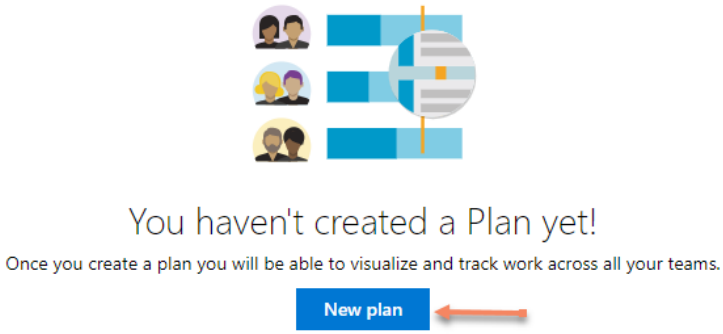
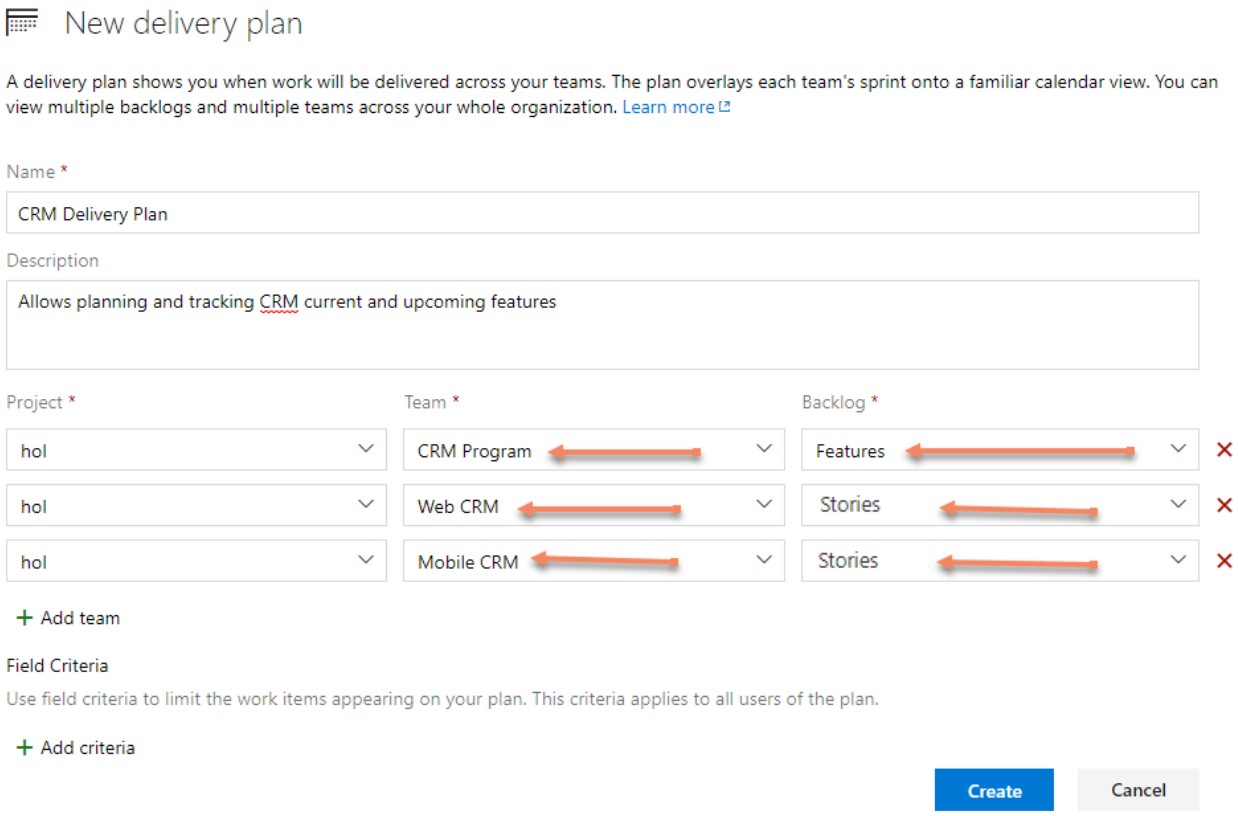
4. Click on "New plan":



5. Name the plan "CRM Delivery Plan" and add the following teams and backlogs to it:



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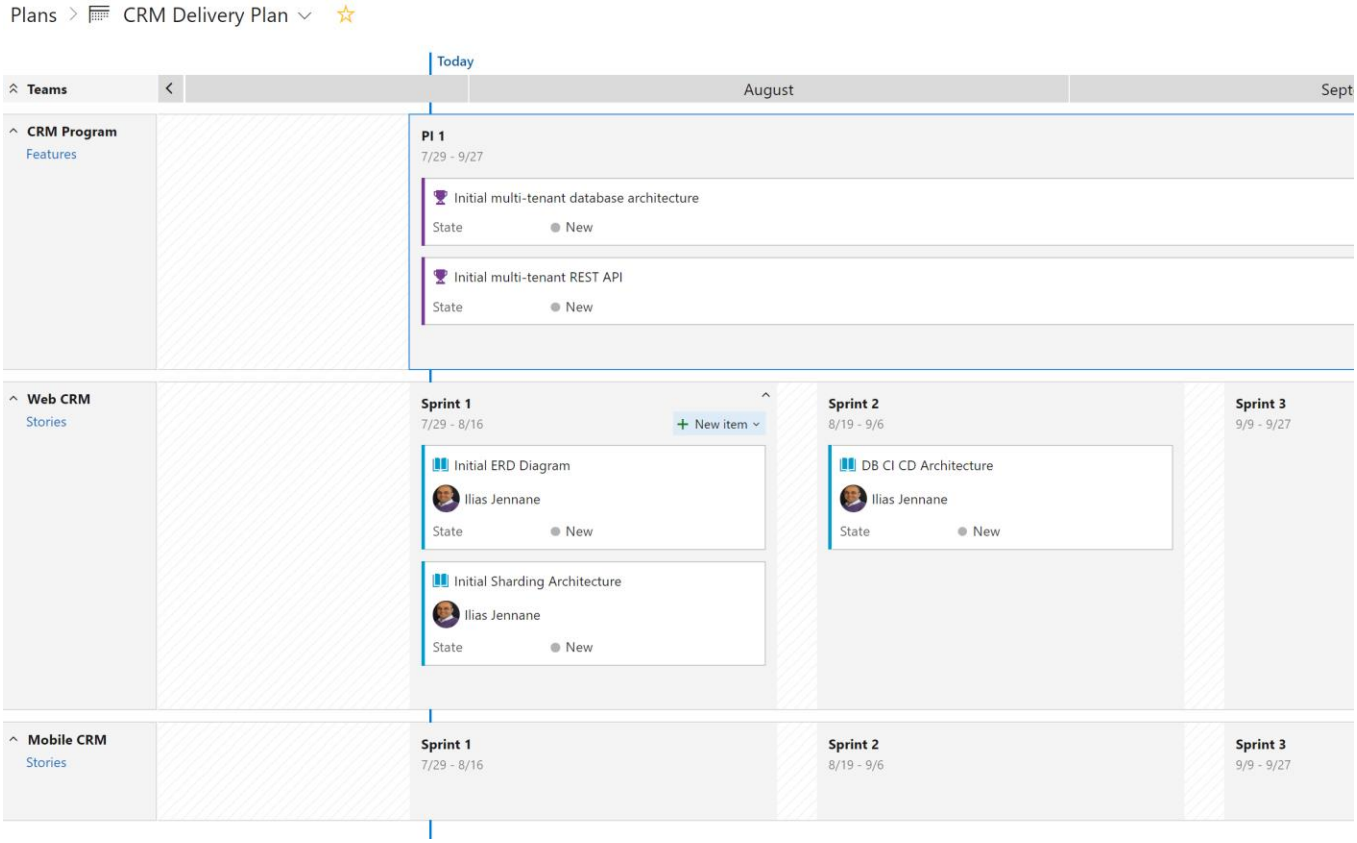
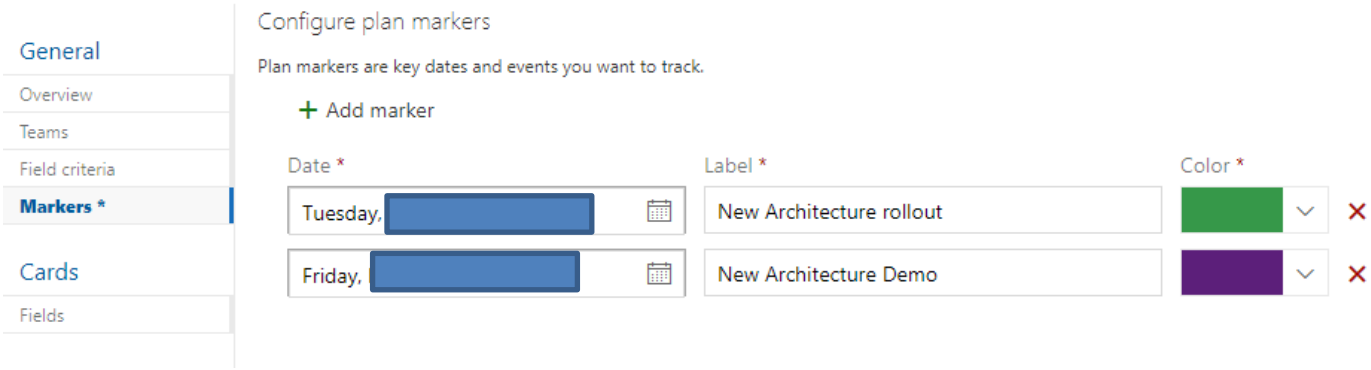
6. Once created, you should get the following view:



7. Click on the settings icon at the top of the delivery plan:

8. Add the following timeline markers. The first date should be before the end of the current PI 1 and the second date at the start of the PI 2:



9. The delivery plan should now reflect the newly added markers:

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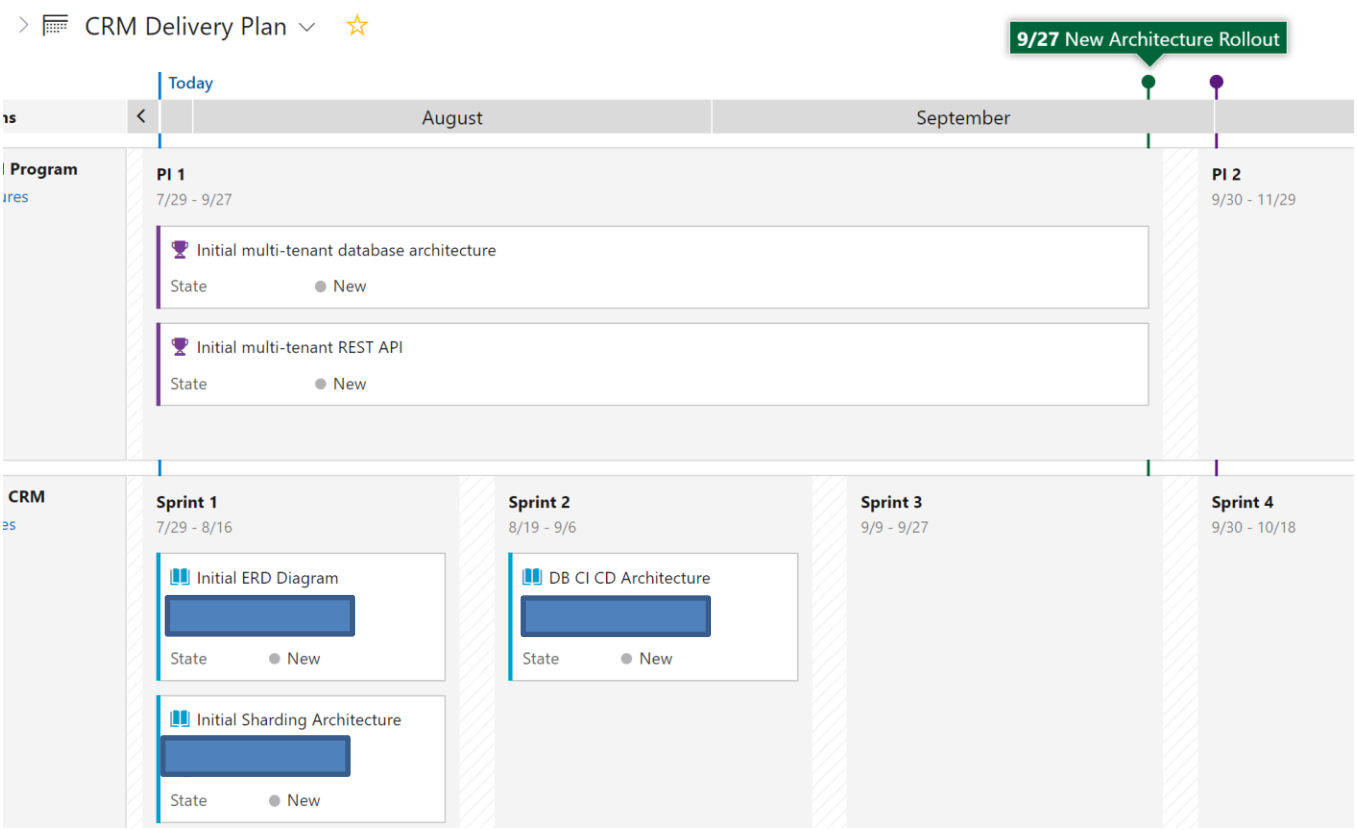

This plan should allow you to plan and track for:

- Cross project, cross teams' dependencies.
- Major milestones.
- Important dates

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