Managing Projects Using Azure Boards

Azure DevOps | 2018.10

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Managing Projects Using Azure Boards

Course Number:	MPAB
Version:	2018.10
Software version:	ADSvc

Managing Projects
Using Azure Boards

Course Introduction

Accentient

- A leader in ALM, DevOps, and Scrum knowledge
- Helped thousands of teams and individuals understand and implement Azure DevOps/VSTS/TFS and Scrum successfully
- Has a close working relationship with Microsoft
- Has a close working relationship with Scrum.org
- Has a staff consisting of Microsoft MVPs, Professional Scrum Developers, Professional Scrum Trainers, and authors

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Course Creator: Richard Hundhausen

- President of Accentient
- Author of software development books
- Microsoft MVP (Visual Studio ALM)
- Professional Scrum Developer
- Professional Scrum Trainer
- Co-creator of Nexus scaled Scrum Fx
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http://bit.ly/1eL0t4C

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Prerequisites

- Familiar with software development lifecycle
- Familiar with team based development
  - Product Owner, Scrum Master, or Development Team member
- Familiar with the Scrum framework

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Team Formation

10 MIN

- Identify yourself by competency:
  - ★ Knows QA/testing
  - ★ Knows architecture/design
  - ★ Knows code/programming
  - ★ Knows Visual Studio tools
  - ★ Knows Scrum/Agile
- Form into cross-functional teams
- Co-locate your team
- Name your team

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Introductions

- Name
- Title/Role
- Development Experience
- Scrum Experience
- Azure DevOps/VSTS/TFS Experience
- Expectations

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Course Overview

- This course shows you how to configure and use Azure Boards to plan and track development work
  - Configuring Azure Boards
  - The Product Backlog
  - Refining the Product Backlog
  - Planning a Sprint
  - Creating a Sprint Backlog
  - Managing a Sprint

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Course Backlog

1. Azure Boards
   - Creating a team project
   - Configuring security, areas, and alerts
   - Supporting multiple teams and multiple products
2. The Product Backlog
   - Creating and managing the Product Backlog
   - PBI and Bug work item types
   - Tagging, querying, and charting work items
3. Planning and Managing a Sprint
   - Configuring Sprints and Releases
   - Creating and managing the Sprint Backlog
   - Task work item types
   - Tracking the daily progress of work

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Our Azure DevOps Services Environment

- We will be using a shared instance of Azure DevOps Services
- Each team will …
  - Be collocated
  - Have its own team project
  - Collaborate on all work in this class
- Each team member will …
  - Need a Microsoft Account

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Our Case Study: Fabrikam Fiber

The hands-on labs are centered around a fictitious company named Fabrikam Fiber.

Working as a team, you will see how to plan and track a team-based development effort.

You will work as a team in a shared team project hosted in Azure DevOps Services.

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Schedule and Logistics

- Lunch
  - Flexible (we'll try for 11:30 to noon)
- Breaks
  - Mid-morning and mid-afternoon
- Labs
  - All labs are breaks too!

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Collaborating as a Team

- There are many opportunities for collaboration in this course
  - Some tasks, however, must be performed by *one* team member
- All tasks will be marked with an appropriate icon …

The team can self-organize and execute the task however they decide
Only the "leader" should execute this task
Only the "followers" (not the leader) should execute this task
Everyone on the team should execute this task
Everyone on the team should execute this task (working in pairs)

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Managing Projects
Using Azure Boards

Module 2

The Product Backlog

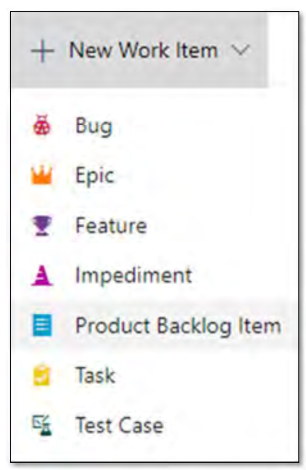
Module Backlog

- Work Items
  - Work Item Types
  - Product Backlog Items
  - Bugs
- Tagging, Querying, and Charting
- Backlogs
  - Product Backlog
  - Creating and Managing
- Lab

Work Items

Work Items

- Work items enable teams to plan, manage, and track their work
- They are defined by the process template
  - There are many work item types
- Each work item has …
  - A work item ID
  - A work item type
  - A state (active, in-progress, done, etc.)
  - Assigned to (only a single person may be assigned)

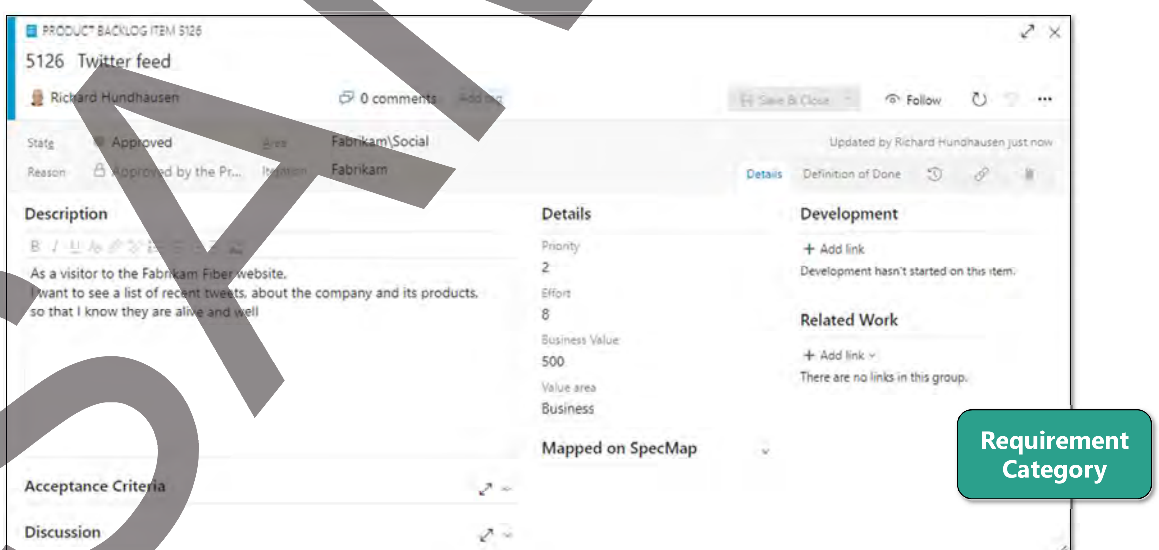


Work Item Types Across Process Templates

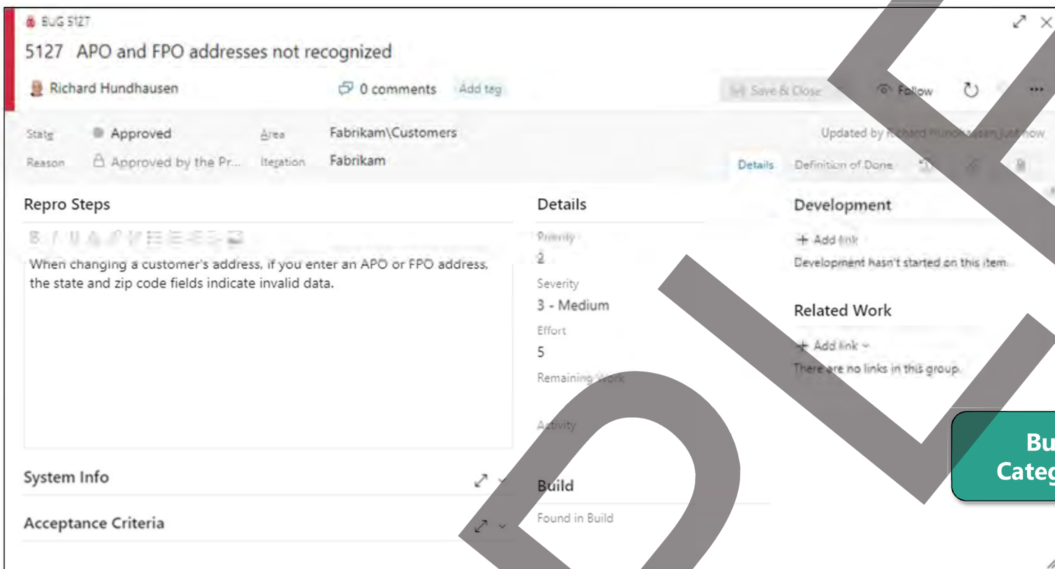
	Scrum	Agile	CMMI
WORK ITEM TYPE			
Requirement	*Product Backlog Item*	*User Story*	*Requirement*
Epic	Epic	Epic	Epic
Feature	Feature	Feature	Feature
Bug	Bug	Bug	Bug
Task	Task	Task	Task
Test Case	Test Case	Test Case	Test Case
Issue	*Impediment*	*Issue*	*Issue*
Change Request	-	-	*Change Request*
Review	-	-	*Review*
Risk	-	-	*Risk*

This list does not include hidden work item types.

The Product Backlog Item Work Item Type



The Bug Work Item Type



Bug Category

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Tagging, Querying, and Charting

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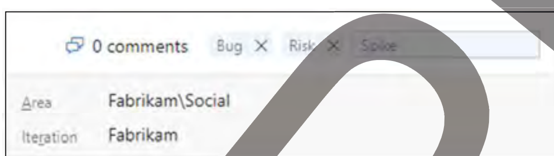
Work Item Tags

- Tagging work items helps you quickly filter and find those items you want
  - They are an alternative to areas
  - Tags can be displayed in the backlog or any query result
  - Filter lists by tag
  - Restrict who can add tags



Visit https://bit.ly/2N37P8U for more information

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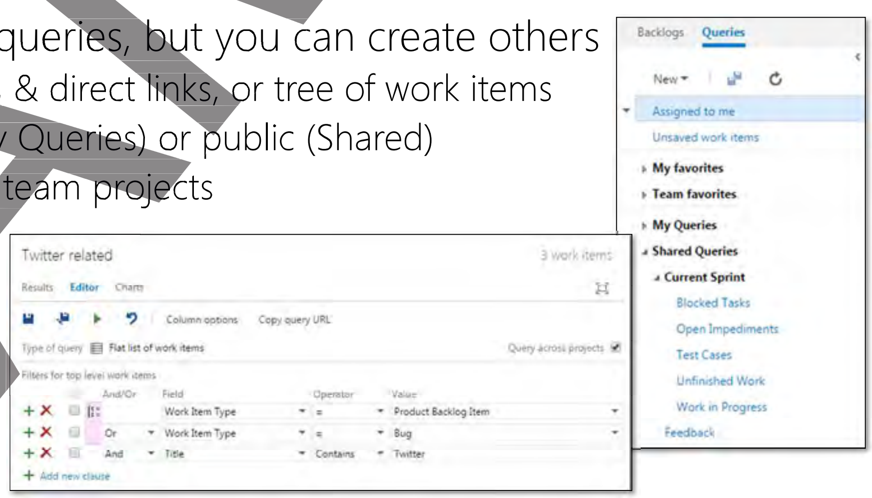
Querying Work Items

- Many predefined queries, but you can create others
  - Flat list, work items & direct links, or tree of work items
  - Can be private (My Queries) or public (Shared)
  - Even query across team projects



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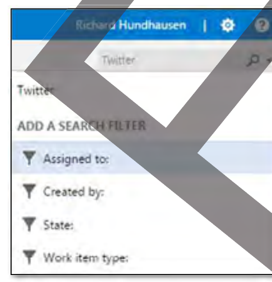
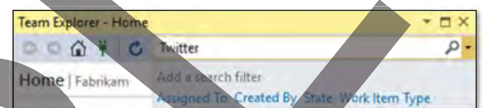
Finding Work Items

- Use the search work items box to quickly find work items
  - Perform partial or exact match queries on a keyword or a phrase contained within any text field
- The dropdown menu provides …
  - A most recently used (MRU) list of searches
  - Additional search filters
- Tip: Enter a work item number to jump directly to that work item





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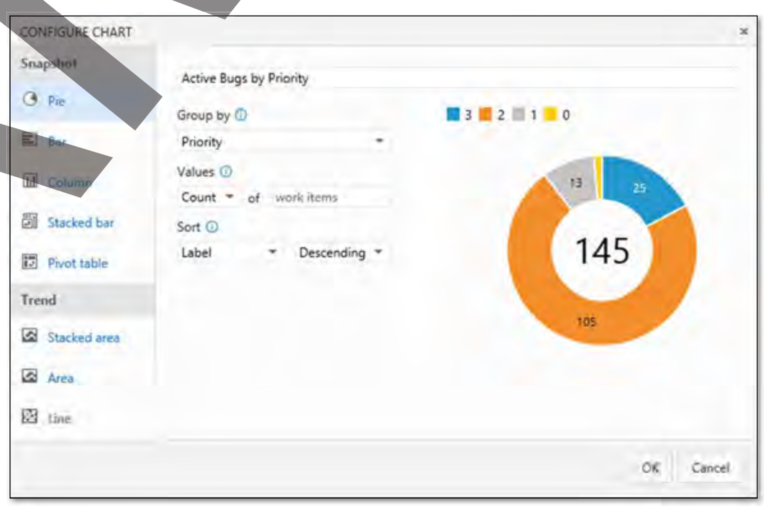
Work Item Charts

- Chart query results
  - Snapshot
  - Trend
  - Test Results



Visit http://bit.ly/1NDDrf7 for more information

Backlogs

The Product Backlog

The Product Backlog is an ordered list of everything that might be needed in the product.

It is the single source of requirements for any changes to be made to the product.

It's a List of "Desirements"

- The Product Backlog contains many things
  - Features
  - Enhancements
  - Behaviors
  - User stories
  - Bugs/defects
  - Use cases
  - Scenarios
- <u>Be careful</u>: Some desirements are actually acceptance criteria or tasks

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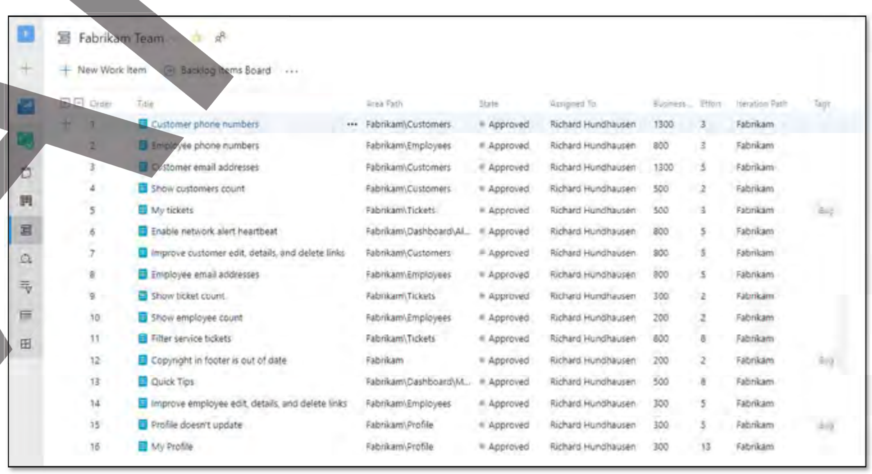
The (Product) Backlog Page

- Hierarchical
  - Map to Features, Epics, and Tasks
- Drag and drop
- Quick Add
- Forecasting tool
- Recycle bin
- Customizable
  - Columns
  - Behavior



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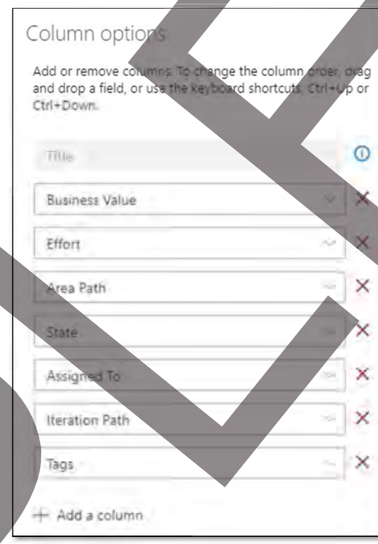
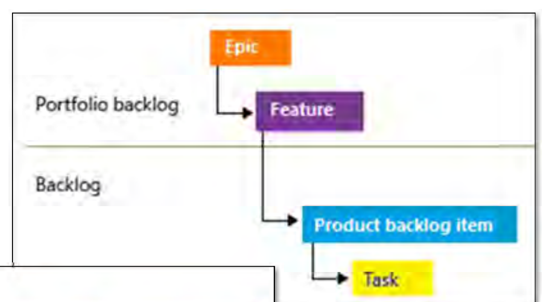
Backlog Columns for Scrum Teams

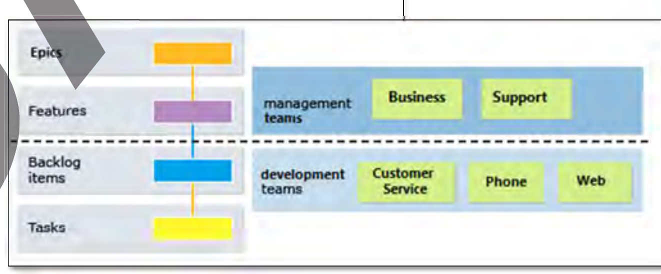
- Consider a minimal set of columns
- Keep a focus on ROI
  - *Business Value* field
  - *Effort* field



Organize Your Backlogs

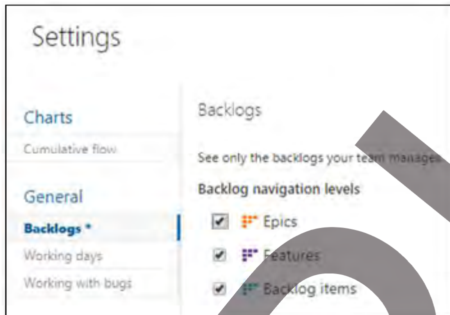
- Hierarchical backlogs provide insight into the work performed across multiple reporting levels
  - High-level goals can be defined as *Epics* or *Features*
  - Teams can then break these down into PBIs (user stories)





Enable or Disable Backlog Levels

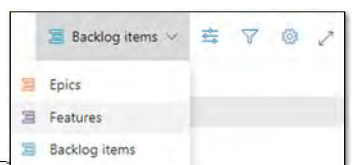
- These additional backlogs can be enabled or disabled
  - This is done at the team level on the Backlogs settings page

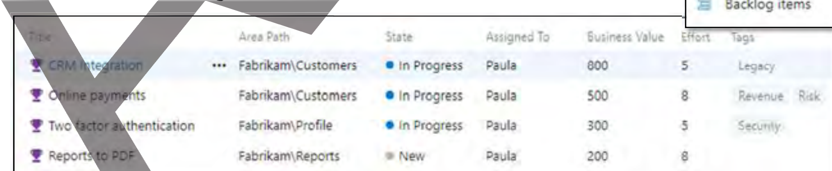


  - Note: Inherited processes allow backlog levels to be renamed

Features Backlog

- Features are hierarchically above PBIs
  - They represent a significant capability in the product (more than just a PBI)



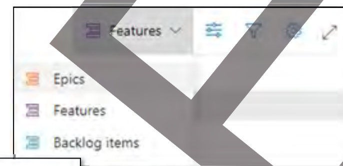


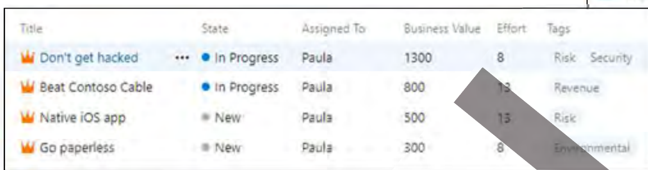
Title	Area Path	State	Assigned To	Business Value	Effort	Tags
CRM Integration	Fabrikam\Customers	In Progress	Paula	800	5	Legacy
Online payments	Fabrikam\Customers	In Progress	Paula	500	8	Revenue Risk
Two factor authentication	Fabrikam\Profile	In Progress	Paula	300	5	Security
Reports to PDF	Fabrikam\Reports	New	Paula	200	8	

- Features enable …
  - The grouping of related PBIs
  - The planning of releases across multiple *sprints*

Epics Backlog

- Epics are hierarchically above Features
  - They represent a significant effort, initiative, objective, strategy, or theme





- Epics enable …
  - The grouping of related Features
  - The planning of functionality across multiple *releases*

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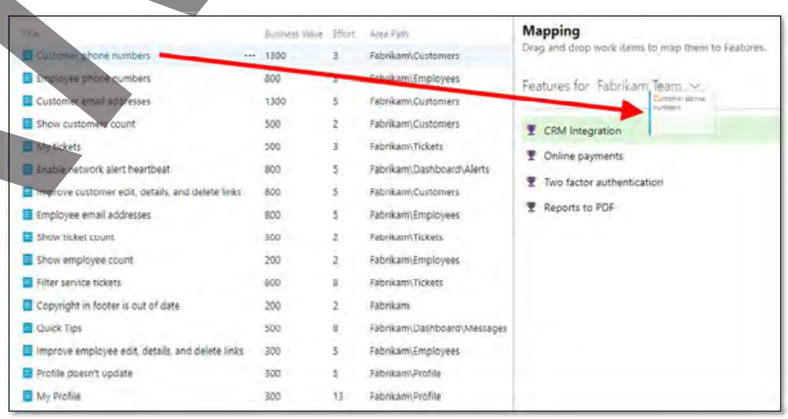
Mapping Product Backlog Item to Features

- Show Mapping window
  - A Features window will open to the right
- Drag an unparented PBI to its corresponding Feature on the right
  - A work item can only have one parent, so if you drag to a new parent, it will "re-parent" with that feature



- Note: Follow similar steps to map Features to Epics

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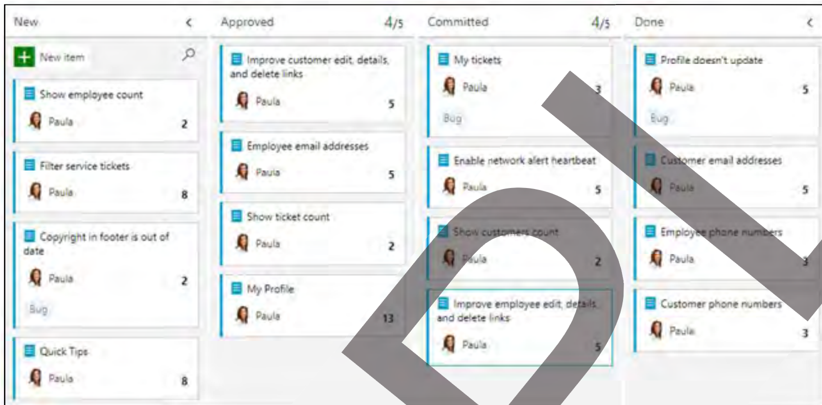
Backlog Items: Board View

- Visual and manage PBIs, Features, and Epics flow
  - Customizable columns and lanes
  - Set and see work in progress (WIP) limits



Stakeholder Access

- Stakeholders are "casual" team project users who can …
  - View, add, and modify work items on backlogs and boards
  - View team dashboards, welcome pages, and wiki pages
  - View, create, and save queries
  - Create and receive notifications
  - Submit, view, and change feedback responses
  - View and approve releases
- Stakeholder access provides <u>free</u> access to Azure DevOps Services and Azure DevOps Server

Visit http://bit.ly/2i1ZzXr for more information

Module Retrospective

What have we learned in this module?

- A team project's process drives its behavior
- Work item types are defined by process templates
  - In Scrum, the Product Backlog contains PBI and Bug work items
- Tags, queries, and charts allow work item information to be shared with other team members
- The (Kanban) board view provides a two-dimensional view of the Product Backlog
- Free Stakeholder access provides access to many features

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Lab

60 Minutes

In this lab you will create and refine a Product Backlog.

- Create PBI and Bug work item types
- Implement a definition of "Ready"
- Refine and order the Product Backlog

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Lab 2: Create and Refine a Product Backlog

Managing Projects Using Azure Boards

LAB OVERVIEW

In this lab your team will use Azure DevOps Services to create and refine a product backlog.

Estimated time to complete this lab: **60 minutes**

Task Execution

As this is a team-based training course, there are a number of opportunities for team members to learn to collaborate more effectively. Unfortunately, there is a possibility for team members to accidentally impede, block, or otherwise cause unintentional conflicts. To minimize the possibility of conflicts, critical tasks in this course have been marked with an icon indicating who on the team should execute the task:

- The team can self-organize and execute the task however they decide
- Only the "leader" should execute this task
- Only the "followers" (not the leader) should execute this task
- Everyone on the team should execute this task
- Everyone on the team should execute this task (working in pairs)

Tip: Look for the "leader" tasks and ensure that they are only performed once per team. Also, ensure that the "follower" tasks are only performed by everyone else (not the leader).

Teams of One

If you are working by yourself and not on a team, make sure to perform all of the "leader" tasks, and none of the "follower" tasks. This scenario is common for students learning remotely.

EXERCISE 1 – ADD DESIREMENTS TO THE PRODUCT BACKLOG

In this exercise, your team will triage a disorganized list of items for product improvement, prioritize them, and then create corresponding work items in your team project.

Task: Triage a Batch of Desirements

In this task your team will discuss the following disorganized list and decide what kind of "desirement" each item is (user story, epic, bug, or noise). A couple of examples have been provided.

DESIREMENT	What is this?	MoSCoW
1. Back up the database every night	NOISE	
2. Customer can look up television lineup online		
3. Add ability to export reports to PDF		
4. Customer can sign in using Facebook credentials		
5. Integrate with other systems		
6. Service reps can view ticket details from dashboard	USER STORY	
7. Mobile technicians can locate nearest hardware store		
8. Customers with Canadian addresses not displaying properly		
9. Beat Contoso Cable		
10. Ensure stakeholders' needs are met		
11. Customer can sign up for emails about service outages		
12. Support phone devices for our executives		
13. Technician can report busy/late on phone		
14. Customer can become a Fan of Fabrikam Fiber on Facebook		
15. Customer can pay invoices online		
16. Improve mobile support	EPIC	
17. Technician can check on parts orders on phone		
18. Technician can see service tickets on phone		
19. Customer can find the nearest Fabrikam Fiber location		
20. Customer can reschedule appointments		
21. Synchronize customer changes with our Dynamics CRM		
22. Mobile technicians can update customer contact details		
23. Reports are not working	BUG	
24. Go paperless		
25. Improve customer service		

1. Working as a team, note which items in the above list are user stories, bugs, epics (really large user stories), or just noise.

   How many bugs did you identify? User stories? Epics? ______________________________________

Task: Use MoSCoW Method to Prioritize Items

In this task your team will use the *MoSCoW* method to classify the items in your list.

1. Elect a Product Owner.

   This person will be the "voice of the customer" during the rest of these exercises. He or she will also have the final say in the description and business value of the items in **the Product Backlog**, including the ordering of those items.

   Who is your team's Product Owner? ____

2. As a team, review each user story/bug (excluding epics) and classify it as one of the following …

   - Must have
   - Should have
   - Could have
   - Won't have

   Note: MoSCoW is a technique used in management, business analysis, and software development to reach a common understanding with stakeholders on the importance they place on the delivery of each item - also known as MoSCoW prioritization or MoSCoW analysis. For more information visit http://en.wikipedia.org/wiki/MoSCoW_method.

   How many "Must have" items did you identify? "Won't have" items? ______________________

Task: Disable Other Backlogs

In this task one member of your team will ensure that the Epics and Features backlogs are not visible.

Who will be performing this task? ____

1. If necessary, open your browser and navigate to your team project's home page.
2. Select **Project settings**.
3. In the **Boards** section, select **Team configuration**.
4. On the **General** page, view the **Backlog navigation levels** settings.

   Which Backlogs are currently enabled (checked)? ____

5. Clear the checkboxes except **Backlog items**.
6. Return to the team project's home page.

Task: Create Work Items

In this task your team will self-organize and create work items for the items you just triaged.

1. If necessary, open your browser and navigate to your team project's home page.

2. From the **Boards** hub, go to the **Backlogs** page.

3. Press **F5** to refresh the page.

   How many items does your Product Backlog currently contain? ______________________________

4. Divide up the items evenly amongst the team members.

   Tip: Working in pairs might be useful for this task.

5. Skipping the *Epic* and *Noise* items, create a **Product Backlog Item** work item for each *User Story* or a **Bug** work item for each *Bug* accordingly.

   - Enter the **Title** (or a shortened variation)
   - Assign the work item to the **Product Owner**
   - Select an appropriate **Area**
   - Add a short, meaningful, creative **Description**

   Note: If it seems that items are not visible in the backlog, you may have forgotten to "include sub-areas" when your colleague configured team areas in the previous lab.

6. As a team, review the Product Backlog to ensure accuracy.

   - Rename any items to make them more clear
   - All items should be in the *New* state
   - Every item should have a non-root *Area* (e.g. *Fabrikam\Mobile* – create new areas as necessary)
   - Every item should be in the root *Iteration* (*Fabrikam*)

   Note: If there are any disputes, your Product Owner has the final say

EXERCISE 2 – IMPLEMENT A DEFINITION OF "READY"

In this exercise, your team will customize the Board by adding new columns in order to implement a definition of "ready".

For more background on this technique, read the blog post *Using the Kanban Board to Implement a Definition of Ready* at http://bit.ly/1ZLPn59.

Task: Customize the Board

In this task one team member will customize the Board by adding additional columns in order to implement the following definition of "ready" based loosely on INVEST (http://bit.ly/1TxK01e):

- ✓ Product Owner is interested
- ✓ Priority assigned
- ✓ Business value assigned
- ✓ Sized
- ✓ Ready

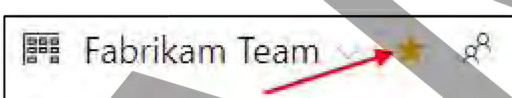
Who will be performing this task? ____

1. If necessary, open your browser and navigate to your team project's home page.

2. From the **Boards** hub, go to the **Boards** page.

3. Select the **Fabrikam Team Boards**.

   If you want, you can make this board a favorite, to find it quicker the next time you are looking for a specific board. This may make sense to do if you are working in an environment with many teams.

4. Review the items in the board.

   What are the current columns? ____

   By default, the columns match to the states of the work items on the board.

5. Click in the upper right to configure team settings.

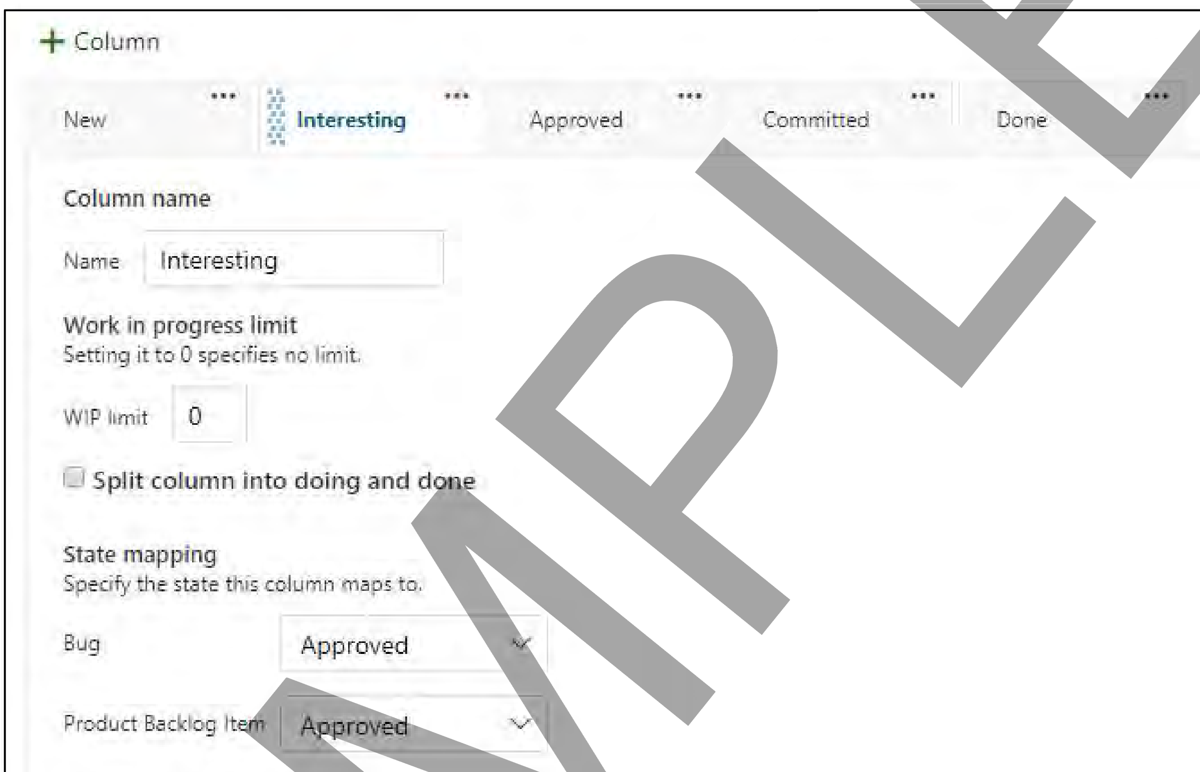
6. Go to the **Columns** page.

   You should see the same four columns listed here: *New, Approved, Committed*, and *Done*.

7. Click + **Column**.

   This will add the column to the right of *New*.

8. Name the column **Interesting**, set the WIP limit to **0**, and select the **Approved** state for both the Bug and Product Backlog Item types.



9. Select the **Approved** column at the top and click + **Column** to add a new column to its left.

10. Name the column **Prioritized**, set the WIP limit to **0**, and ensure the **Approved** state is selected for both the Bug and Product Backlog Item types.

11. Select the **Approved** tab and click + **Column**.

12. Name the column **Has Value**, set the WIP limit to **0**, and ensure the **Approved** state is selected for both the Bug and Product Backlog Item types.

13. Select the **Approved** tab and click + **Column**.

14. Name the column **Sized**, set the WIP limit to **0**, and ensure the **Approved** state is selected for both the Bug and Product Backlog Item types.

15. Select the **Approved** tab, *rename* the column to **Ready**, set the WIP limit to **0**, and ensure the **Approved** state is selected for both the Bug and Product Backlog Item types.

16. Select the **Committed** tab, *rename* the column to **Forecasted**, and set the WIP limit to **0**.

    Although this didn't change the underlying state, at the column now matches the Scrum Guide!

17. Click **Save**.

    Your customized board should now have these columns:

New	Interesting	Prioritized	Has Value	Sized	Ready	Forecasted	Done

Task: Identify the Interesting Items

In this task your team will collaborate to identify the "interesting" PBI and Bug work items.

1. If necessary, open your browser and navigate to your team project's home page.

2. From the **Boards** hub, go to the **Boards** page, and then to the **Fabrikam Team Boards**.

3. Press **F5** to refresh the page.

   How many items are in the *New* state? ____

4. Click View options in the upper right and then turn **Live updates** on.

   As you work as a team during the next few tasks, rather than pressing F5 to refresh the board periodically, the *Live Updates* feature will update your board immediately when anyone in your team creates, updates, or deletes a work item on the board. Behind the scenes, server-side code pushes content to all of the connected clients as it happens, in real-time.

5. As a team, decide which items sound interesting, and then drag them into the **Interesting** column.

   Tip: Use the MoSCoW values that you came up with earlier to decide which ones are interesting. Make sure to leave a couple of "won't haves" in the New column. Also, don't worry about the order of the items in the columns – we'll address that shortly.

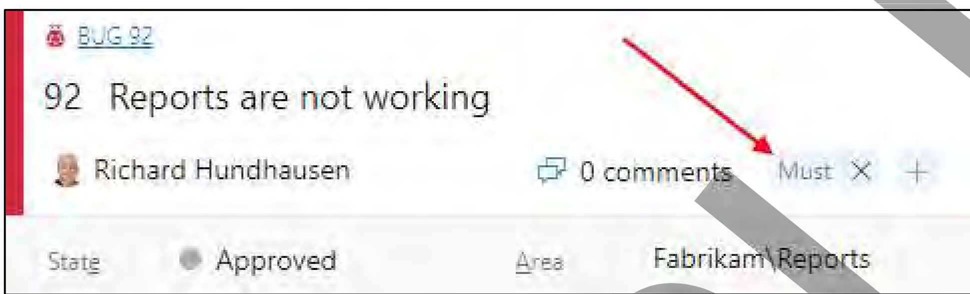
   How many items are in the *Interesting* column now? *New* column? __________________________

Task: Prioritize the Interesting Items

In this task your team will prioritize the “interesting” items by using each item’s MoSCoW value.

1. As a team, edit each “Interesting” item and add a **Must**, **Should**, **Could**, or **Won’t** tag as appropriate.

   You can do this by clicking a card’s title, adding the tag at the top, and clicking Save & Close.



2. After adding the tag, drag the item to the **Prioritized** column.

3. Drag one or two cards without a tag in the **Interesting** column.

4. Using drag and drop, order the items within the **Prioritized** column so that the **Must**-haves are at the top, **Should**-haves are in the middle, and **Could**-haves are at the bottom.

   Feel free to change your mind at any time, change the tags, and the orders of the items. Just make sure that your Product Owner is satisfied with the order of the Product Backlog.

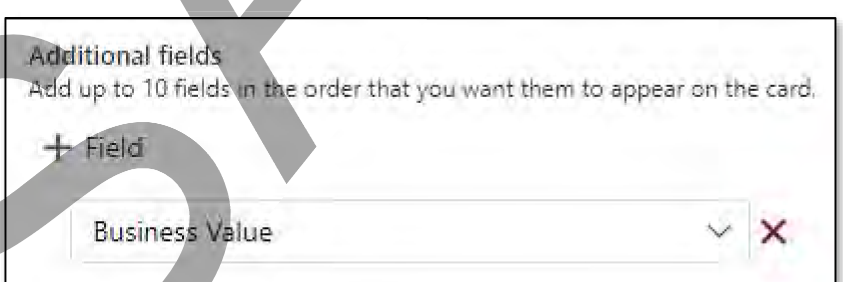
Task: Style the Cards

In this task one team member will customize the cards, displaying the Business Value field and adding coloring styles based on the tags.

Tip: Have a different team member do this task than the one who customized the Board view.

1. Click ⚙ in the upper right to configure team settings.

2. On the **Fields** page, click + **Field** and select **Business Value**.



   This will cause the Business Value field to display on the PBI cards on the board. We will be assigning Business Value in a few moments.

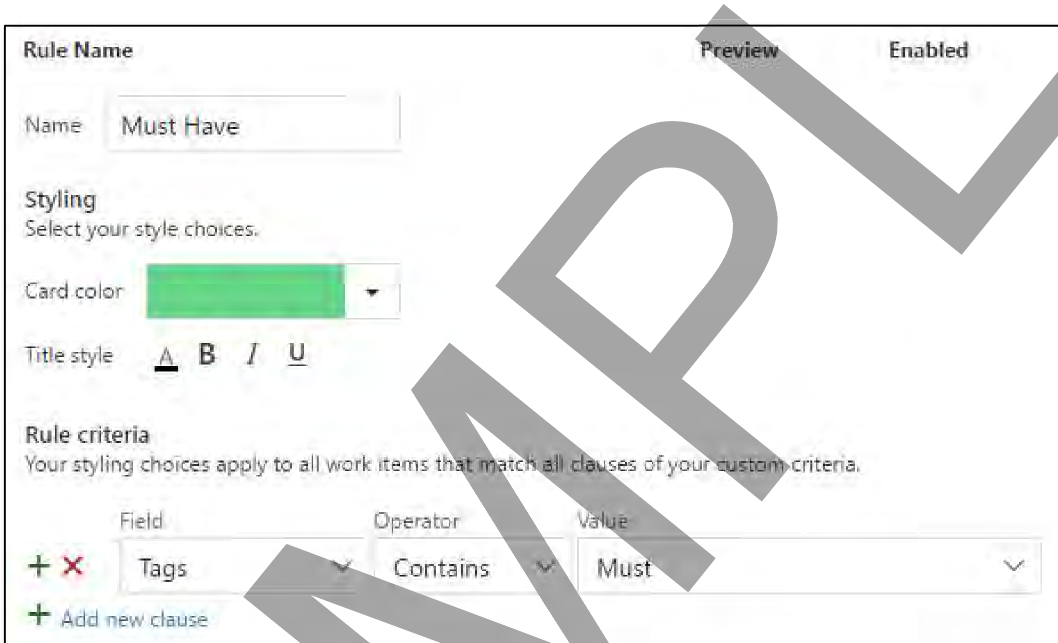
3. Go to the **Bugs** tab, click + **Field** and select **Severity**.

   Since Bugs don't have a Business Value field, we will be using *Severity* instead.

4. Go to the **Styles** page.

5. Click + **Styling rule**.

6. Name the rule **Must Have**, select a bright green for the **Card color**, and add a rule criterion where **Tags** … **Contains** … **Must**.



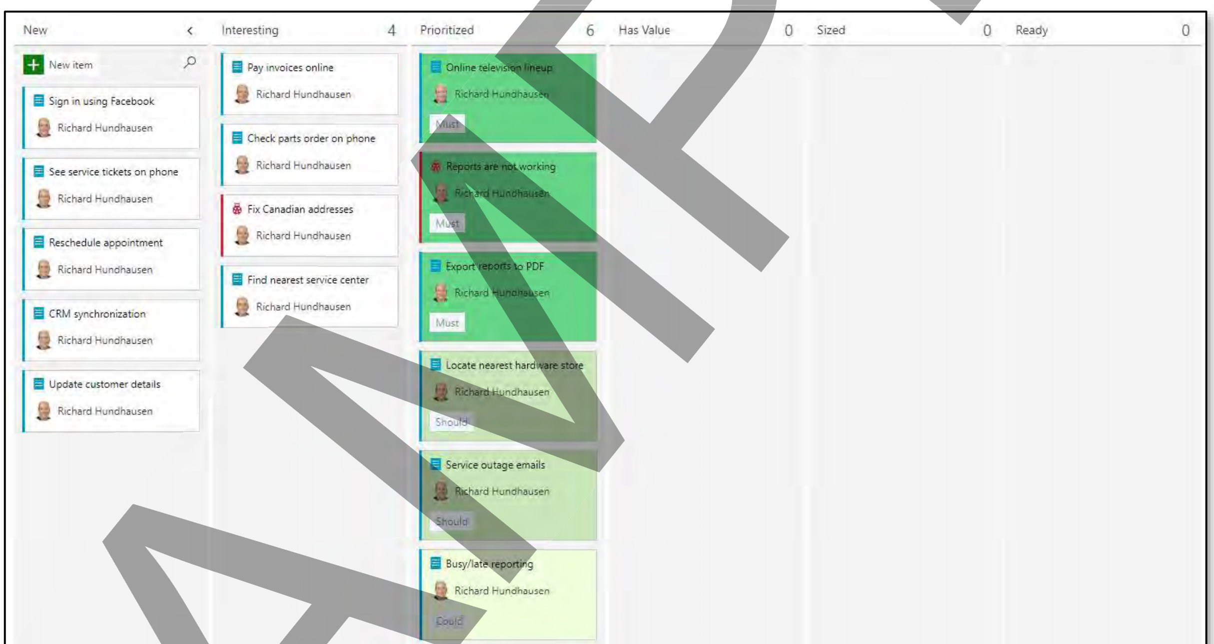
7. Click + **Styling rule** and add a **Should Have** rule with a medium green card color and a criterion where **Tags** … **Contains** … **Should**.

8. Click + **Styling rule** and add a **Could Have** rule with a light green card color and a criterion where **Tags** … **Contains** … **Could**.

9. Drag and drop the styles so that they are in this order:

10. Click **Save**.

Now anyone looking at the board can quickly see which items are higher priority/value:



Task: Assign Business Value to the Prioritized Items

In this task your team will assign a business value number to the "prioritized" items.

1. Review the items on the **Board**.

   How many items are in the Prioritized column? How many are Bugs? ________________________

2. As a team, edit any "Prioritized" **Bug** work item and set its **Severity** accordingly:

   - *2 - High* for *Must*-have PBI work items
   - *3 - Medium* for *Should*-have PBI work items
   - *4 - Low* for *Could*-have PBI work items

   Note: Unfortunately, the Bug work item type doesn't have a *Business Value* field. Also, as of this writing, *Severity* is not available to display on the cards. For these reasons, some teams won't use the Bug work item type at all, but rather use PBIs for everything and just add a "Bug" tag where appropriate.

3. As a team, edit each "Prioritized" **PBI** work item and set its **Business Value** accordingly:

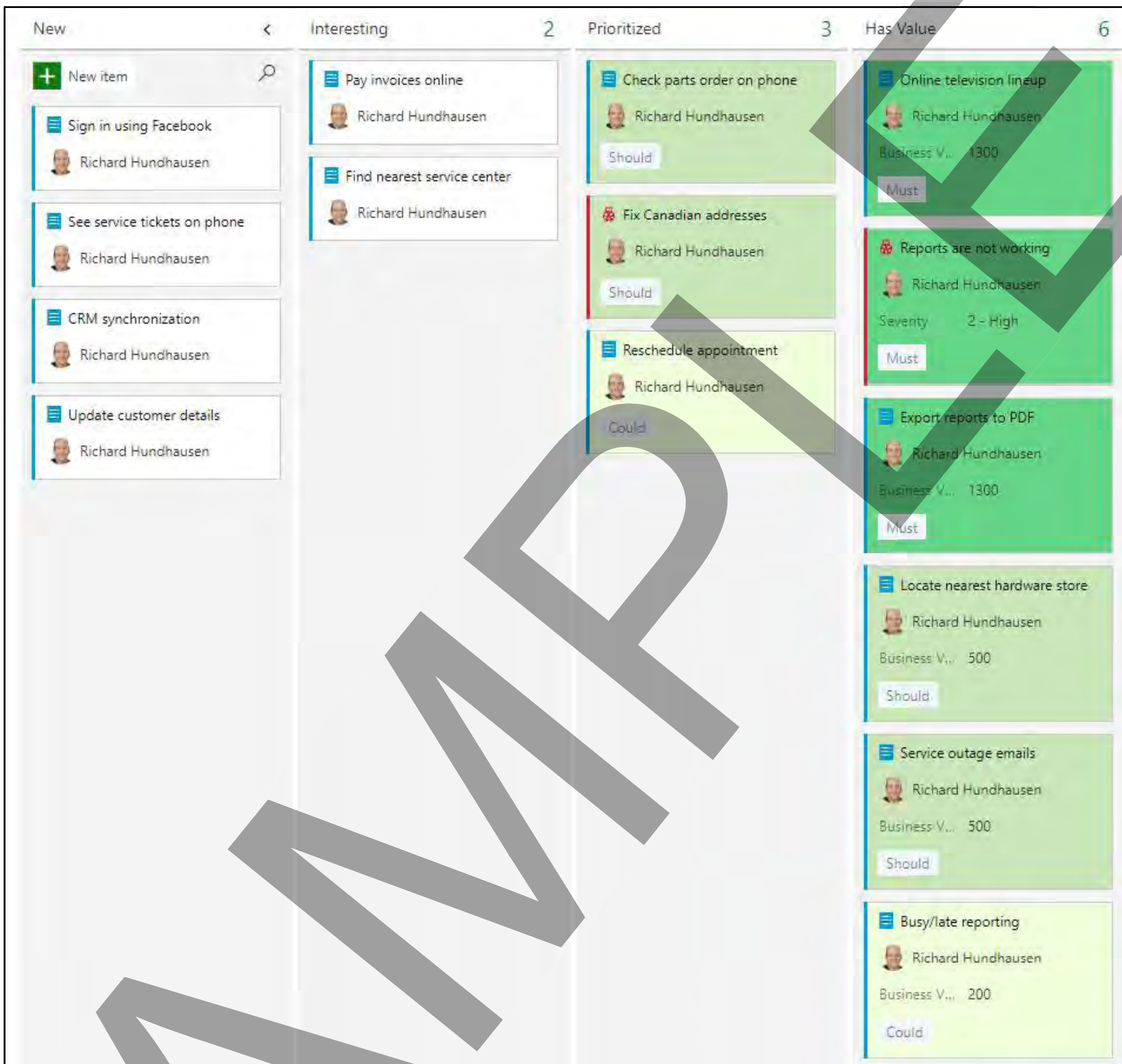
   - *1300* for *Must*-have PBI work items
   - *500* for *Should*-have PBI work items
   - *200* for *Could*-have PBI work items

4. After setting the **Business Value** or **Severity** values, drag the item to the **Has Value** column.

5. Leave one or two PBIs without a **Business Value** in the **Prioritized** column.

6. Reorder the cards (work items) in the **Has Value** column if necessary.

Your board might look something like this now:



EXERCISE 3 – ESTIMATE THE PRODUCT BACKLOG

In this exercise, your team will estimate the “size” of each item in the Product Backlog using a Fibonacci sequence (1, 2, 3, 5, 8, 13, 21, etc.). These estimates will then be saved in the Effort field of each PBI and Bug work item.

Task: Perform Relative Estimation

In this task your team will estimate the size of the work items that have “value”.

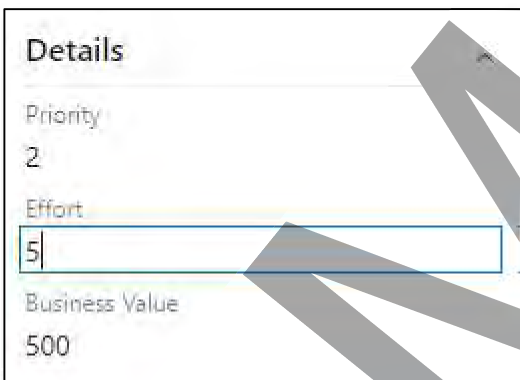
1. Review the items on the Board.

   How many items are in the *Has Value* column? How many are Bugs? _________________________

2. As a team, identify one of the “Has Value” items which is of “medium” complexity/effort.

   Note: This will be a wild guess, especially for a team that’s never met before today, working on a product they’ve never used or developed, and using brand new tools. Do your best!

3. Have someone on the team edit that “baseline” work item and set its **Effort** to **5**.



   Note: Even the Bug work item type has an Effort field.

4. Have someone on the team start a 5-minute timer and begin estimating.

   You have a 5-minute timebox to estimate as many items as you can in the “Has Value” column:

   - Starting at the top of the column, open an item and briefly discuss it with the rest of the team
   - Keeping in mind that the baseline work item size is a 5, vote if this item is “smaller” (e.g. a 3, 2, or 1) or “larger” (e.g. a 8, 13, 21, or huge); huge items would need to be broken down into smaller items in order to be delivered in a single sprint (which is beyond the scope of this class)
   - Keep discussing and voting until consensus is reached, or the group has tried for 3 times, or the timebox has expired
   - If consensus was reached (or an average can be agreed upon), enter it into the *Effort* field
   - Repeat until all PBI work items have been estimated or the timebox has expired

Tip: You can use, or quickly make, Planning Poker cards. There are also free apps for your phone – just search on “Planning Poker”, “Scrum Poker”, or “Agile Poker” in your app store.

5. After setting the **Effort** value, drag the item to the **Sized** column.

6. Leave one or two items without an **Effort** in the **Has Value** column.

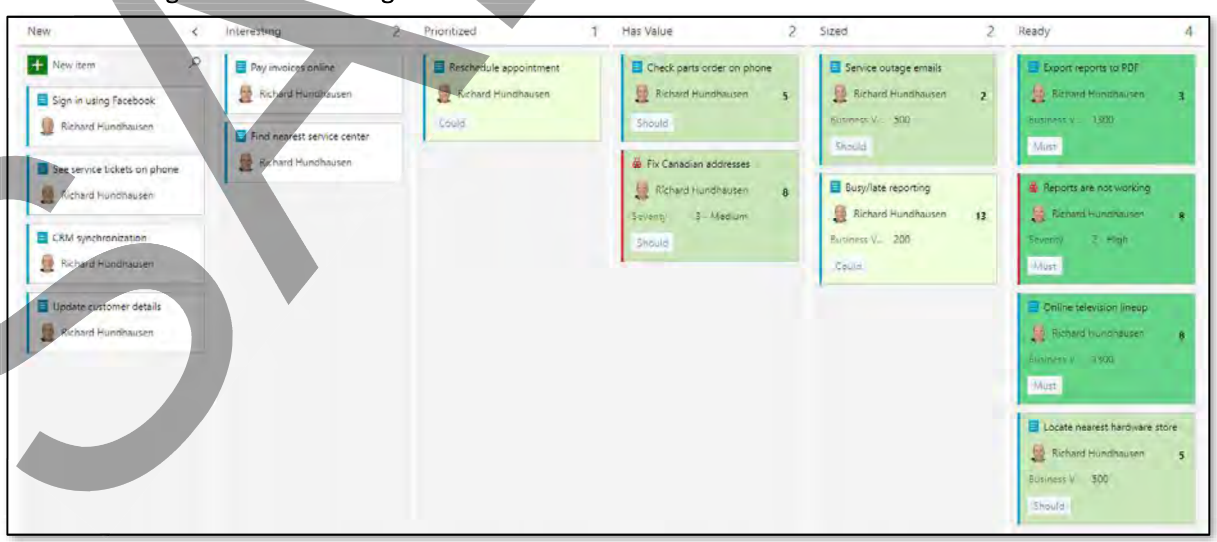
Task: Order the Product Backlog Based on ROI (optional)

In this task your team, as directed by your Product Owner, will order the Product Backlog based on the Return On Investment (ROI) of each item in the Sized column.

1. Reorder the items in the **Sized** column based on ROI (**Business Value** or **Priority** / **Effort**).

2. Drag all but two items from the **Sized** column to **Ready**.

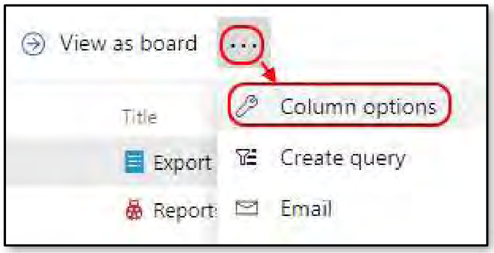
Your board might look something like this now:



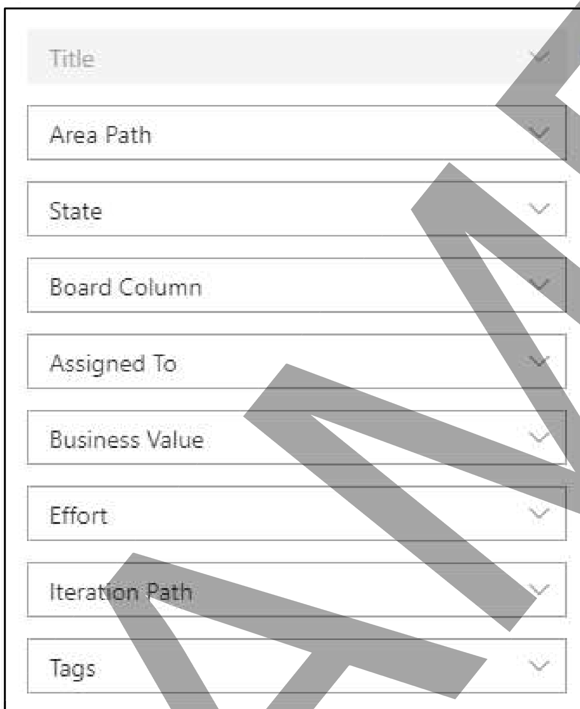
3. Click **View as backlog** in the upper left.

   You can also get to the backlog on the *Boards* hub by selecting *Backlogs* page.

4. From the **…** menu at the top, select **Column options**.



5. Add, remove, and move columns until they look like this:



A few notes and generalities about Product Backlogs …

- You can remove the *Work Item Type* column because Bugs will show in red with a bug icon
- The *Board Column* shows the virtual board column that this item sits in
- All *Assigned To* fields should be set to your Product Owner
- All *Approved* state items should generally be ordered above *New* state items
- Within the *Approved* state, items should generally be ordered by Board Column: (1st) Ready, (2nd) Sized, (3rd) Has Value, (4th) Prioritized, and finally (5th) Interesting