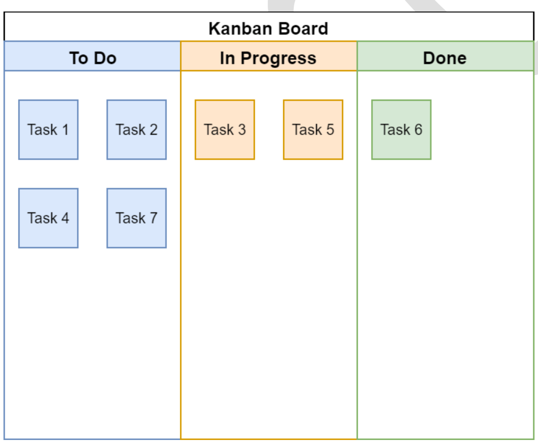
Agenda: Azure Boards

- Working with Work Items
- Epic, Feature, User Story, Task, Bug and Test Cases
- Linking Items
- Collaborate with Team members
- Follow a Work Item
- Dashboards
- Sprints
- List work items using Queries

Azure Boards Introduction

- Azure Boards is a tool in Azure DevOps to help teams plan the work that needs to be done.
- Essentially, Boards is your ultimate, built in agile **project planning and management tool** and has all of the functionality you would expect to find in a standalone piece of software with the ability to link work items and tasks with your pipelines.
- Team will use this tool to get a better idea of what work needs to be done and how to prioritize it.
- You can quickly and easily start **tracking user stories, backlog items, task, features, and bugs** associated with your project. You do this by adding **work items** based on the process and work item types available to your project.
- They mimic the functionality of Atlassian's Issue & Project Tracking software, **Jira**.



Boards Process Supported by Azure DevOps

In Azure DevOps, you customize your work tracking experience through a process. A process defines the building blocks of the work item tracking system as well as other sub-systems you access through Azure DevOps. Whenever you create a team project, you select the process which contains the building blocks you want for your project. The default processes differ mainly in the work item types (WITs) they provide for planning and tracking work.

a. **Basic Process:** This template is flexible for any process and great for teams getting started with Azure DevOps. Choose Basic when your team wants the simplest model that uses Epics, Issues and Tasks to track work.
b. **Agile Process:** This template is flexible and will work great for most teams using Agile planning methods, including Scrum and tracks development and test activities separately. This process works great if you want to track **user stories** and **bugs** on the Kanban board, or track bugs and tasks on the task board.
c. **Scrum Process:** Choose Scrum when your team practices Scrum. This process works great if you want to track **product backlog items** (PBIs) and **bugs** on the Kanban board, or break PBIs and bugs down into tasks on the task board.
d. **Capability Maturity Model Integration (CMMI) Process**: This template is for more formal projects requiring a framework for process improvement and an auditable record of decisions. With this process, you can track **requirements, change requests, risks, and reviews**..

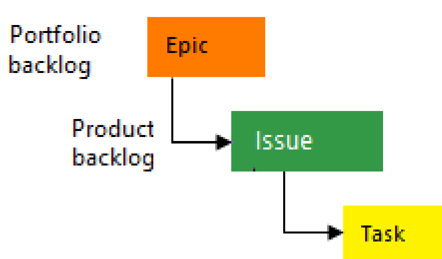
Azure DevOps supports two process types:

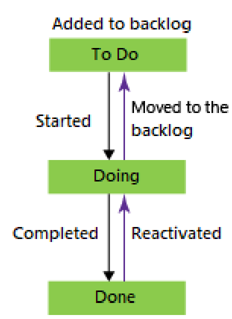
1. **Core System Processes:** You cannot customize these.
2. **Inherited Processes**: You create from a core system process. These processes you can customize.

Basic Process

Basic provides three work item types—**epics**, **issues**, and **tasks**—and a very simple workflow.

As works progresses from **not started** to **completed**, you update the State workflow field from **To Do**, **Doing**, and **Done**.



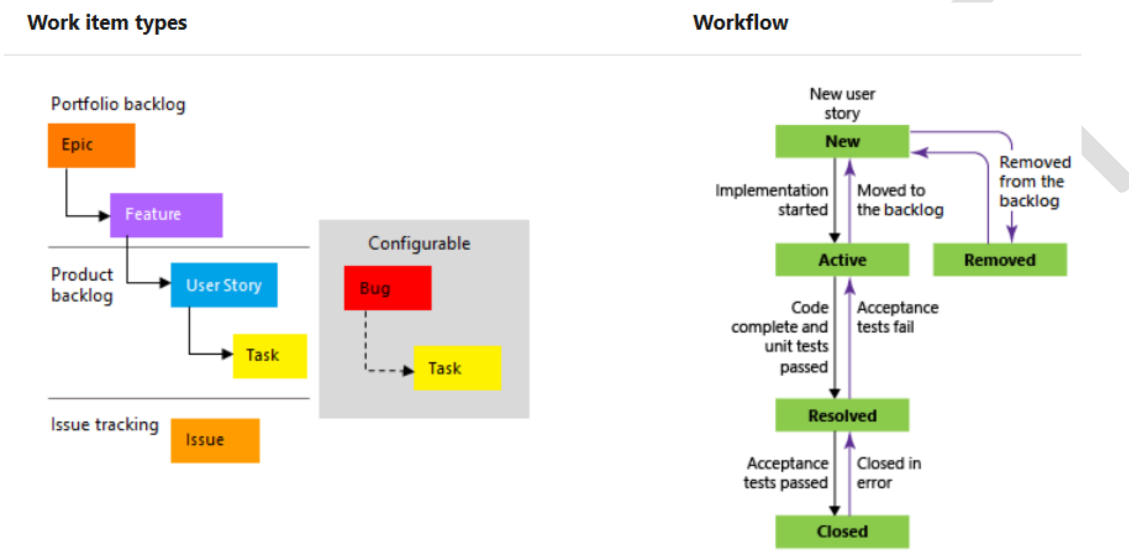


- Add **epics** to track significant features or requirements.
- Use **issues** to track user stories, bugs, or other smaller items of work.

- Use **tasks** to track even smaller amounts of work for which you want to track time either in hours or days.

Agile Process

The Agile process provides several work item types—user stories, bugs, features, epics, and tasks. As works progresses from not started to be completed, you update the State workflow field from New, Active, Resolved, and Closed.



- Add **epics** to track significant business initiatives.
- Add **features** to track specific applications or set of work.
- Define **user stories** to track work that you'll assign to specific team members,
- Add **bugs** to track code defects.
- Use **tasks** to track even smaller amounts of work for which you want to track time either in hours or days.
- Use **Issues** to track obstacles to progress
- Use **Test Case** for Server-side data for a set of steps to be tested.

Try These:

Organization Settings → Boards → Process →

1. **View all Process:** Processes Tab
2. **Build-In Fields**: Fields Tab
3. **List Work Item Type:** Click on Process → Work Items types Tab

Create a new process that inherits from Agile.

1. Organization Settings → Process
2. Select Agile → click . . . → Create inherited process → Name = Custom Agile → Create process
3. Click and Open Custom Agile → Select Bug → **New Field →**
    a. **Definition Tab: Name = Bug Reason**
    b. Layout Tab: Select existing group / Create a new group
    c. Add field
4. **Switching the Process:** Organization Settings → Process → Click and Select Agile → Projects Tab → For the Selected Project → Click . . . → Change process → Select Custom Agile

Project Settings → Boards → **Team Configuration**

→ Backlog navigation levels → Check **Epic**

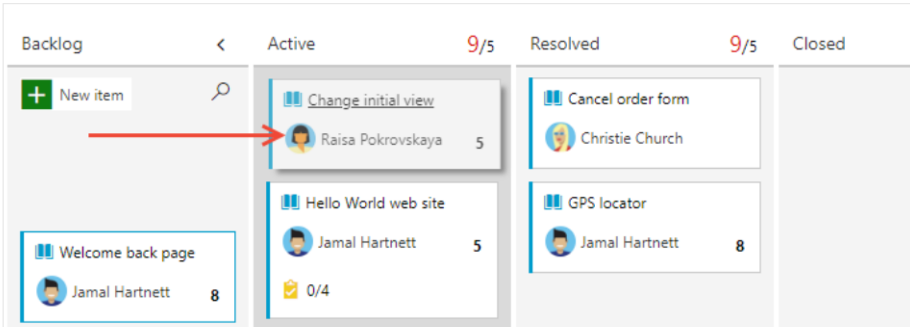
Working with Work Items

Pre-requisite:

- To add or modify work items, you must be granted **Stakeholder** access or higher.
- To view or modify work items, you must have your **View work items in this node** and **Edit work items in this node** permissions set to **Allow**. By default, the **Contributors** group has this permission set.
- To create new tags to add to work items, you must have **Basic** access or higher and have the project-level **Create new tag definition** permissions set to **Allow**. By default, the **Contributors** group has this permission set. Even if the permission is explicitly set for a **Stakeholder**, they won't have permission to add new tags, as they are prohibited through their access level.

About Kanban Board

a. You can add and update the status of work using the Kanban board.
b. You can also assign work to team members and tag with labels to support queries and filtering.
c. Share information through descriptions, attachments, or links to network shared content.
d. Prioritize work through drag-and-drop.



- We can configure Kanban boards by clicking on Gear icon.
- We can create or edit new status of the work item
- We can add or edit the column names (Active, Resolved, Closed)
- We can add new tags to the Kanban boards and specify the colors
- We can change the color codes based on tags
- We can prioritize work through drag-and-drop on your team backlog.

Sample WorkItems

Type	Title	State
Epic	Shopping Cart	Resolved
Epic	Loyalty Membership	Active
Epic	Customer Management	New
Epic	Payments	New
Epic	Vendor Management	New
Feature	Product Catalog	Resolved
Feature	Price Catalog	Active
Feature	Membership signup	New
Feature	Purchase	New
Feature	Credit Card Payments	New
Feature	Redemption	New
Feature	Loyalty points	New
Feature	Gift cards	New
Feature	Newsletter	New
Feature	Shipping & Delivery	New
User Story	As a User I want to view products from a certain category	Closed

User Story	As a User, I want to add items to my shopping cart	Active
User Story	As a User I want to view my user profile	Active
User Story	As a User I want to view product details	Active
User Story	As a User, I want to be able to modify my particulars	Active
User Story	As developer, I want to use Azure Machine Learning to provide a recommendations engine behind the website.	New
User Story	As a admin, I should be able to update prices on ad-hoc condition	New
User Story	As a user, I want to be able to update the frequency and type of newsletters to receive	New
User Story	As an admin, I want to generate coupons for customers	Resolved
User Story	As a User, I want to change quantity of items in my shopping cart	Closed
User Story	As a User I want to view my discounts coupons	Resolved
User Story	As a user, I want to choose to unsubscribe newsletters	Resolved
User Story	As a User, I should be able to select different shipping option	New
User Story	As a User, I want to remove items from my shopping cart	New
User Story	As a user, I want to subscribe to newsletters	Closed
User Story	As an admin, I want to set order limit for free shipping	New
User Story	As a User, I want to view my past orders	New
Task	As a User I want to view a public landing page with static information - JS	Closed
Task	As a User I want to see a list of popular products in the landing page - Layout	Closed
Task	As a User I want to see a list of recommended product categories in the landing page	Closed
Task	Update DB schema	Active
Task	Route to login screen if not signed in or upon timeout	New
Task	Remove item if qty is set to zero	Closed
Task	Shows the total price of all items	New
Task	Create a new route and view for cart	Active
Task	As a user, I want to choose to unsubscribe newsletters	Closed
Task	Update ARM template for deployment	Closed
Task	Create docker image	Closed

Task	Create Azure environment	Closed
Bug	The link to "about us" on the bottom of the main page missing	New
Test Case	PeakLoad-Consistent-100K-50M	Closed
Test Case	Peak Load Test - 500K users- Rampup - 30M	Ready
Test Case	Check discount is applied correctly	Design
Test Case	Check that user can select payment method	Design
Test Case	Check the delivery address details can be input	Design
Test Case	Check subtotal adds up correctly	Design
Test Case	Remove product from shopping cart	Ready
Test Case	Check display of product information, including image, is correct in shopping cart	Design
Test Case	Check user can signup for newsletters	Design
Test Case	Check that existing customers can login with username and password.	Design
Test Case	Check discount is applied correctly	Design
Test Case	Check that user can select payment method	Design
Test Case	Check the delivery address details can be input	Design
Test Case	Check subtotal adds up correctly	Design
Test Case	Remove product from shopping cart	Design
Test Case	Check display of product information, including image, is correct in shopping cart	Design
Test Case	Check user can signup for newsletters	Design
Test Case	Check that existing customers can login with username and password.	Design

Adding Work Items

Options1: Boards → **Work items → + New Work Item**

- Epic → Shopping Cart
- Epic → Loyalty Management
- Features → Product Catalog
- Features → Price Catalog
- User Story → As a User I want to see a list of popular products in the landing page – Layout
- User Story → As a User I want to view products from a certain category

Option2: Boards → **Boards**

Switch to **Epics** → +New Item

- Customer Management

Switch to **Feature** → + New Item

- Purchase
- Redemption

Switch to **Stories** → **+ New item**

As an admin, I should be able to update prices on ad-hoc condition

Option3: Boards → **Backlogs** → Select Team →

Switch to **Epics** → **+ New Work Item** (Add epics from above list)

- Payments

Switch to **Feature** → + New Work Item

- Loyalty points

Switch to **Stories** → **+ New item**

- As a User, I want to add items to my shopping cart

Adding Columns in Kanban Boards

As your team updates the status of work as it progresses from one stage to the next, it helps that they agree on what **done** means. By specifying the **Definition of done** criteria for each Kanban column, you help share the essential tasks to complete before moving an item into a downstream stage.

Azure Boards → Boards → Settings (Gear Icon) → Columns → + Column

Add a **Definition of done** using markdown, such as **"Passes **all** tests."**. Click **Save and close**.

Linking Items (Parent / Child)

Click and edit Work item → **Related Work** → **Add link** → Existing Item

- Link type = Parent and select the parent work item
- Link type = Child and select the child work item

Sample Parent / Child Relationship

Epic: Shopping Cart
- **Features:** Product Catalog
  - **User Story:** As a User I want to view product details

        - Create an PSD of the Layout
        - Create an HTML of the Layout
        - Create database table for Product and Category
        - Write Stored Procedure
    - **User Story:** As a User I want to view products from a certain category
        - Update the existing Stored Procedure
        -
    - **User Story:** As a User I want to see a list of popular products in the landing page – Layout
        - **Task:** Create docker image
        - **Task:** Create Azure environment
- **Features:** Price Catalog
    - **User Story:** As an admin, I should be able to update prices on ad-hoc condition
    - **Bug:** The link to "about us" on the bottom of the main page missing
- **Features:** Purchase
    - **User Story:** As a User, I want to add items to my shopping cart
        - **Task:** As a User I want to view a public landing page with static information - JS
        - **Task:** As a User I want to see a list of recommended product categories in the landing page
        - **Task:** Shows the total price of all items
        - **Task:** Create a new route and view for cart
    - **User Story:** As developer, I want to use Azure Machine Learning to provide a recommendations engine behind the website.
    - **User Story:** As a User, I want to remove items from my shopping cart
    - **User Story:** As a User, I want to view my past orders
    - **User Story:** As a User, I want to change quantity of items in my shopping cart
        - **Task:** Remove item if qty is set to zero

Epic: Loyalty Management

- **Features:** Redemption
- **Features:** Loyalty points
    - **User Story:** As an admin, I want to generate coupons for customers
    - **User Story:** As a User I want to view my discounts coupons

Epic: Customer Management

- **Features:** Membership signup

- **User Story:** As a User I want to view my user profile
  - **Task:** Update DB schema
  - **Task:** Route to login screen if not signed in or upon timeout
- **User Story:** As a User, I want to be able to modify my particulars

- **Features:** Newsletter
  - **User Story:** As a user, I want to be able to update the frequency and type of newsletters to receive
  - **User Story:** As a user, I want to subscribe to newsletter
    - **Task:** As a user, I want to choose to unsubscribe newsletters

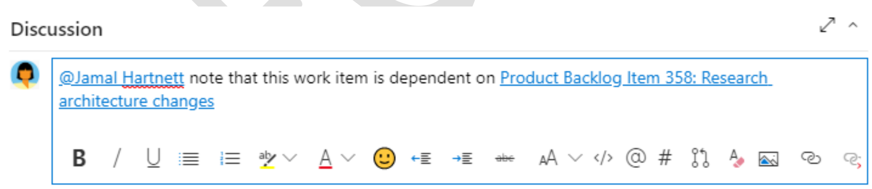
Epic: Payments

- **Features:** Credit Card Payments
- **Features:** Gift cards
- **Features:** Shipping & Delivery
  - **User Story:** As a User, I should be able to select different shipping option
  - **User Story:** As an admin, I want to set order limit for free shipping

Epic: Vendor Management

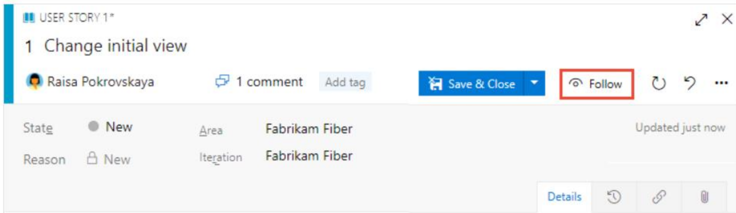
Collaborate with Team Members:

- You can collaborate with others through the **Discussion** section to add and review comments made about the work being performed.
- Use **@mentions** and **#ID** controls to quickly include others in the conversation or link to other work items. Choose to follow specific issues to get alerted when they are updated.
- You can also choose the **Attachments (icon)** tab and drag-and-drop a file to share the file with others.



Follow a Work Item

When you want to track the progress of a single work item, choose the Follow follow icon. This signals the system to notify you when changes are made to the work item.



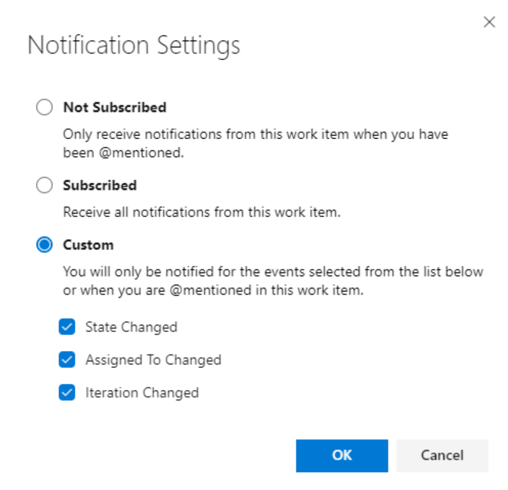
You can review and manage all the work items you've selected to follow:

Open **Boards → Queries**, choose **All**, and under **My Queries**, choose **Followed work items**.

OR

You can also view and manage work that you're following from **Boards → Work Items** and change Dropdown Following (Left most menu)

If you want to **specify conditions** on when you'll get notified of changes, choose the gear icon next to Follow on WorkItem dialog and choose from the options provided.



Capacity Planning with Sprints

Your team builds the sprint backlog during the sprint planning meeting, typically held on the first day of the sprint. Each sprint corresponds to a time-boxed interval which supports your team's ability to work using Agile processes and tools. During the planning meeting, your product owner works with your team to identify those stories or backlog items to complete in the sprint.

Planning meetings typically consist of two parts. In the first part, the team and product owner identify the backlog items that the team feels it can commit to completing in the sprint, based on experience with previous sprints. These items get added to the sprint backlog. In the second part, your team determines how it will develop and test each item. They then define and estimate the tasks required to complete each item. Finally, your team commits to implementing some or all the items based on these estimates.

Plan sprints by assigning work to current or future sprints. Forecast work that can get completed based on effort estimates. Determine how much work can be done within a sprint. Bulk assign issues and tasks to team members and sprints.

1. In the left-side column, select **Sprints**.
2. Select **Set dates** from the upper right.
3. Leave the name as **Sprint 1**.
4. In the **Start** date field, select the calendar and pick today's date.
5. In the **End** date field, select the calendar and pick the date two weeks from today.
6. Select **Save and Close**.

Assign tasks and set the iteration

An *iteration* is another name for a sprint.

You have an initial set of work items and a timeline for your first sprint. Here you'll connect work items to your sprint and assign the tasks to yourself.

1. Under **Boards**, select **Work items**.
2. Select User Story: **As a User I want to view product details. (Under Feature: Product Catalog)**
3. In the **Iteration** drop-down list, select **Sprint 1**.
4. From the same window, select **Unassigned** and set yourself as the task owner.
5. Repeat the process for the other two work items.

Demo on Capacity Planning

Create Tasks and for each task assign Activity and Hours required

1. 5 Days Sprint
2. Two Developers each working for 8 hours = Total 80 Hours
3. One Developer is on Leave for One day
4. Task1 = 22, Task2 = 8, Task3 = 16, Task4 = 4, Task5 = 20, Task6 = 4

Note: One user can perform multiple Activities.

Dashboards

You can share progress and status with your team using configurable team dashboards.

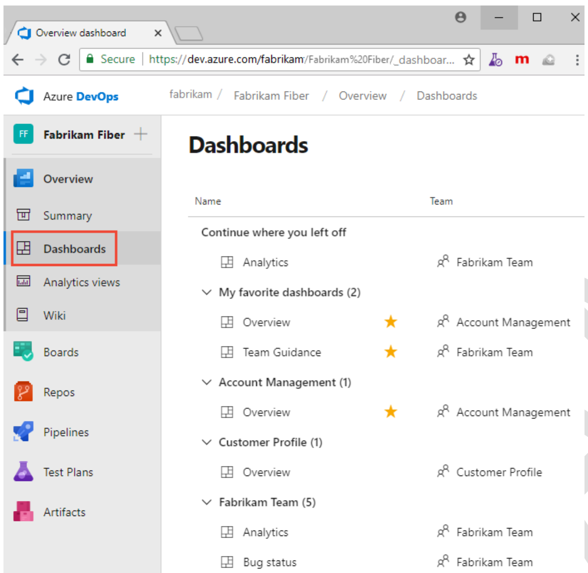
Dashboards provide easy-to-read, easy access, real-time information. At a glance, you can make informed decisions without having to drill down into other parts of your project.

The Overview page provides access to a default team dashboard which you can customize by adding, removing, or rearranging the tiles. Each tile corresponds to a widget that provides access to one or more features or functions.

All dashboards are associated with a team.

Project → Overview → **Dashboards**.

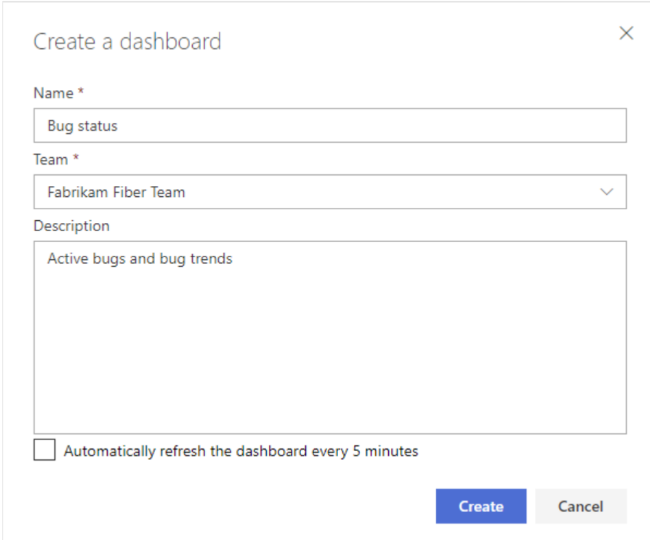
The dashboard directory page opens.



Add a dashboard

Add a new dashboard as needed to support your team's needs. You can also edit and rename any existing dashboards associated with your team.

1. From the Dashboards directory, choose **New Dashboard**. Or, when viewing a dashboard, open the selector and choose the plus icon New Dashboard option.
2. Enter the name of the dashboard and other information you want to capture.



3. The widget catalog opens. You can add one or more widgets to the dashboard. You can then configure and resize each widget as needed.
4. You can move the widgets around the dashboard to place them where you want them.

Listing Work Items using Queries

Using queries you can List bugs, user stories, or other work items based on field criteria. You can then review these lists with your team, triage work, or perform bulk work item updates.

To view, run, or email a query, you must be granted **Stakeholder** access or higher.

Task	Stakeholders	Readers	Contributors	Project admins
View and run managed queries	✓	✓	✓	✓
Create and save managed My queries	✓		✓	✓
Create and save managed Shared queries *(Stakeholders can't save Shared queries even if granted permissions)*				✓
View query charts		✓	✓	✓
Create query charts			✓	✓
Powerful semantic work-tracking search	✓	✓	✓	✓

With queries, you can perform these functions:

- List items to perform bulk updates, assign or reassign
- Review work that's in progress or recently closed

- Triage work (set priority, review, update)
- Create a chart and add it to a dashboard
- Create a chart to get a count of items or sum a field
- Create a chart that shows a burndown or burnup over time
- View a tree of parent-child related work items

My Queries, Shared Queries, and Favourites

- Only you can view and run queries that you save under **My Queries** with the queries directory. Also, you can favourite one of these queries to have it appear within your query selector.
- Queries you and others save under **Shared Queries** can be viewed by everyone with access to the project. Shared queries can be organized within folders and favourited by you or for a team. Also, you can set permissions on the folders and queries to prevent others from moving or editing them.

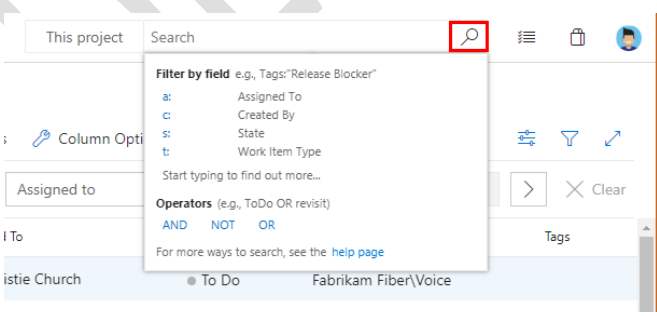
You have two ways to perform work item searches

1. **Semantic or ad hoc searches** using the work item search box

   Choose any **Boards** page, enter a keyword or phrase in the search box, and press *Enter* or choose the start search icon.

Fine tune Semantic search results:

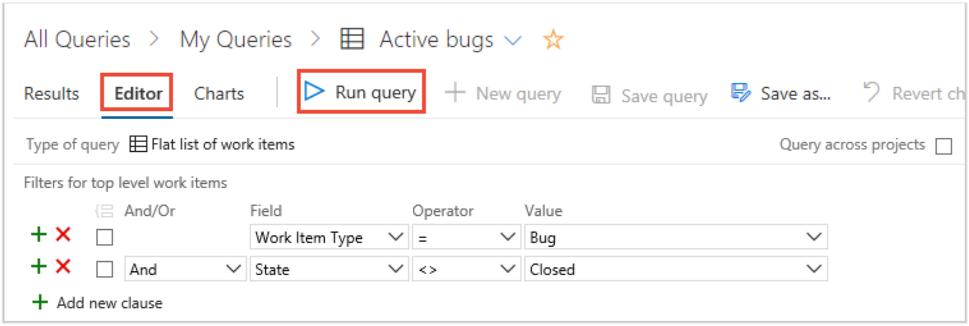
- a: for **Assigned to:**
- c: for **Created by:**
- s: for **State**
- t: for **Work item type**



Use @Me or @Today macros

2. **Managed queries** generate a list of work items based on the filter criteria you provide.

   You add and run managed queries using the built-in query-editor available from the **Boards → Queries** page.



Recommended Lab by Microsoft:

https://www.azuredevopslabs.com/labs/azuredevops/agile/

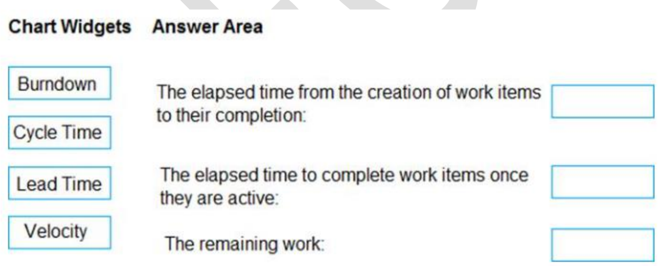
Managing Delivery Plans with Azure DevOps

https://azuredevopslabs.com/labs/azuredevops/deliveryplans/

Managing GitHub Projects with Azure DevOps

https://azuredevopslabs.com/labs/vstsextend/github-azureboards/

Which chart widgets should you recommend for each metric? To answer, drag the appropriate chart widgets to the correct metrics. Each chart widget may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content. NOTE: Each correct selection is worth one point.



Box 1: Lead time: Lead time measures the total time elapsed from the creation of work items to their completion.

Box 2: Cycle time: Cycle time measures the time it takes for your team to complete work items once they begin actively working on them.

Box 3: Burndown: Burndown charts focus on remaining work within a specific time period.

Velocity provides a useful metric for these activities:

– Support sprint planning

– Forecast future sprints and the backlog items that can be completed

– A guide for determining how well the team estimates and meets their planned commitments