

# *Agile Project Management Using Jira*

*Lab Workbook*



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**Note: There are not labs for modules 6 and 7.**

# Lab 1: Course Overview (Server)

Estimated time: 10 minutes

*Note: These instructions assume that you are using Jira Software Server. These instructions DO NOT APPLY to Cloud projects.*

1. Start your Jira instance by following the instructions in the PDF file, Accessing Atlassian in CloudShare. You should have received this document as part of your class registration process. If you do not have this document, talk to your instructor.
2. Log in to Jira:
  - o Username: **admin**
  - o Password: **Charlie!**

*Congratulations, you have logged in to Jira and completed this lab.*

## Lab 2: Agile and Jira Overview (Server)

Estimated time: 10 minutes

In this lab, you will:

- I. Create a kanban project.
- II. Create issues.

*Note: These instructions assume that you are using Jira Software Server. These instructions DO NOT APPLY to Cloud projects.*

### I: Create a kanban project.

1. Using the information provided to you at the beginning of the course, navigate to your Jira Software Server environment and log in as **admin** with a password of **Charlie!**

*Note: The **admin** user is a Jira administrator. Jira administrators can create projects.*

2. Select the **Projects** dropdown, then **View All Projects**.
3. Click the **Create project** button on the upper right.
4. On the **Create project** screen, select the **Kanban software development** template. Click **Next**.

*A template is the initial configuration of your project. Each template provides different default behavior and tools to the project. We are selecting the kanban template. Among other things, this means that a project board will be included with the project. We will discuss project boards more later.*

5. You should see a screen showing the issue types and workflow used for the project. We will discuss these later in the course. Click **Select**.
6. Under **Project Lead**, enter **Alana Grant**.

*A project lead can be the default assignee for issues when they are created. The project lead can also be specified in permissions and notifications.*

7. Name the project **projectA**. A project key (such as **PROJ**) will automatically be created for you.

*A project key is a unique identifier for the project. Each issue in the project will have a unique issue key that begins with the project key. An issue key uniquely identifies an issue.*

8. Click **Submit**.
9. Verify that your project was created and you are viewing the kanban board.
10. Add **Alana Grant** to the **Administrators** role for the project:
  - o While viewing your kanban board, select the gear icon (project settings) in the lower left. You can click on the >> icon in the lower left to expand the sidebar.
  - o Select **Users and roles**.
  - o In the upper right, select **Add users to a role**.
  - o Under **Users or groups**, enter "Alana Grant".
  - o Under **Role**, select **Administrators**.
  - o Click **Add**. You should now see Alana Grant listed under the **Administrators** role for the project.
11. Verify that **Alana Grant** is the Project Lead for this project. Under **Users and roles**, the **Project Lead** should say **Alana Grant**. If not, click **Edit defaults** in the upper right and for **Project Lead**, select **Alana**

**Grant.**

12. Verify that **Alana Grant** is a board administrator for the Kanban board:

*When you created the project, you should have selected **Alana Grant** as the project lead. This also makes Alana Grant a board administrator for the kanban board. If you did not originally set Alana Grant as the project lead, you need to explicitly add her as a board administrator.*

- o Click on **Kanban board** in the sidebar.
- o Click on the **Board** dropdown in the top right and select **Configure**.
- o Under **General > Administrators**, you should see **Alana Grant**. If not, select the existing user, click the pencil icon and add **Alana Grant**.

*Congratulations, you have created a kanban project. You have logged in as the "admin" user (a Jira administrator), created a project and assigned Alana Grant to the Administrators role. Now you will be able to log in as Alana Grant and configure the project.*

## II: Create issues.

*The planned work of a project is broken down into issues. Issues are also known as work items, stories and more. We will start with three simple issues, named "add item 1", "add item 2" and "add item 3".*

1. Click the user avatar in the upper right and select **Log Out**.
2. Click **Log in again** and log in as **agrant** with a password of **Charlie!** You should see Alana's picture in the upper right.
3. Navigate to your **projectA** project by selecting **Projects > View All Projects**.
4. View your **projectA** kanban board. If your sidebar on the left is collapsed, you can click the >> in the lower left to expand the sidebar. Click the **Kanban board** tab to view the board.
5. Create an issue named "add item 1":
  - o Click the **Create** button to create an issue. The **Create Issue** screen appears.
  - o Under **Issue Type**, select **Task**.
  - o Under **Summary**, enter **add item 1**.
  - o Leave the other values as their default.
  - o Since you are creating more issues after this one, you have the option to click the **Create another** checkbox to expedite issue creation.
  - o Click **Create**.
6. Create an issue named **add item 2**.
7. Create an issue named **add item 3**.
8. You should see your three issues in the **BACKLOG** column of your kanban board.

*Congratulations, you have created three issues and completed this lab.*

# Lab 3: Visualize Work Using Project Boards (Server)

Estimated time: 20 minutes

In this lab, you will:

- I. Move issues through a workflow.
- II. Assign an issue.
- III. Add a Review column to the board.
- IV. Configure board cards.
- V. Explore the difference between Jira project administrators and standard users.

*Note: This lab only applies to Server projects in Jira Software. These instructions assume you have created a **projectA** kanban project with issues.*

## I: Move issues through a workflow.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Navigate to your **projectA** project (if necessary, select the **Projects** dropdown).
3. Click on the **Kanban board** tab in the sidebar to view your board. This board was automatically created when you created the project and selected **Kanban** for the project template. You should see three issues on the board from the previous lab.
4. Drag issues to different columns. This changes the issue's **Status** field.
5. Click on an issue to open its details. Notice that the **Status** field value matches the name of the column on the board. To change the issue's Status, click on **View Workflow**. Click on one of the status buttons (such as **Backlog**) or select the **Workflow** dropdown and change the issue's Status. View your kanban board and **verify** that your issue has moved to the correct column.

*Congratulations, you have moved issues through a workflow, both by dragging and dropping and by changing the issue's Status field value.*

## II: Assign an issue.

1. Click on an issue to view its details. Find the **Assignee** field. Change the assignee to **Ryan Lee**. This lets the team know that Ryan Lee is responsible for working on the issue in this status. Notice that the kanban board now contains an avatar of Ryan Lee for this issue.

*Congratulations, you have assigned an issue.*

## III: Add a Review column to the board.

1. While viewing your kanban board, click the **Board** dropdown in the upper right and select **Configure**. If you see the message "Contact a Jira or Board Administrator to configure this board.", you must log in as **admin** and add **Alana Grant** as a board administrator. See the previous lab for details.
2. Click the **Columns** tab on the left.
3. Click the **Add column** button.
4. Name the column **Review**. Its category should be **In Progress**. Click **Add** to add the column.

Each status is assigned to one of three generic **categories** in Jira. The category indicates where the issue is in its lifecycle. A category of **to do** means that the work of the issue has not been started. A category of **in progress** means that the work of the issue is ongoing, and a category of **done** means that the work of the issue is complete or will never be done (for example, a status of "not doing"). An issue with a **done** category is considered closed, and the issue's **resolution** field value is set with the reason that the issue is closed. Jira considers that the lifecycle of an issue has come to an end when the **resolution** field has a value.

5. You should see your **Review** column before the **Done** column. If not, you can drag the column order using the icon to the left of the trash can icon. Below the column name, you should see that Jira has created a **REVIEW** status for you, matching the name of your column. In the **REVIEW** status, the **Set resolution** checkbox should remain UNCHECKED. Checking this would set an issue's **resolution** field when it is moved to the **Review** status. We don't want to check this, because checking it would mean that issues in this status were resolved or closed.
6. Click **Back to board** in the upper right. You should see your **Review** column on the board.
7. On your board, drag issues to the **Review** column.
8. View an issue's details and change the **Status** to and from a value of **Review** (you do this by clicking on **View Workflow**). The issue should move to the new column on the board. Notice that your new column behaves like the built-in columns.
9. From the kanban board, move an issue to the **Done** column. Notice that the issue key is struck through (has a line through it). This is because the **Resolution** field for the issue has been set and the issue is considered closed.
10. Change an issue's status to **Review**. Notice that the issue key is not struck through. This is because we didn't check the **Set resolution** checkbox when configuring the **Review** column.

*Congratulations, you have added a column to your board and verified that it is working.*

## IV: Configure board cards.

1. View a card on your board and identify all of the fields that are displayed.
2. Add the **Created** field to the cards, which will display the date and time that the issue was created:
  - o Under the **Card layout** tab of your board configuration (**Board > Configure**), add the **Created** field to the cards. Click the **Add** button.
3. View your board. You should see the created date on all cards.
4. Use the **Card colors** tab of board configuration to show a vertical color bar based on the issue's assignee:
  - o Change the **Colors based on** field to **Assignees**.
  - o View your board.
5. Undo the previous two changes to the cards on your board.

*Congratulations, you have configured board cards.*

## V: Explore the difference between Jira project administrators and standard users.



A Jira project administrator is someone who has more rights related to configuring a project than standard team members. A Jira project administrator has the role of "Administrators" in Jira. You assigned Alana Grant to the Administrators role in an earlier lab.

A **role** in Jira (also known as a **project role**) defines what a user can do in a project. Users assigned to the **Administrators** role are Jira project administrators. They can configure the project. Users assigned to **Developers** or **Users** roles have less capabilities than Jira project administrators.

1. Notice that you see a **Project settings** icon and link (if the sidebar is expanded) in the sidebar. This is available because Alana Grant is a Jira project administrator.
2. Click **Project settings > Users and roles**. Notice that Alana Grant has the role of **Administrators**. This means that she is a Jira project administrator for the project. That is the reason she sees the **Project settings** link.
3. Click the **Add users to a role** link in the upper right. Notice that you can add people to the project and assign them specific roles. For example, if you wanted to add another Jira project administrator, you would add them and select a role of **Administrators**. Click anywhere not on the **Add users to a role** dialog to dismiss it.
4. Click on Alana's avatar in the upper right and select **Log Out**.
5. Log in as Ryan Lee (**rlee/Charlie!**). Verify that you see a picture of Ryan in the upper right.
6. Navigate to the **projectA** kanban board (under **Projects > View All Projects**).
7. Notice that you can create and modify issues (using the Create button at the top). This means you can perform work for the project. However, notice that you do not see the **Project settings** link in the lower left. Also, select the **Board** dropdown and then **Configure**. Notice that Ryan can view, but not change the configuration of the board. This is because Ryan is not specified as a board administrator. Alana can add Ryan as an additional Jira board administrator if she wants to.

A board administrator can configure the board. A Jira project administrator can configure the project.

8. Log out as Ryan Lee and log back in as **Alana Grant**. Verify that you can see the **Project settings** link when viewing the **projectA** project.
9. With the projectA kanban board showing, click **Board > Configure**. Click the **General** tab. Under **General**, notice the **Administrators** section. This is where Alana could add a user as a board administrator (you do not need to do this).

Congratulations, you have explored the differences between Jira project administrators and standard users. You have completed this lab.

## Lab 4: Enrich Issues (Server)

Estimated time: 25 minutes

In this lab, you will:

- I. Add information to an issue.
- II. Use team-related issue features.
- III. Create issues of different types.
- IV. Create subtasks.
- V. Add labels to issues.

*Note: This lab only applies to the Server version of Jira Software. These instructions assume you have created a **projectA** kanban project with issues.*

### I: Add information to an issue.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. View your **projectA** kanban board.
3. Create an issue of type **task** and a summary of **add item 4** (or the next item number for issues on your board).
4. Click on the newly created issue to view its details.
5. In the **Description** field, click on **Click to add description** (notice that you can click on the icons in the left of the issue details as a shortcut to some of the fields). Notice that a rich-text editor is shown. Enter "Here is the description of item 4.". Change the description in any way that interests you (change text size, text style, add icons, add bullets, insert an image, insert a table, etc.). **Make sure to save your changes.**

*If you are familiar with markdown, you can use it in the editor. For example, surround a word with double asterisks to make it bold. You can click on the **Text** link next to the Save button to see the markdown.*

6. Click on the **Attachment** icon (it looks like a paperclip) in the issue details sidebar to quickly navigate to the Attachments field. **Add** an attachment to the issue. You could also do this by clicking on the **Attachment** icon in the Description field's editor.
7. Click the **more icon (...)** at the upper right of the issue details and select **Link**. Add an **is blocked by** link to the "add item 1" issue. This means that the "add item 1" issue must be completed before the work of this issue can be completed. **Open the "add item 1" issue** and notice that the **Issue Links** section shows that this issue blocks the issue that you just created.
8. Open the issue that you created in this lab. Open the **Link** dialog again and notice on the left that you can also link Confluence Pages and Web Links. Click **Cancel**.

*Confluence is an Atlassian product that acts like a team website. For example, it can contain information and discussions related to the project. Using Confluence is outside the scope of this course.*

9. Click the **more icon (...)** in the upper right of the issue details and select **Log work**. Enter Time Spent as **6h** (6 hours) and Remaining Estimate set to **2d** (2 days). Under **Work Description**, enter "Researched implementation options." and click **Log**.

*Some teams choose to log their work like this, others do not. Logging work tracks more details of the work and can be used in reports and dashboards.*

10. Click **Reports** in the sidebar for **projectA**. Select the **Time Tracking Report**. Click **Next** to accept the default options. You can view your logged work with this report.

*Congratulations, you have enriched an issue by adding information to it.*

## II: Use team-related issue features.

1. From your kanban board, open the "add item 1" issue to view its details. Change the **Assignee** to a different user.
2. Change the **Reporter** to **Ryan Lee**.

*Changing the assignee is very common. Changing the reporter is not very common, and is mostly done when someone leaves the team.*

3. Click the **Comments** icon (it looks like a speech bubble) on the sidebar to the left of the issue details. Click the **Comment** button and add a comment on the issue. Notice that comments also use the rich-text editor. This is a great way for teams to discuss the issue.
4. "At mention" Ryan in the comments by typing @ and selecting **Ryan Lee**. Then enter a comment such as "you have been at mentioned!". Ryan Lee will then be sent an email containing the comment and a link to the issue. (Note: Viewing emails is not supported in this course.)
5. Click the **more icon** (...) in the upper right of the issue details and select **Watch issue**. You could also remove yourself from watched issues by selecting **Stop watching**. Watchers will be sent an email when something changes in the issue.

*Congratulations, you have used team-related issue features.*

## III: Create issues of different types.

1. Navigate to your **projectA** kanban board.
2. Create an issue with a summary/title named **add item 5**. Assign an **Issue Type** of **Story** to the issue.
3. Create an issue with a summary/title named **fix bug 1**. Assign an **Issue Type** of **Bug** to the issue.
4. Click on **Issues** in the sidebar. This shows the issues of the project, and is known as the "project issue navigator".

*Congratulations, you have created issues of different types.*

## IV: Create subtasks.

1. Using the same procedure as in the previous step, try to create an issue with an issue type of **Subtask**. Notice that this option is not available. This is because subtasks must have a parent issue. **Cancel** the attempt to create this issue.
2. From the board, open the **add item 5** issue. Click on the "Subtasks" icon (it looks like a check box) to the left of the issue details. Click **Create Sub-Task**.
3. Create a subtask with a summary/title of **add item 5a**. Notice that a new issue key and status are assigned to the subtask.
4. Create another subtask with a summary/title of **add item 5b**.

5. Move the subtasks to the "Selected for Development" status. Notice that subtasks have independent statuses.
6. View the Kanban board. Notice that subtasks are enclosed by their parent issue.
7. Change the status of the **add item 5** subtasks to **Done**. You should be asked if you also want to update the parent issue. Click **Update**.

*Congratulations, you have created subtasks.*

## V: Add labels to issues.

1. Add labels named **refactor** and/or **database** to some of the issues in **projectA**. You do this by adding entries to the **Labels** field of an issue. Make sure to click the checkmark to add the label.
2. In board configuration for the **projectA** kanban board (**Board > Configure**), click the **Card layout** tab.
3. Under "Kanban board", click the dropdown and select **Labels**. Click **Add**.
4. View the kanban board and verify that the labels are displayed on the cards.
5. Click on an issue with a label to view its issue details. Click on a label to perform a search for all issues with that label.

*Congratulations, you have added labels to issues and searched for issues by label. You have completed this lab.*

## Lab 5: Kanban Method (Server)

Estimated time: 10 minutes

In this lab, you will:

- I. Create WIP (work in progress) limits.
- II. View a cumulative flow diagram.
- III. Configure a kanban board to use a separate backlog.

*Note: This lab applies to projects in the Server version of Jira Software and assumes that you have created a kanban project named **projectA**.*

### I: Create WIP limits.

*Work in progress limits help ensure that started work gets finished and allows the team to easily see bottlenecks in their workflow. You must be a board administrator or Jira administrator to specify WIP limits.*

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. From your **projectA** kanban board, select the **Board** dropdown in the upper right and select **Configure**.
3. Click the **Columns** tab.
4. In the **Selected for Development** column, click on **No Min** and enter **2**. This means that the column heading will be highlighted if there are less than two issues in the column. This informs the team that more issues need to be added to that column to avoid running out of work.
5. In the **In Progress** column, click on **No Max** and enter **2**. This means that the column will be highlighted if there are more than two issues in the column. This informs the team that there is too much work in progress and they need to finish some work items before starting new ones.
6. Click **Back to board**. You should see a "MIN 2" label in the heading of the Selected for Development column and a "MAX 2" label in the heading of the In Progress column.
7. Drag issues to the columns to violate the minimum and maximum limits. You should see an orange column heading in the Selected for Development column when there are less than two issues. You should see a red column heading in the In Progress column when there are more than two issues.

*Congratulations, you have created WIP limits.*

### II: View a cumulative flow diagram.

1. Click on the **Reports** tab in the sidebar.
2. Click on **Cumulative Flow Diagram**. Notice that Jira automatically creates reports for you. This report might not look that great, but it shows the changing of issue status that you have done so far.
3. Zoom into any section of the report by clicking and dragging the cursor across the top chart or the small chart below it. You can double-click on the small chart to reset the top chart.

*Congratulations, you have viewed a cumulative flow diagram.*

### III: Configure a kanban board to use a separate backlog.

1. In your **projectA** project, move some issues to the **BACKLOG** column of your kanban board.

2. Navigate to the board configuration (**Board > Configure**).
3. Click the **Columns** tab.
4. Enable the kanban backlog. Do this by dragging the **BACKLOG** status (the box at the bottom of the **Backlog** column- not the column itself) from the first column to the **Kanban backlog** section on the left. You should now see the **BACKLOG** status in the kanban backlog and the **Backlog** column of the board configuration should not contain any statuses.
5. View your kanban board. You should now see **SELECTED FOR DEVELOPMENT** as the first column. The **BACKLOG** column has been moved to the kanban backlog.
6. Click on the **Backlog** tab (this was added by Jira when you enabled the kanban backlog).
7. Move issues between the backlog and the first visible column on the kanban board (**Selected for Development**). This is where you can work on the backlog while the rest of the team is focussing on the issues that are ready to be worked on.

*Congratulations, you have configured a separate kanban backlog and completed this lab.*

# Lab 8: Scrum Overview II (Server)

Estimated time: 15 minutes

In this lab, you will:

- I. Create a scrum project.
- II. Create issues in the product backlog.
- III. Create and plan a sprint.
- IV. Execute a sprint.
- V. Complete a sprint.

*This lab creates a scrum project using the Server version of Jira Software. These instructions DO NOT APPLY to Cloud projects.*

## I: Create a scrum project.

1. Log in to Jira as a Jira Administrator (**admin/Charlie!**). A Jira Administrator user is needed to create projects.
2. Select **Projects > Create project**.
3. Under **Software**, select **Scrum software development** and click **Next**.
4. In the Scrum software development dialog, click **Select**.
5. For the **Project Lead**, enter **Alana Grant**.
6. For the **Name**, enter **projectB**.
7. Make sure that the project **Key** is unique (for example "PROJB").
8. Click **Submit**. You should be brought to the Backlog tab of your new project.
9. Click **Project settings > Users and roles**. Click **Add users to a role** and add **Alana Grant** to the **Administrators** role. This means that Alana Grant is a Jira project administrator for the project.

*Congratulations, you have created a scrum project.*

## II: Create issues in the product backlog.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Click **Projects > View All Projects** and select the **projectB** project.
3. Click the **Backlog** tab to view the backlog. It should be empty.
4. Create three issues of type **Story** (the green icon) in the backlog with summaries of **add item 1**, **add item 2** and **add item 3**.

*Congratulations, you have created a backlog with three issues.*

## III: Create and plan a sprint.

*A sprint is a period of time where you complete a certain number of issues.*

1. Click **Create Sprint** to the right of the **Backlog** section. You should see an empty "Sprint 1" along with the Backlog section.

*The start of the sprint includes a sprint planning meeting. In this meeting, the sprint team usually decides on the sprint goal, estimates the amount of work of issues and decides which issues to complete during the sprint. The development team decides how to accomplish the work of the sprint. All projects and sprint planning meetings are unique.*

2. Add estimates as story points to the issues. We will arbitrarily say that **add item 1** is 1 point, **add item 2** is 2 points and **add item 3** is 4 points.

- o Click on each issue in the backlog and add its estimate next to the **Estimate** field. After entering an estimate, you should see the estimate in gray next to each issue in the backlog.

*The development team usually is responsible for estimating story points. Story points are relative units, usually indicating the effort involved in completing the issue.*

3. Prioritize the backlog. We will arbitrarily give the 2 point story (**add item 2**) the highest priority and the 4 point story (**add item 3**) the lowest priority.

- o Drag and drop the stories in to their correct order in the backlog. (With **add item 2** at the top.)

*The product owner is usually responsible for prioritizing stories in the backlog.*

4. Add stories to the sprint backlog. We will arbitrarily assume that the team can execute up to four story points per sprint. This is known as the team's **velocity**.

*The **product backlog** contains all of the backlog items for the project. A **sprint backlog** is a subset of the product backlog that contains the backlog items for a single sprint.*

- o Drag the **add item 2** and **add item 1** stories to the sprint backlog.

5. Notice that the team has estimated that its velocity for this sprint will be 3 story points.

*The development team is usually responsible for deciding how many of the top issues to move to the sprint backlog.*

6. Add subtasks to the **add item 1** story in the sprint backlog. Do this by opening the story, scrolling down and selecting the **Create Sub-Task** button, and adding subtasks named **add item 1a** and **add item 1b**.

*During the sprint planning meeting, the team often breaks the work of a story down into subtasks. Each of the subtasks might contain a different type of work, such as user experience design or data storage work.*

7. Click the **More icon (...)** associated with Sprint 1 and select **Add sprint goal**. Add a sprint goal of **Create the first product increment..** You should see the sprint goal in the heading of Sprint 1.

*The scrum team agrees to the sprint goal during the sprint planning meeting.*

*Congratulations, you have created and planned a sprint.*

## IV: Execute a sprint.

1. Click the **Start Sprint** button associated with the sprint backlog for Sprint 1. Change the duration of the sprint to **1 week**. Leave the other values as their defaults. Click **Start**. The **Active sprints** tab is displayed, showing your sprint board. Notice the sprint goal under the sprint name. Notice that you have two stories and two subtasks in the **TO DO** column. Notice that the other columns are **IN PROGRESS** and **DONE**.



*A sprint board is a project board that only shows the issues of the sprint.*

2. Open an issue on the board and click **View Workflow**. You are brought to the **Issues** tab. Next to Status, click **View Workflow**. Notice that there are three statuses in the workflow, **TO DO**, **IN PROGRESS** and **DONE**. These are the default statuses in the workflow when you choose the "scrum software development" template while creating a project. Notice that there is no **BACKLOG** status. Click **Close**.
3. Select the **Backlog** tab. View the status of the **add item 3** issue that is in the **Backlog** section. Notice that its status is **TO DO**, the same status as the issues in the first column of the sprint board. The items in the backlog section are there because they have not been added to any sprints. The status of each issue is independent of whether it is on the sprint board or in the backlog section.
4. Click the **Reports** tab. View the **burndown chart** for this sprint. Jira has added guidelines for story point completion during the sprint. The starting value is the total number of story points that you added to the sprint backlog. The ending value is zero. For the duration of the sprint, a linear decrease in the number remaining story points is assumed, excluding days off. Under the chart, you can see the issues of the sprint.

*Reports like this are a great way to quickly view the current status of the sprint.*

5. Navigate back to your sprint board (under **Active sprints**). Let's assume that Alana Grant a member of the development team and that she will work on the **add item 2** issue. If Alana Grant is not the assignee of all issues on the sprint board, assign her to the issues.
6. Drag the **add item 2** issue to the **IN PROGRESS** column.
7. Let's assume that Alana has finished the **add item 2** issue. Drag it to the **DONE** column.
8. Repeat the process above and complete the two tasks of the **add item 1** issue. You should be prompted to update the parent issue. Click **Update**.

*Congratulations, you have executed a sprint.*

## V: Complete a sprint.

1. Now that the issues of the sprint are complete, you can end the sprint. In the upper right above the sprint board, click **Complete Sprint** and then **Complete**.

*You usually only complete a sprint at the end of the planned sprint duration. We are ending it early just for learning purposes.*

2. You should be brought to the sprint report. This includes the burndown chart. You estimated and completed three story points in this sprint, so your velocity for sprint 1 was three story points.

*A team's early estimations tend to be quite unreliable. As more sprints are executed, the team should become better at estimating velocity based on the historic performance of the team.*

3. At this point, you would usually have a sprint review meeting to show the product increment to the scrum team and optionally to its stakeholders.
4. After the sprint review meeting is a meeting called the sprint retrospective. This is a meeting for the scrum team to discuss how the team can execute better next time.

*Congratulations, you have completed a sprint and completed this lab.*

# Lab 9: Quick Search and Basic Search (Server)

Estimated time: 15 minutes

In this lab, you will:

- I. Perform quick searches.
- II. Perform basic searches.
- III. Work with search results.

*Note: These instructions apply to the Server version of Jira Software. These instructions assume that you have projects from the previous labs. If you have other projects, you can change the search to provide results for your project.*

## I: Perform quick searches.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Click in the **Search** textbox (which we will call "quick search") at the top of the page. Notice that you have access to recent issues and projects.
3. Search for "item". As you type, the search results will change. This searches for issues in any project containing that text (in any field). Press **Enter**. You will be taken to the "global issue navigator" containing issues that match the search.
4. Use quick search to search for "item 2".
5. Quick search for "ITEM 2" and verify that search terms are not case-sensitive.
6. Quick search for "item AND 2". The results should be the same as the previous search. The terms of a query are joined with AND by default.
7. Quick search for "item NOT 1". The NOT keyword should exclude the "add item 1" issues.
8. Quick search for "item not 1". This should return the "add item 1" issues. This is because "not" is in lowercase, and it is such a common word that it is excluded from the search (a reserved or stop word). This is the same as searching for "item 1".
9. In another browser window or tab, perform a general web search for "Jira search syntax for text fields". Click on the Atlassian documentation. Click on the **Server** dropdown and select the latest version. Scroll down to the "Reserved words" heading and verify that "and" and "not" are reserved words for searches of text fields.
10. Back in Jira, perform any quick searches that interest you.

*Congratulations, you have performed quick searches.*

## II: Perform basic searches.

1. View the global issue navigator by clicking the **Issues** dropdown at the top of page and selecting **Search for issues**. You should see a list of all of the issues of all of the projects.
2. If you see a **Basic** link to the right of the Search button in the upper right, click on it to change from advanced search to basic search. You should see a row of interface elements under **Search** and an **Advanced** link to the right.
3. Click on the **Project** dropdown to view the issues of any one of your projects.

4. Use the "Contains text" box in the basic search row to further limit your results. Press **Enter** or click **Search** to perform the search. Verify that the **NOT** keyword works in the basic search textbox.
5. Type "item" in to the quick search box at the top and click **Enter**. You should be brought to basic search. Verify that the text that you entered is in the textbox.
6. Clear the existing search by clicking **New search** at the top left.
7. In basic search, click on the **More** dropdown and search for issues that have been updated (**Updated Date** field) in the last hour, day and week. Your results depend on when you performed the previous labs.
8. Perform any basic searches that interest you.

*Congratulations, you have performed basic searches.*

### III: Work with search results.

1. Above the list of the search results, click the order by dropdown to order the results by different fields.
2. Click the up or down arrow next to the order by dropdown to reverse the result order.
3. In the basic search textbox, enter "item 2" and click **Enter**. Click the share button/icon in the upper right. Here you could email the search results (also known as a *filter*) to others who have access to the site. Click **Cancel** in the share dialog (you do not have access to the standard lab users' email accounts).
4. Change the **Assignee** of all of the issues of the project:

*The bulk change feature that you are about to use is an easy way to change field values for multiple issues without having to perform the tasks one at a time.*

- o Search for all issues of your **projectA** project.
- o Click on **Tools** in the upper right and select **Bulk Change- all X issue(s)**.
- o In step 1, select all issues that are NOT assigned to Ryan Lee. (If they are all assigned, you can change this exercise to assigning them to Alana Grant.) Click **Next**.
- o In step 2, select **Edit Issues**. Click **Next**.
- o In step 3, click **Change Assignee** and assign to **Ryan Lee**. Click **Next**.
- o In step 4, click **Confirm**. Click **Ok, got it** when the operation is complete.
- o Verify that your bulk changes were made.

*Congratulations, you have worked with search results and completed this lab.*

# Lab 10: JQL (Server)

Estimated time: 10 minutes

In this lab, you will:

- I. Create a basic search and view the JQL query.
- II. Create JQL queries with the help of autocomplete and column sorting.
- III. Use functions as values.

*Note: These instructions apply to the Server version of Jira Software. These instructions assume that you have projects from the previous labs. If you have other projects, you can modify the queries to make them work for your projects.*

## I: Create a basic search and view the JQL query.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Open basic search. One easy way to do this is to click on the quick search textbox at the top, then press **Enter**. If needed, click on the **Basic** link to view basic search.
3. In basic search, search for all issues of one of your projects.
4. Click on the **Advanced** link to enter advanced search. View the JQL query associated with basic search. You can use this technique of switching from basic to advanced search to help "write" JQL queries. This is helpful because you might need to copy the JQL to other parts of the Jira interface (or to other product like Confluence).
5. Click on the **Order by** dropdown and/or the up and down arrows to sort the results. Notice the changes to the query.
6. Experiment with creating other basic searches and viewing the resulting JQL query.

*Congratulations, you have created a basic search and viewed the resulting JQL query.*

## II: Create JQL queries with the help of autocomplete and column sorting.

1. Enter advanced search (if necessary).
2. Clear the current JQL query.
3. Create and execute a query that finds all issues in a project:
  - o With the JQL textbox selected, press **p** and select **project** from the autocomplete dropdown.
  - o You should see the operator autocomplete. If not, press the space bar.
  - o Select the equals (=) operator.
  - o Select any one of your projects.
  - o Click **Search** to execute the query.
4. Click on the **Order by** dropdown and/or the up and down arrows to sort the results. Notice the ORDER BY clause in the query.
5. Experiment with creating other JQL queries.

*Congratulations, you have created JQL queries with the help of autocomplete and column sorting.*

### III: Use functions as values.

1. In advanced search, use autocomplete to find all issues assigned to you using the `currentUser()` function.  
**assignee = currentUser()**
2. Find all issues that were created since the **startOfWeek()**. You will use the **>** operator.
3. In a separate browser window, perform a web search for **Jira advanced searching functions reference**. Click on the Atlassian documentation link. Click on the latest Server version in the upper right. View the available advanced searching functions.
4. Back in Jira, experiment with other searches that use functions as values.

*Congratulations, you have used functions as values and completed this lab.*

# Lab 11: Filters (Server)

Estimated time: 10 minutes

In this lab, you will:

- I. Explore default filter queries.
- II. Create a starred filter.
- III. Explore and create quick filters.
- IV. Use a quick filter to refine a report.
- V. Explore an existing board filter.

*Note: These instructions apply to the Server version of Jira Software. These instructions assume that you have projects from the previous labs. If you have other projects, you can modify the queries to make them work for your projects.*

## I: Explore default filter queries.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Click on the **Issues** dropdown and under **FILTERS**, select **My open issues**. You are brought to the search page with the query at the top of the page (either Basic or Advanced search) and the list of your open issues below it.
3. Click on each of the tabs/filters on the left to view and execute each query. In advanced search, view the JQL and explore any fields and/or functions that you are not familiar with. Notice that some of the queries can not be displayed with basic search, because the user interface elements don't support the query.

*Congratulations, you have explored the default filter queries.*

## II: Create a starred filter.

1. In your **projectA** project, change one of your issues to the **In Progress** status with an assignee of **Alana Grant**.
2. In basic or advanced search, create and execute a query that searches for all issues with a status of **In Progress** that are assigned to the **currentUser()**. See the JQL below if you need help.
3. Click the **Save as** button at the top to save the query as a filter. Name the filter **My in progress**. After you create the filter, it should show under the **FAVORITE FILTERS** category in the sidebar on the left. Your filter should now behave like the other filters.
4. Hover over the filter name in the left sidebar. Click the more icon (...) to view the actions that you can perform on the filter.
5. Click on the filter name to execute it. Click on the **Details** link at the top to view another way to manage the filter.
6. Click the **Issues** dropdown at the top and select **Manage filters**. Here is another way that you can edit or delete your filter(s).
7. Execute the filter. Change the query slightly (for example, sort the results) and re-save the filter by clicking the **Save** button at the top.
8. Experiment with creating other filters.

JQL FROM STEP 2: **status = "In Progress" AND assignee = currentUser()**

*Congratulations, you have created and edited a starred filter.*

### III: Explore and create quick filters.

1. View your **projectA** kanban board.
2. Under the "Kanban board" heading, you should see quick filter links. Experiment with clicking them.

*Quick filters limit the issues that are shown on the board.*

3. Navigate to the board configuration (**Board > Configure**) and view the quick filters for the board (under the **Quick Filters** tab).
4. Add a quick filter named **Stale Issues** that displays non-done issues that have not been updated in the last day. (Hint: **updated < -1d AND status != Done**). It is a good practice to test your JQL in advanced search before placing it in a user interface element that expects JQL.
5. Verify that your quick filter is working. You may need to change the query and/or issues' status to see results.
6. Experiment with creating other quick filters.

*Congratulations, you have explored and created quick filters.*

### IV: Use a quick filter to refine a report.

1. From your **projectA** sidebar, click **Reports** and select the **Cumulative Flow Diagram**.
2. Select the **Refine report** dropdown. Under **Quick Filters**, click your **Stale Issues** filter and click **Apply**. The cumulative flow diagram should change to include only the stale issues.
3. Select the **Refine report** dropdown again and experiment with the other ways to refine the report.


*Congratulations, you have used a quick filter to refine a report.*

### V: Explore an existing board filter.

*Board filters are queries that define which issues are shown a board.*

1. Navigate to the kanban board for **projectA**.
2. Select the **Board** dropdown, then select **Configure**.
3. Click the **General** tab.
4. Notice the query under **Filter > Filter Query**. This query selects issues from **projectA** only.
5. Notice that there is a **Filter > Kanban board sub-filter**. This sub-filter further limits the issues shown on the board by not including issues that have been released as part of a version. Versions are not discussed in this course, but you can learn more about versions by looking up "Managing Versions" in Atlassian's documentation: <https://confluence.atlassian.com/x/4av1Nw>
6. Notice the **Filter > Hide completed issues older than** section. You can use this dropdown to prevent your done kanban column(s) from containing an ever-increasing number of issues. You could also achieve similar results by changing the board filter to select only recent issues from the done column(s).

7. Under **Filter > Saved Filter**, view the name of the board's filter. Notice that you can select this filter name and change the board's filter (for example, to a custom filter that you have created).
8. Click **View Filter Query**. You will be brought to a search page for the board's filter. The search used by the filter is shown at the top of the page. For the most part, the same issues that you see here are shown on the kanban board. The kanban board might further filter issues because of the **Kanban board sub-filter** and **Hide completed issues older than** settings described previously.

 *Congratulations, you have explored an existing board filter and completed this lab.*



## Lab 12: Epics (Server)

Estimated time: 15 minutes

In this lab, you will:

- I. Create an issue of type "epic".
- II. Add issues to the epic.
- III. View swimlanes by epic.
- IV. View the epic in the kanban backlog.
- V. Complete an epic.

*Note: These instructions apply to the Server version of Jira Software. They assume that you created a kanban project named **projectA** in an earlier lab.*

### I: Create an issue of type "epic".

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. On your **projectA** kanban board, configure the Backlog column to be displayed again. Do this by selecting **Board > Configure > Columns** and dragging the Backlog status from the Kanban backlog to the **Backlog** column.
3. Click the **Create** button and create an issue of Issue Type **Epic** with an Epic Name of **Big Feature A** and a Summary of **add big feature A**.
4. View the epic issue on your board. It is visible because you just disabled the kanban backlog. If your kanban backlog is enabled, the epic will appear in the backlog. Move the epic to the **Selected for Development** column. Notice that the epic acts like other issues on the board.

*Congratulations, you have created an issue of type "epic".*

### II: Add issues to the epic.

1. Create an issue of type **Story** with a summary of **epic A story 1**. For the **Epic Link** field, select your **Big Feature A** epic.
2. View your kanban board and notice that the Epic Name is shown on the card for the issue that you just created.
3. Move the new story to the **Selected for Development** column.
4. Click on **Issues** in the left sidebar to view the project issue navigator. Open the **add big feature A** epic issue and notice that the **epic A story 1** issue is listed under "Issues in Epic".
5. Click the + in the "Issues in Epic" section to create another story in the epic named **epic A story 2**.

*Congratulations, you have added issues to the epic.*

### III: View swimlanes by epic.

1. From the kanban board, select **Board > Configure > Swimlanes**.
2. In the **Base Swimlanes on** dropdown, select **Epics**.

3. View the board and notice that you now have a swimlane for your epic. A swimlane is a separate horizontal section for issues with a common characteristic (by epic in this case).

*Congratulations, you have viewed swimlanes by epic.*

#### IV: View the epic in the kanban backlog.

1. Turn on the kanban backlog for you **projectA** project. Do this by selecting **Board > Configure > Columns** and dragging the BACKLOG status to the kanban backlog.
2. View the kanban board. Notice that the card for the epic issue is no longer on the board. When you use the kanban backlog, epics are managed in the backlog.
3. Click the **Backlog** tab.
4. Click on the vertical **EPICS** link to the left. This expands the EPICS panel.
5. Hover over the the EPICS panel and notice that you can create an epic by clicking on the + icon.
6. Click on the ">" associated with the **Big Feature A** epic. Here you can view the current state of the epic. You can also manage the epic. Click the **more icon (...)**. Notice that you can change the color of the epic (shown on cards), view epic details and mark the epic as done.

*Congratulations, you have viewed the epic in the kanban backlog.*

#### V: Complete an epic.

1. If any of the issues of your Big Feature A epic are in the backlog, move them to the **Selected for Development** column so that they appear on the kanban board.
2. On the kanban board, move the issues of the **Big Feature A** epic to the **Done** column.
3. View the **add big feature A** issue in the project issue navigator (click on **Issues** on the left).
4. Change the epic issue's status to **Done**.
5. View the epic in the backlog. Notice that all of the issues are completed.
6. Click the more icon (...) and select **Mark as Done**. Click **Confirm**. Notice that the epic is no longer in the epics panel. (Though you can still find it in the global issue navigator if you select the **All issues** filter.)

*Congratulations, you have completed an epic and finished this lab.*

# Lab 13: Dashboards (Server)

Estimated time: 10 minutes

In this lab, you will:

- I. Explore the system dashboard.
- II. Create a dashboard.
- III. View the dashboard as a wallboard.

*Note: These instructions apply to Jira Server. They assume that you created a scrum project named **projectB** in an earlier lab.*

## I: Explore the system dashboard.

1. Log in to Jira as Alana Grant (**agrant/Charlie!**).
2. Click the **Dashboards** dropdown in the top menu and select **View System Dashboard**. Explore the system dashboard.

*Congratulations, you have explored the system dashboard.*

## II: Create a dashboard.

1. Click the more icon (...) in the upper right. Select **Copy Dashboard**.
2. Name the dashboard **Alana's dashboard**.
3. Explore the sharing options for the dashboard. Dashboards can be personal (not shared) or shared with others. You can keep this dashboard personal.
4. Click **Add** to create the dashboard.
5. Click on the more icon (...) on the gadget with "Welcome to Jira" (in the lower left) and select **Delete**.
6. Repeat the process above to delete all gadgets in the left column except the **Sprint Health Gadget**.
7. Select **Edit** from the more menu of the **Sprint Health Gadget**. Configure the gadget to show your **projectB** board. Leave the **Sprint** set to **Next Sprint Due (auto)**. This will always show the current sprint (if any). Click **Save**.
8. Create and start a sprint in **projectB** (from the **Backlog**) so that the gadget shows data. View your dashboard to verify that data is shown.
9. Click the **Add gadget** button in the upper right.
10. Click **Load all gadgets**.
11. Add the **Sprint Burndown Gadget**. Close the **Add a gadget** window. Configure the gadget to show your **projectB** board with the **Next Sprint Due (auto)**. Verify that you can see the sprint burndown chart in your dashboard.
12. Click the **Add gadget** button again and explore adding other gadgets to your dashboard.

*Congratulations, you have created a dashboard.*

### III: View the dashboard as a wallboard

1. With **Alana's dashboard** shown, click the more icon (...) in the upper right and select **View as wallboard**. You should see the gadgets displayed as a slideshow.

*This feature can be used as an "information radiator". This broadcasts the current state of the project.*

2. Click your browser's back button to view "Alana's dashboard". Click the more icon (...) in the upper right and select **Set up wallboard slideshow** to change the speed of gadget changes and modify the transition effects. If you have more than one dashboard starred, you can include gadgets from multiple dashboards.
3. View your dashboard as a wallboard to see your changes.

*Congratulations, you have viewed the dashboard as a wallboard and completed this lab.*

## (optional) Lab 14 - Putting it all Together (Server)

Estimated time: 25 minutes

As a Jira administrator (**admin/Charlie!**), you will create a kanban project named **projectfinal** to use for your team's project. You will assign Alana Grant as a project administrator.

Then you will log on as Alana Grant (**agrant/Charlie!**). As the team modifies its agile methodology, you will periodically be given new requirements for the board. Your task is to modify the board accordingly. In the chart below, each version of the board is labelled with the next letter of the alphabet.

For each requirement, try to think of why a team might decide to make the change to their process.

board version	requirements	verification	notes
A	<ul style="list-style-type: none"><li>As a Jira administrator (<b>admin/Charlie!</b>), create a kanban project named <b>projectfinal</b>. Assign Alana Grant as the project lead.</li><li>Assign Alana Grant as a project administrator.</li></ul>	As Alana Grant, verify that you can create issues and have a project settings icon in the lower left.	
B	<ul style="list-style-type: none"><li>As Alana Grant (<b>agrant/Charlie!</b>), limit the <b>In Progress</b> column to 2 issues.</li></ul>	Verify that 3 issues highlights the column heading.	
C	<ul style="list-style-type: none"><li>Create a backlog separate from the board.</li></ul>	Verify that you have a "Backlog" tab.	
D	<ul style="list-style-type: none"><li>Split* the <b>In Progress</b> column to <b>Analyze</b>, <b>Build</b> and <b>Verify</b> columns.</li><li>Limit the <b>Build</b> column to a WIP of 2 items.</li></ul>	Verify that your board has 5 columns and that issues can move through the columns as expected.	<p>* you are really adding three columns and removing one column</p> <ul style="list-style-type: none"><li>If the "Add status" button is disabled, you need to add Alana Grant to the Administrators role.</li><li>If you have issues with an "In Progress" status, use the project issue navigator to change their status.</li></ul>

E	<ul style="list-style-type: none"> <li>• Create swimlanes on the board by Assignees.</li> </ul>	<ul style="list-style-type: none"> <li>• Assign issues to Alana Grant and verify that you have swimlanes.</li> <li>• Log in as Ryan Lee (<b>rlee/Charlie!</b>) and verify that you see the same swimlanes (log back in as Alana Grant when finished).</li> </ul>	
F	<ul style="list-style-type: none"> <li>• Use the backlog to create an epic named <b>Initial Release</b> and a summary of <b>Create initial release</b>.</li> <li>• Add existing issues to the epic.</li> </ul>	View the epic label for issues on the board.	This uses the “Epic Link” field.
G	<ul style="list-style-type: none"> <li>• (Optional) Explore other features of Jira that have not been covered in the course. Use what you have learned in this course, Atlassian documentation and web searches to help you.</li> </ul>		