Seminar

S1

Software Engineering

Computer Science School
DSIC – UPV

Chapter 2.

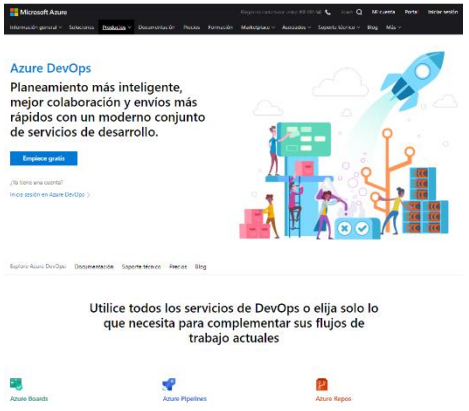
The software Process. Methodologies

Introduction to Azure DevOps. Tool Support for Agile Software Development

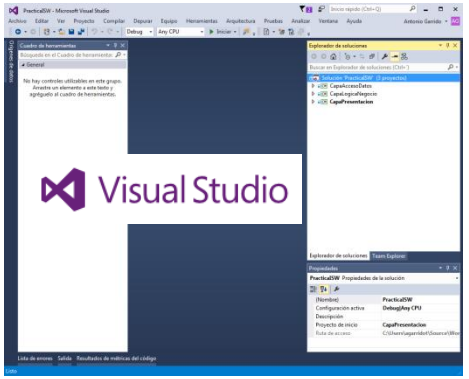
Goals

- Apply agile methodology to software development using DevOps (cloud collaboration tool for development teams) and Microsoft Visual Studio

Part 1. Project management with Azure DevOps



Part 2. Visual Studio Project development (Seminar 2)



Part 1. Project Management (Web)

- Ellaborate a project plan applying an agile methodology using DevOps

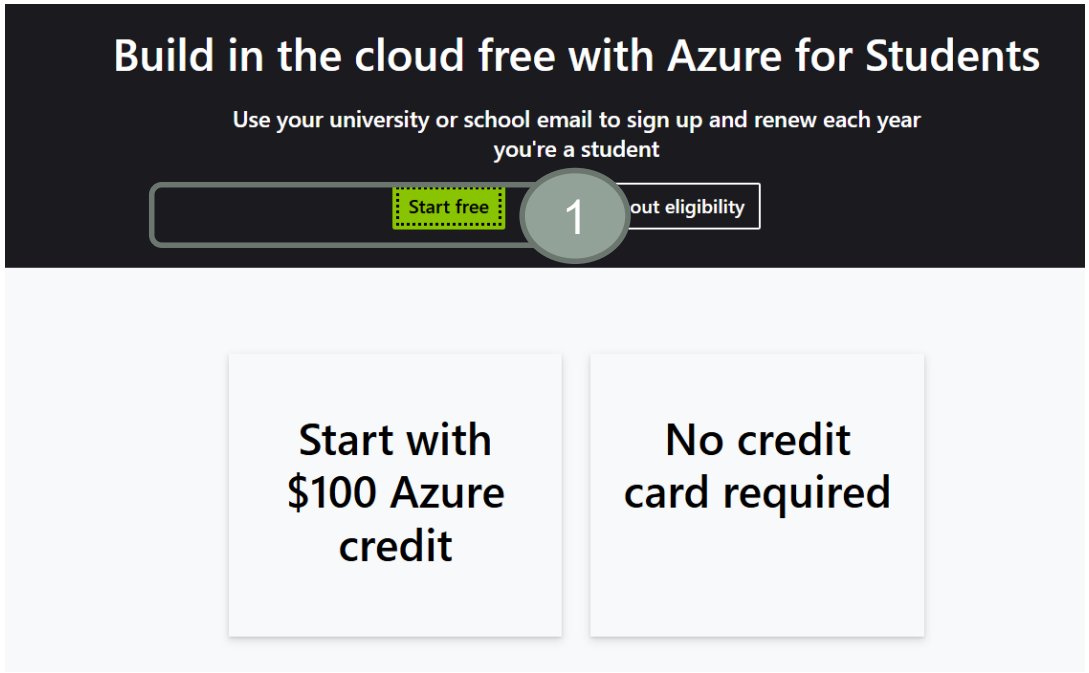
Steps:

- ✓Creating an Azure DevOps Organization
- ✓Creating a new project
- ✓Adding members to the team
- ✓Work management

✓ Creating a DevOps account

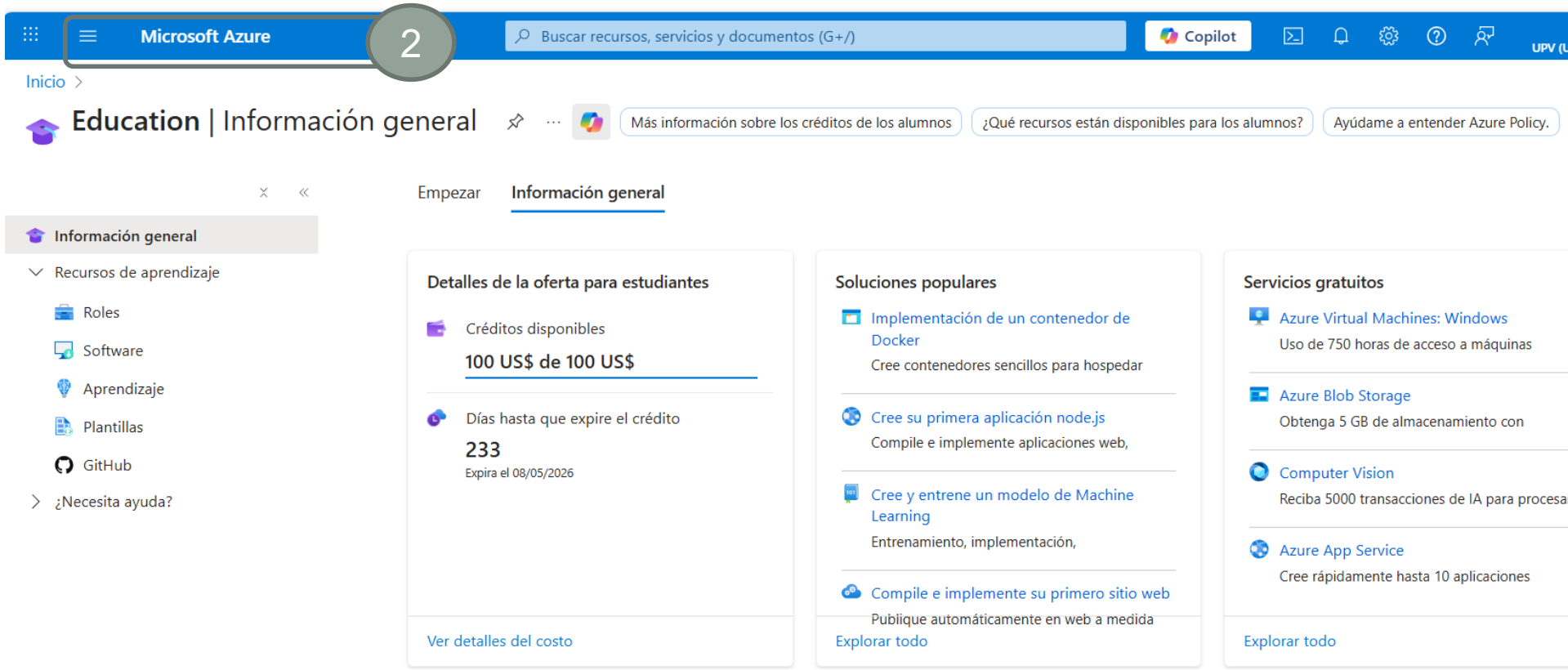
- Check the two factor authentication is activated in the UPV intranet
- Create a student Azure account:

[Azure for Students – Free Account Credit | Microsoft Azure]



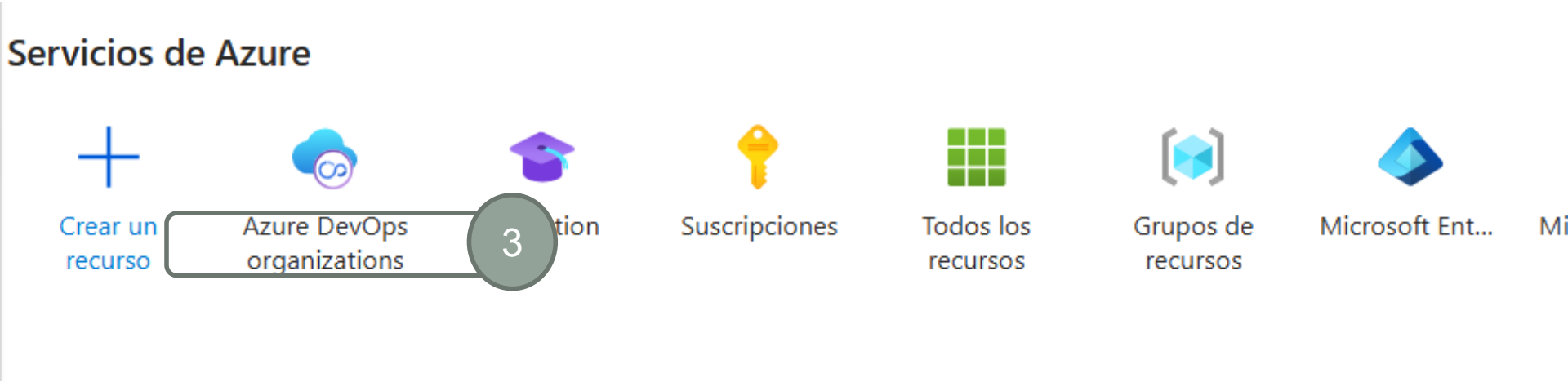
✓ Creating a DevOps account

After login to Azure visit the Home page:



✓ Creating a DevOps account

Explore the Azure DevOps organizations:



✓ Creating a DevOps account

Explore the Azure DevOps organizations:

Azure DevOps

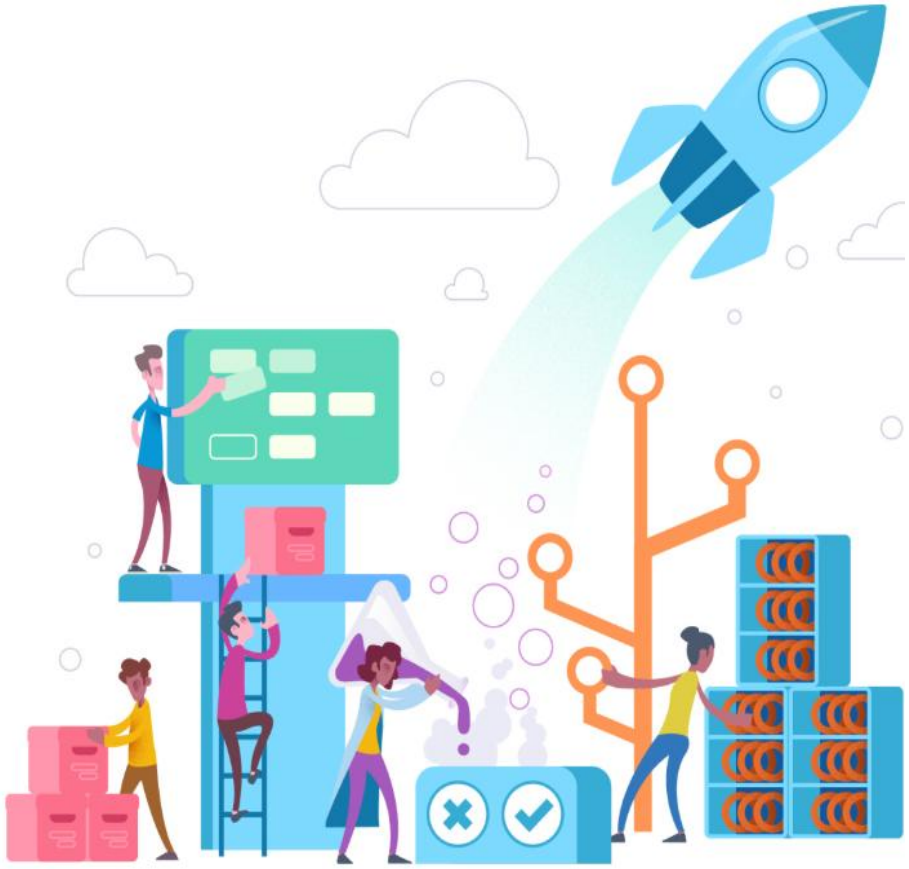
Plan smarter, collaborate better, and ship faster with a set of modern dev services

My Azure DevOps Organizations 4

Get started using Azure DevOps
Billing management for Azure DevOps

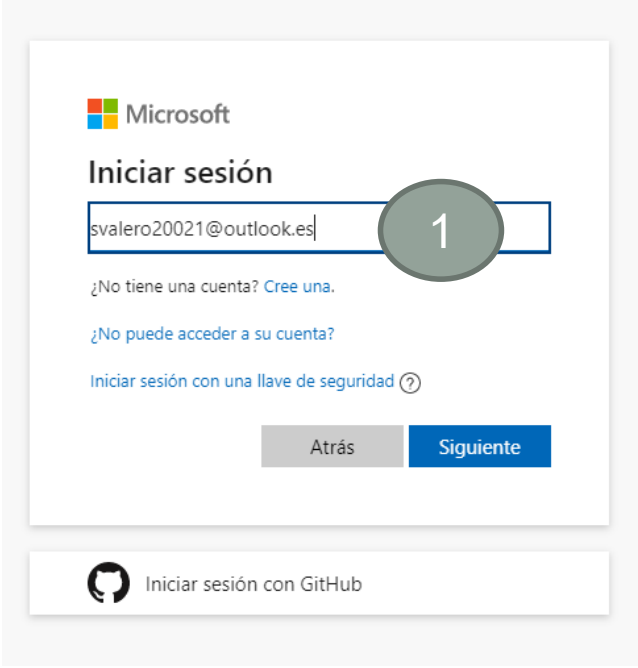
Enviar comentarios

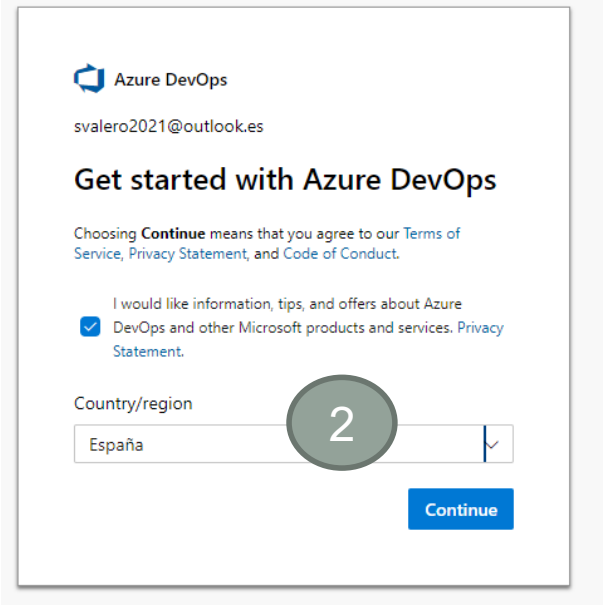
Cuéntenos su experiencia con Azure DevOps page



Creating a DevOps Organization (alt)

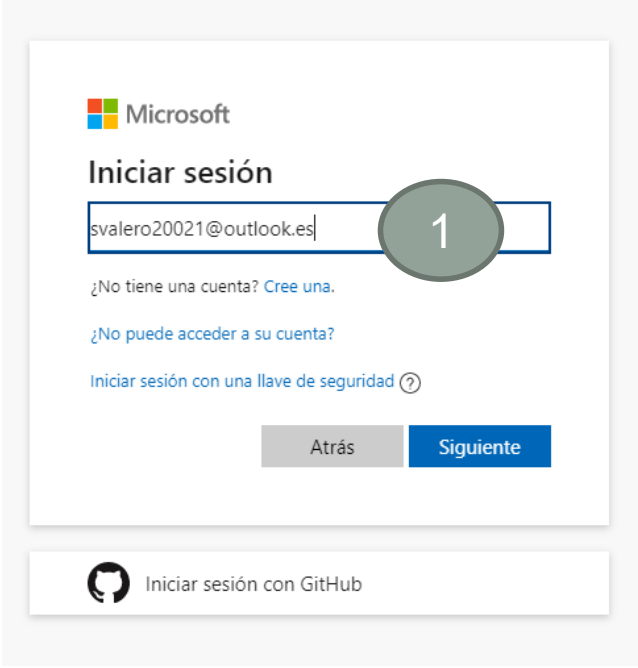
1. Log in with a upv.edu account
   - Be aware that you belong to an organization and all members in the team will be forced to use a upv.edu account. Otherwise the system does not work properly
2. An organization is created with your user name by default.
   - An organization is a team developing software projects in ISW

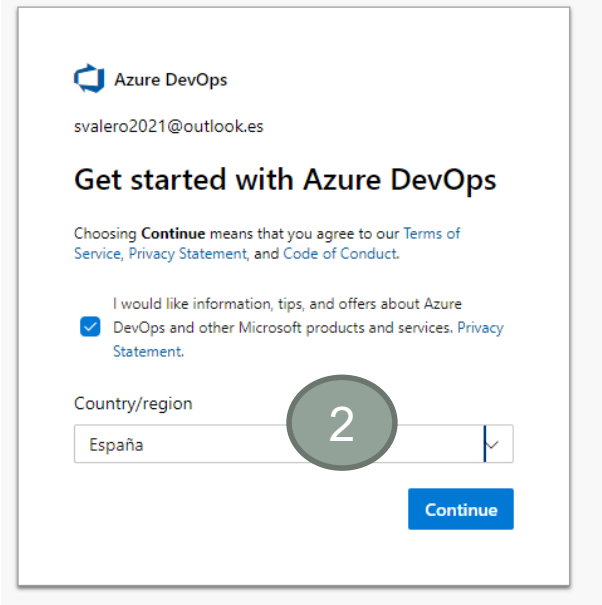




Creating a DevOps Organization

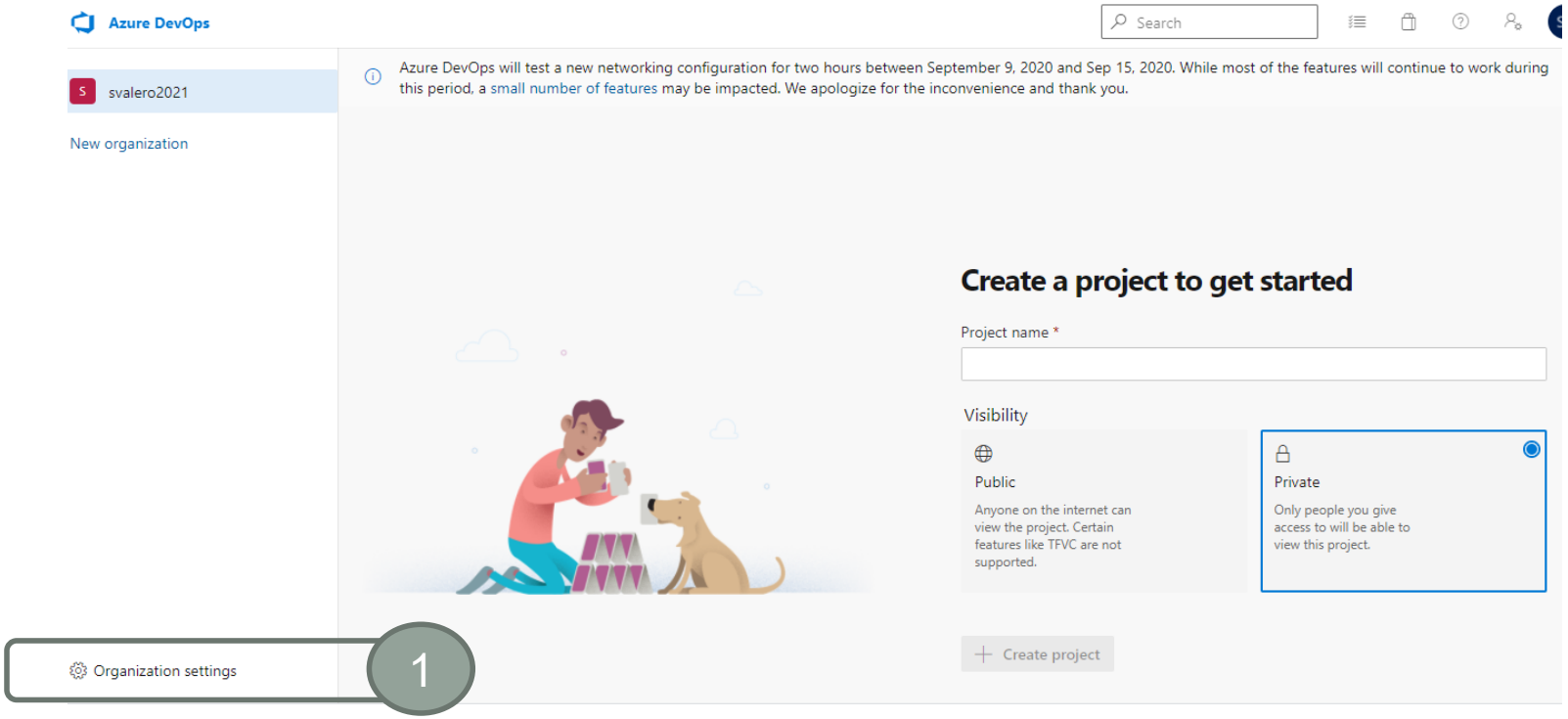
1. Log in with a upv.edu account
   - Be aware that you belong to an organization and all members in the team will be forced to use a upv.edu account. Otherwise the system does not work properly
2. An organization is created with your user name by default.
   - An organization is a team developing software projects in ISW





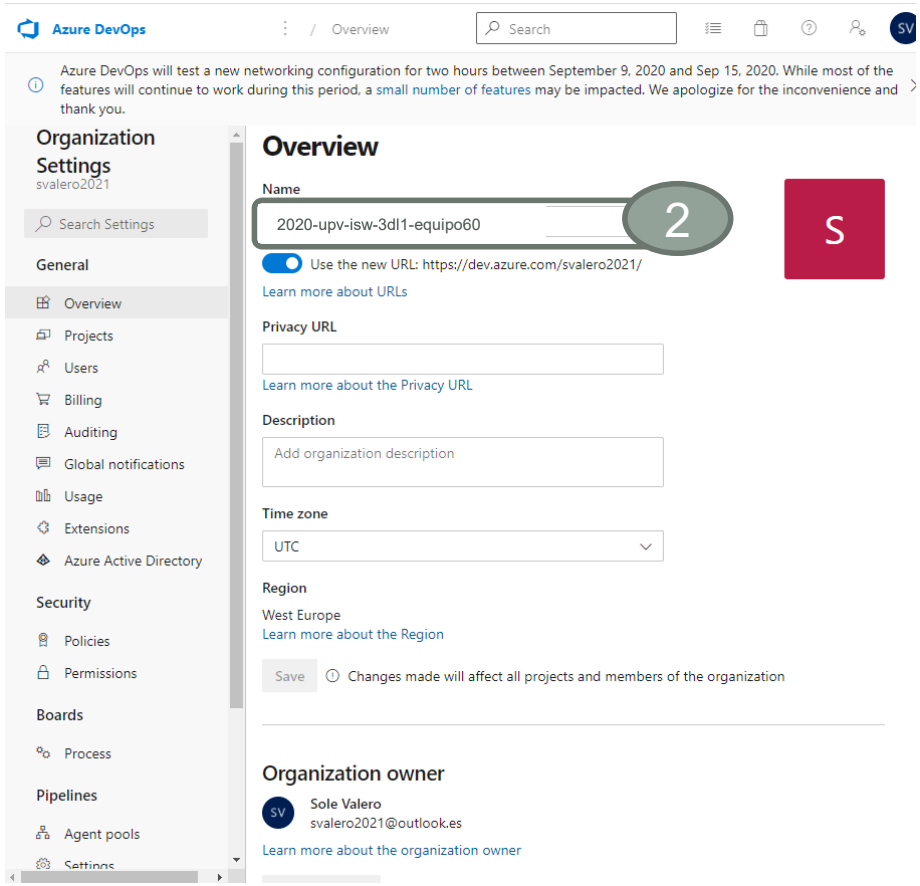
Modifying a DevOps Organization Name

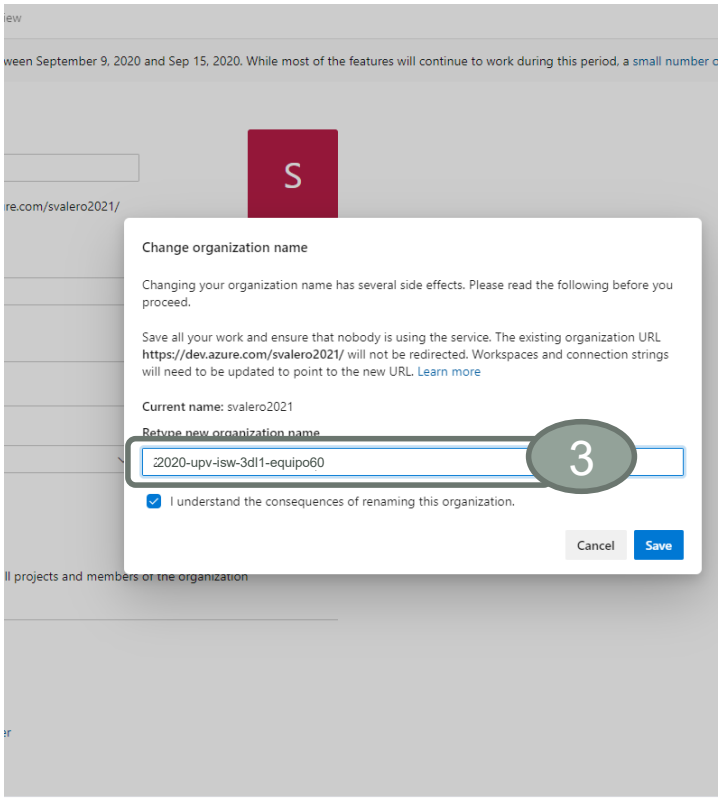
- We are going to change the default organization name, with another team name



Modifying a DevOps Organization Name

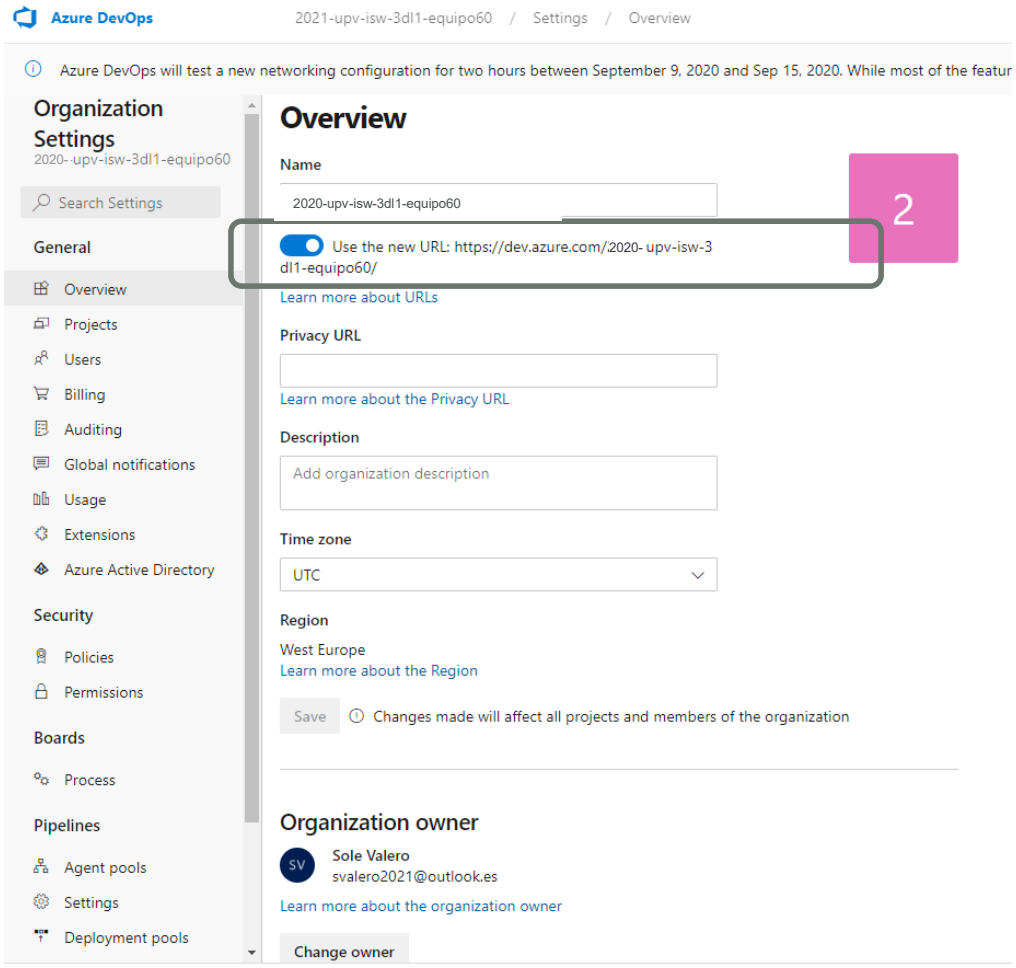
- The name of our team will be a combination that includes the course name and the laboratory group name in which you are enrolled. E.g.: 2025-upv-isw-3el1-team01 (**each lab team has a different number** see excel sheet)



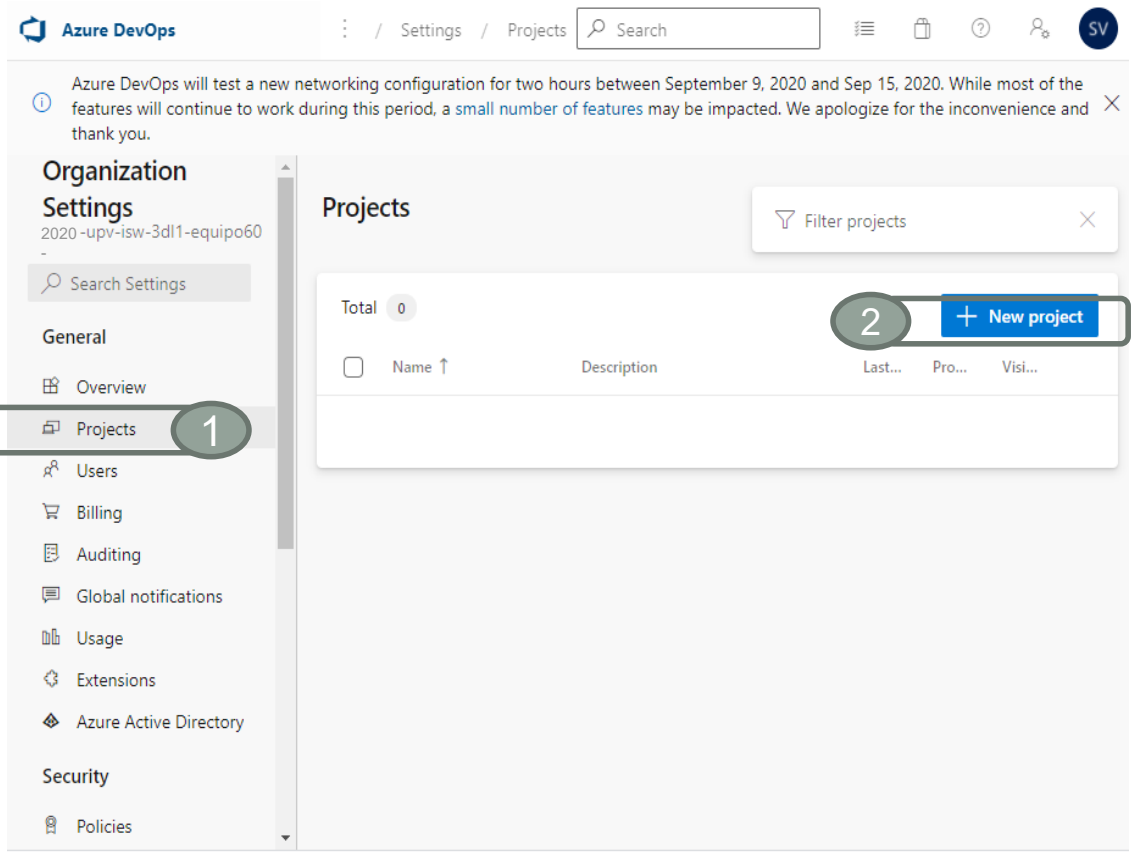


Modifying a DevOps Organization

- At this point an organization server on the cloud is available for our organization: https://dev.azure.com/2025-upv-isw-3el1-team01/



Creating a new project



a) We create a new project

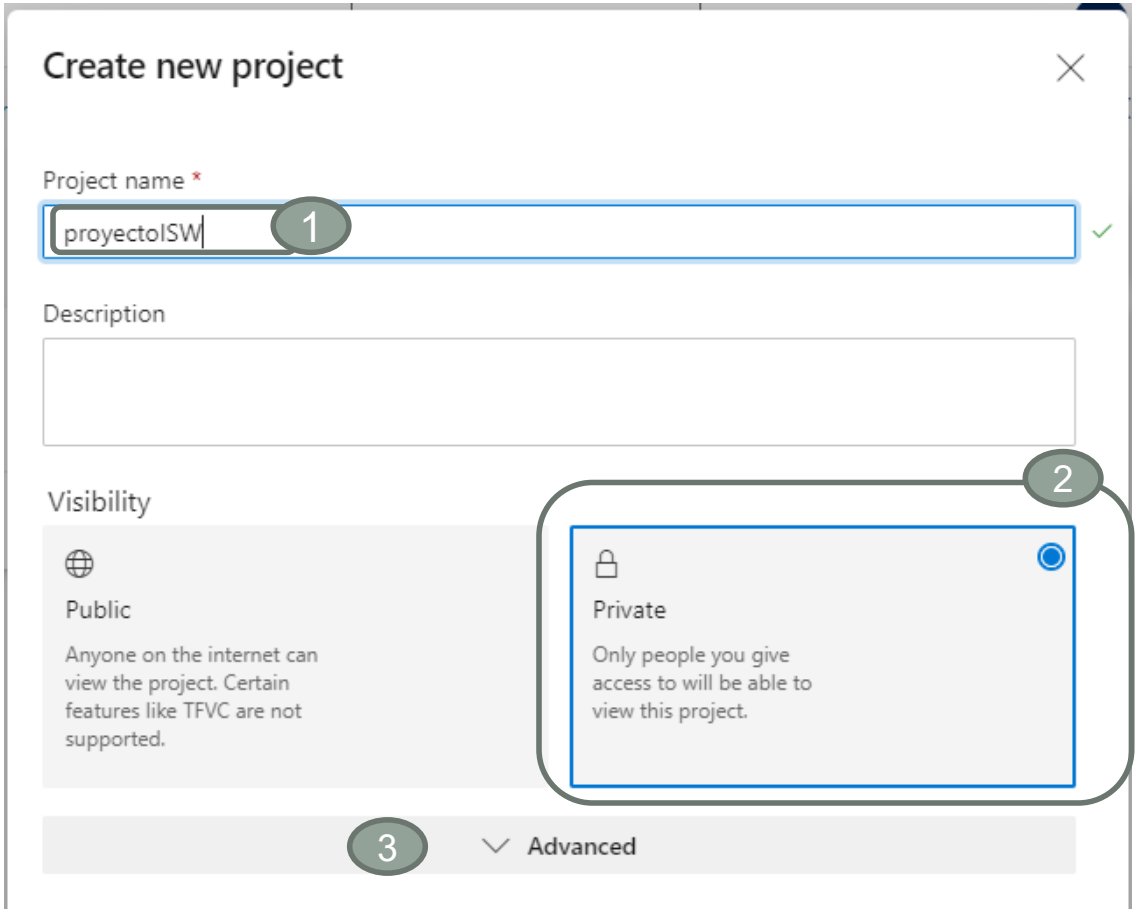
b) Insert a name and define visibility (private)

c) Unfold advanced features

d) Select git for control versioning and Agile as methodology

e) Confirm the creation of the project

Creating a new project



a) We create a new project

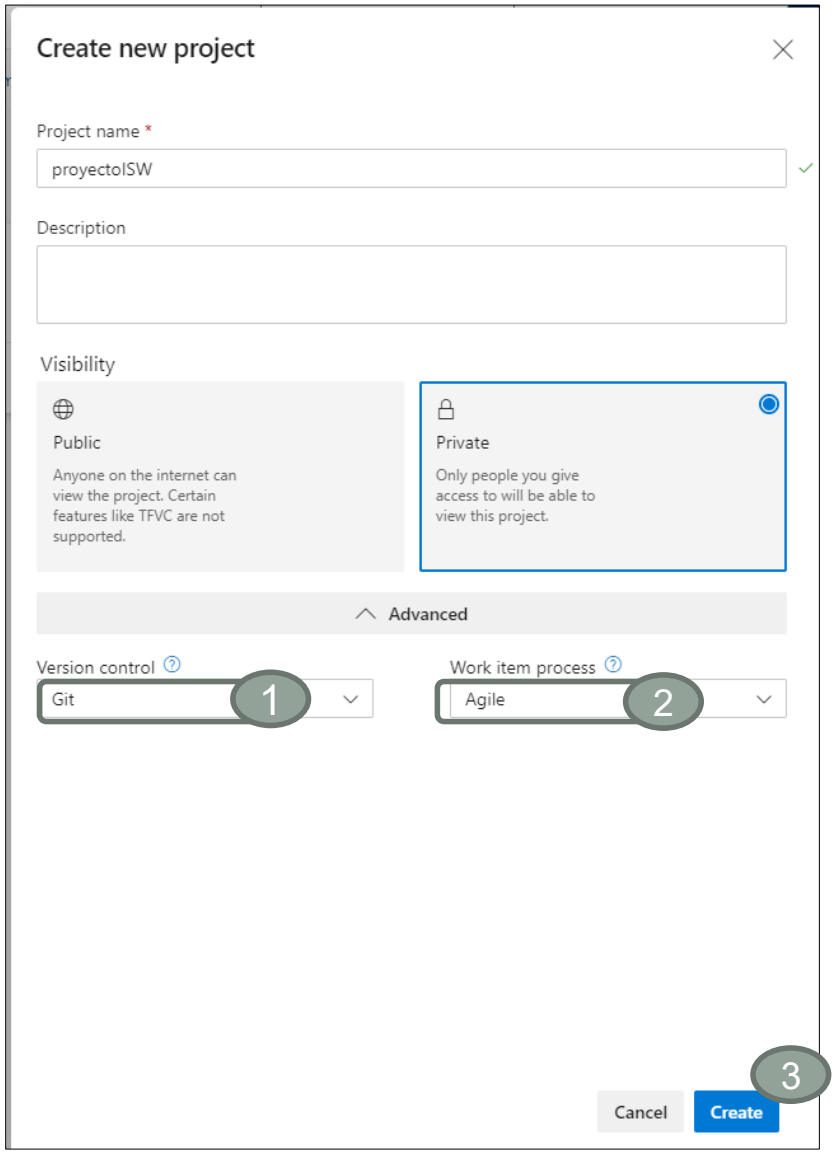
b) Insert a name and define visibility (private)

c) Unfold advanced features

d) Select git for control versioning and Agile as methodology

e) Confirm the creation of the project

Creating a new project



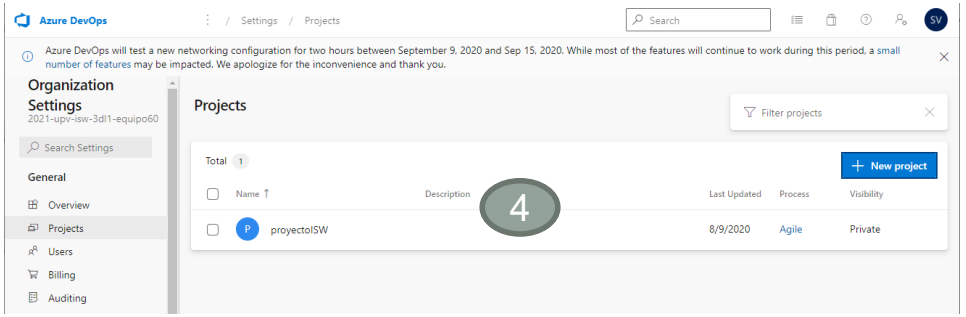
a) We create a new project

b) Insert a name and define visibility (private)

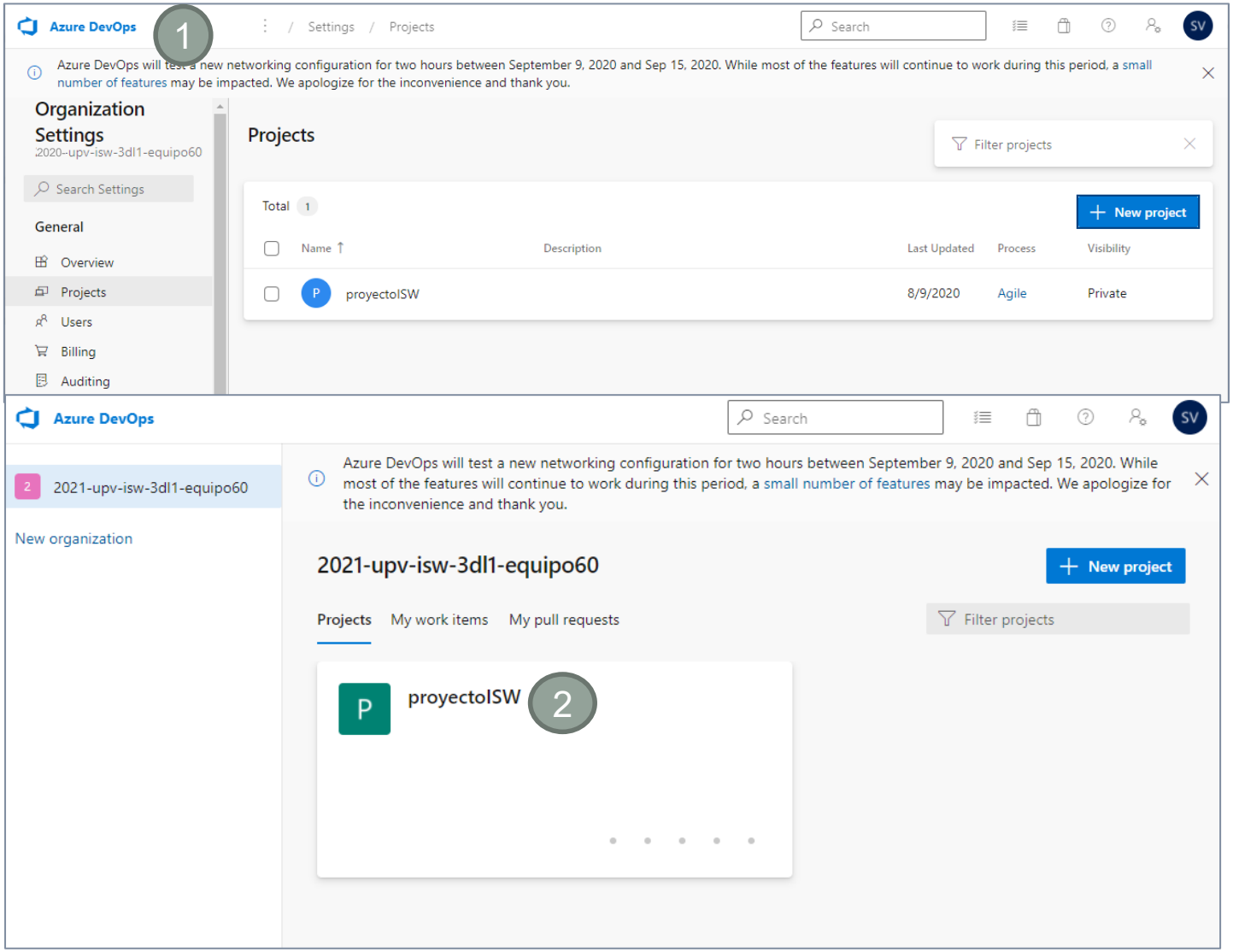
c) Unfold advanced features

d) Select git for control versioning and Agile as methodology

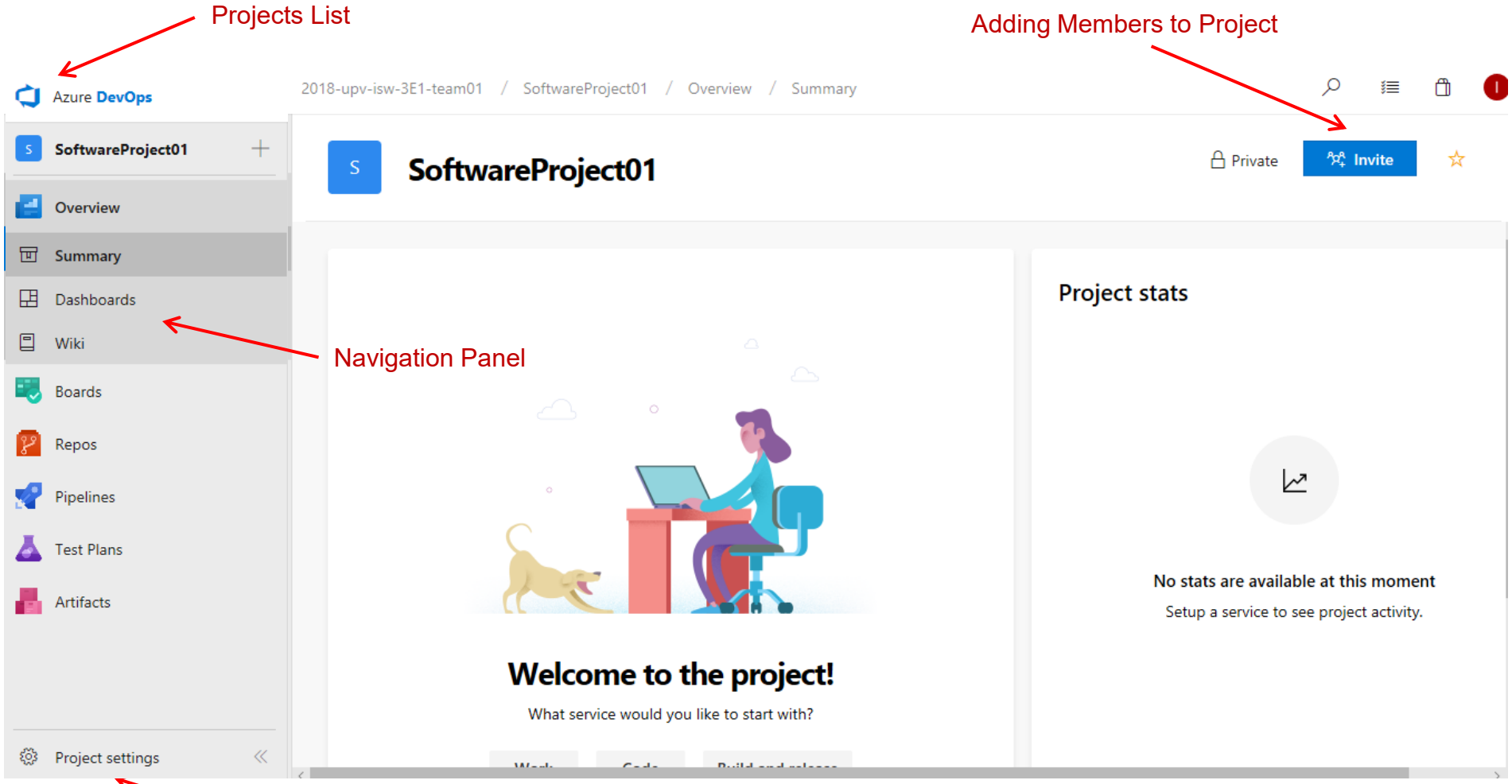
e) Confirm the creation of the project



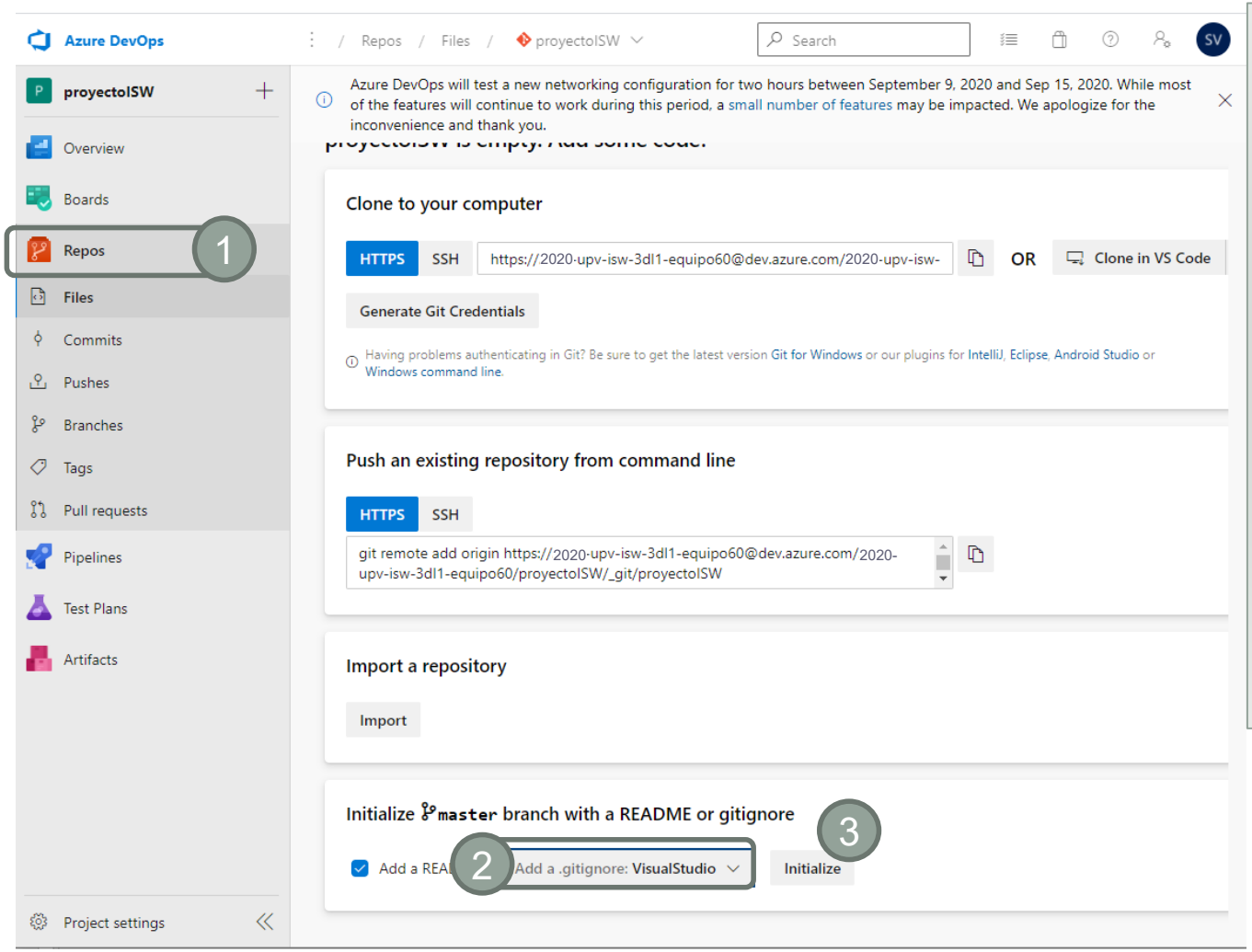
Project View



Project Main View



Repository Configuration

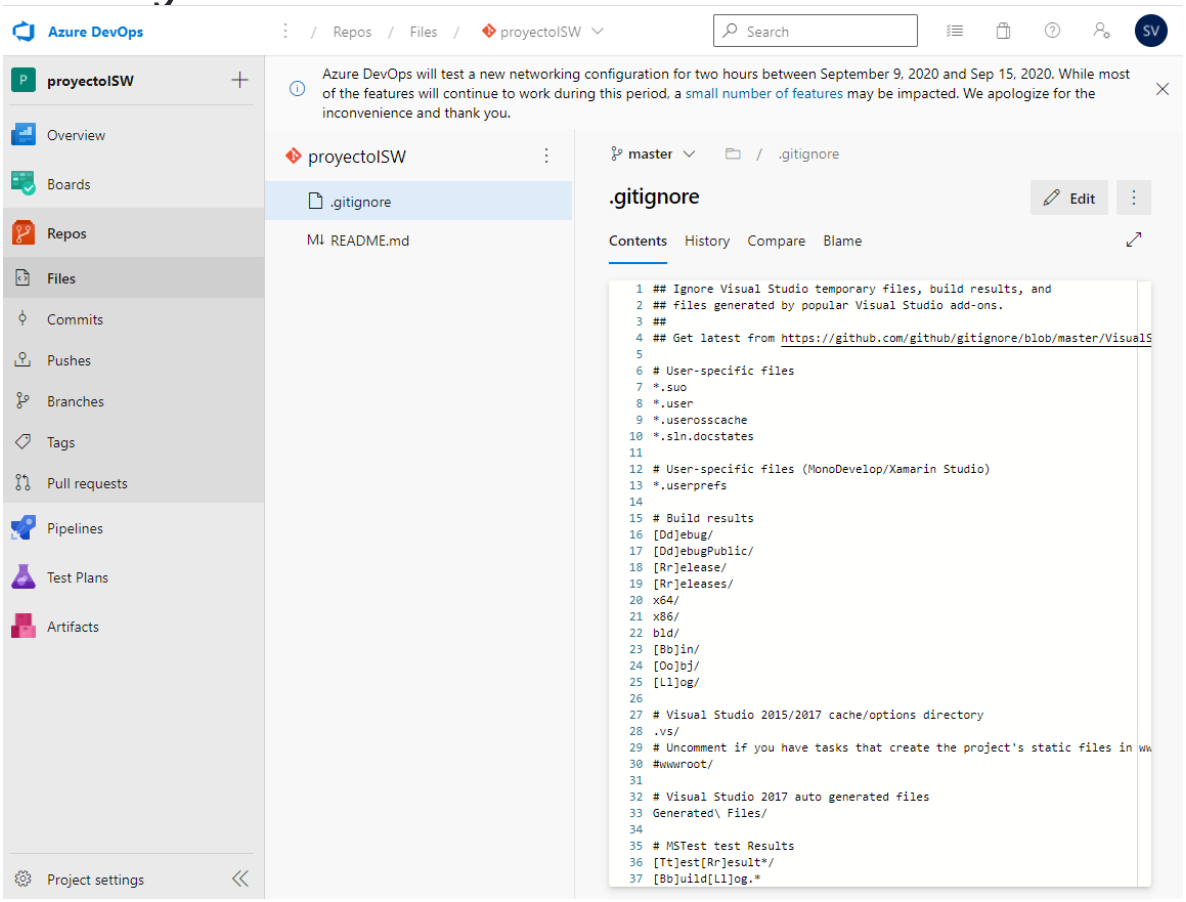


We initialize the git repository to adequately work with Visual Studio:

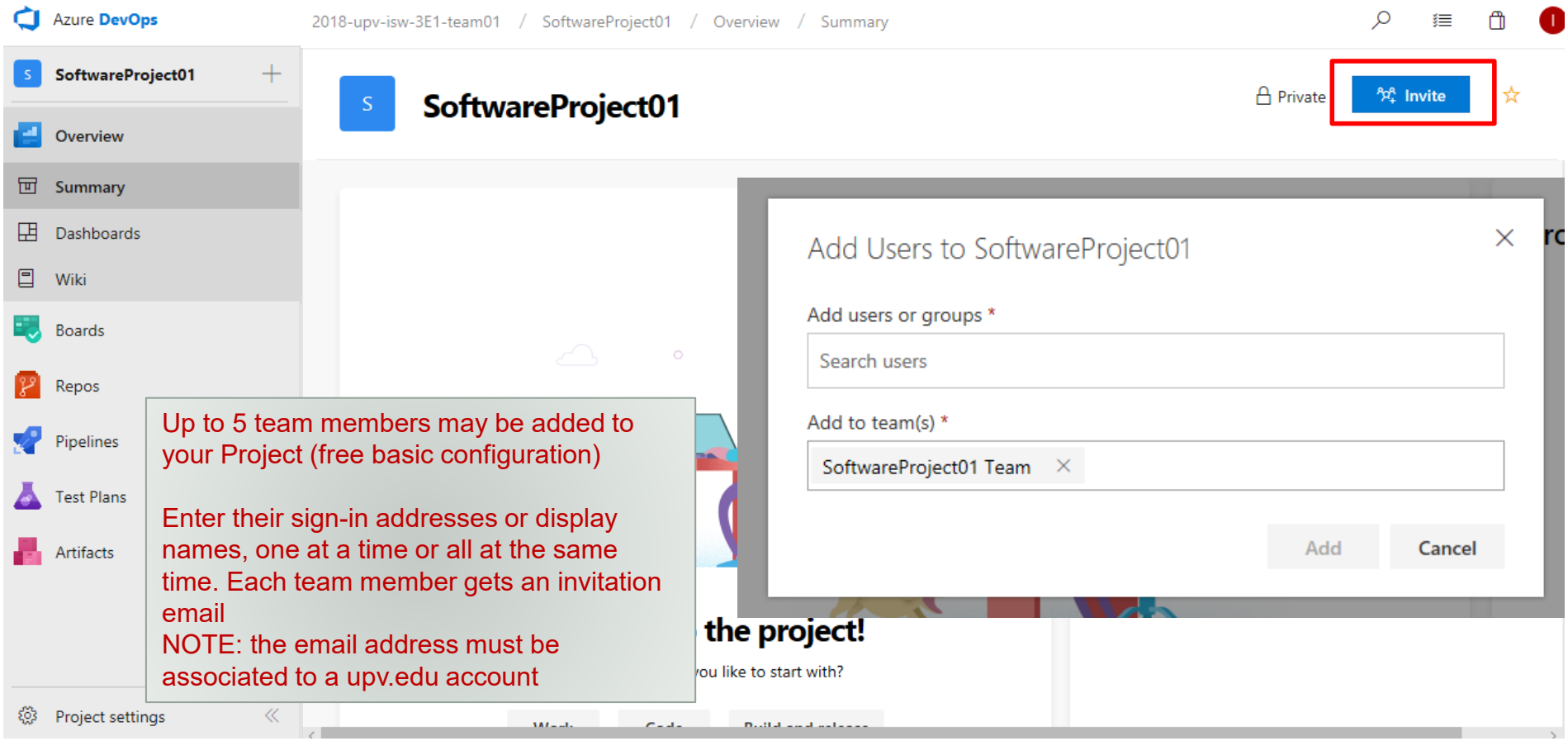
1. Select *Repos*
2. Select VisualStudio in the *Add a .gitignore section*
3. Select *Initialize*

Repository Configuration

- A .gitignore and README.md files are created by default.



✓ Adding members to the team



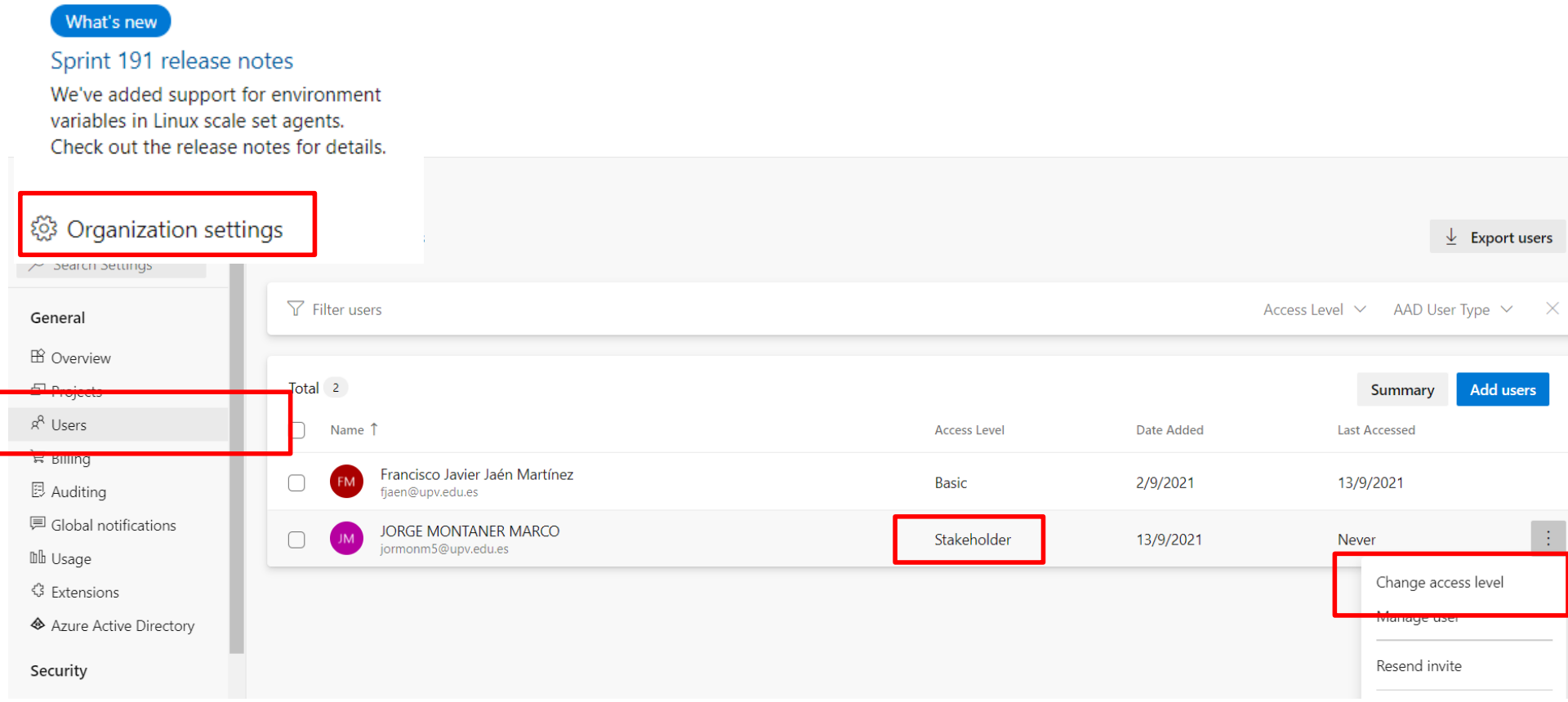
Up to 5 team members may be added to your Project (free basic configuration)

Enter their sign-in addresses or display names, one at a time or all at the same time. Each team member gets an invitation email

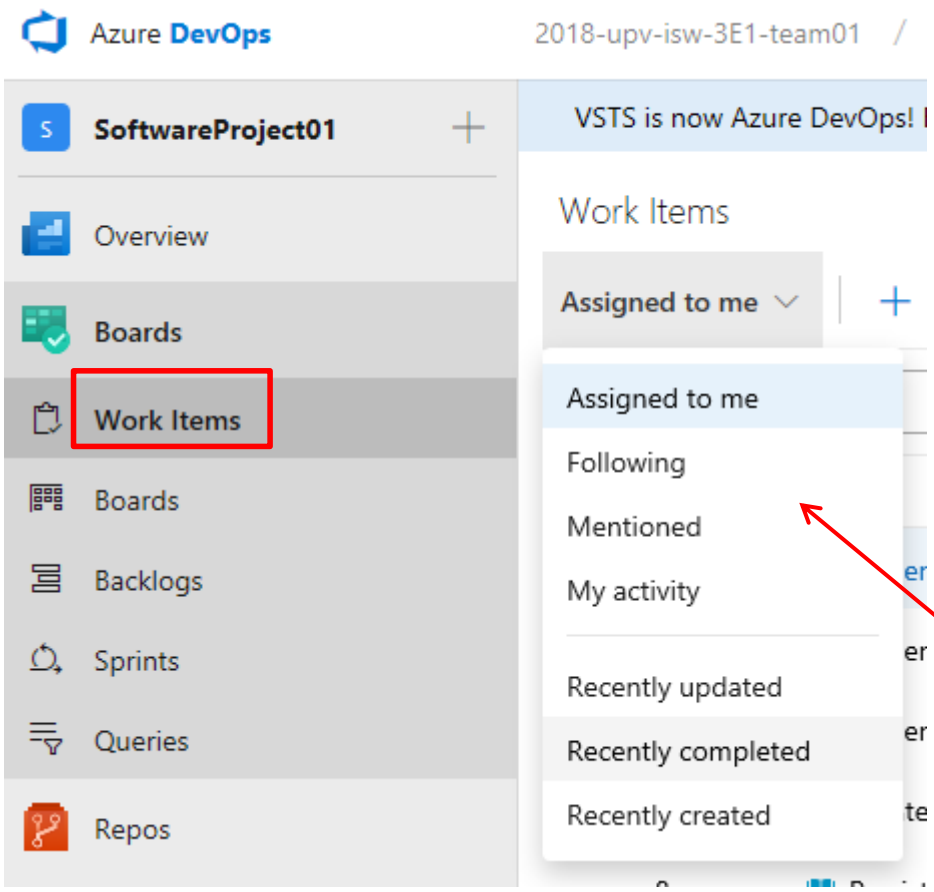
NOTE: the email address must be associated to a upv.edu account

Adding Members to the team

- Make sure all members have Basic access Level



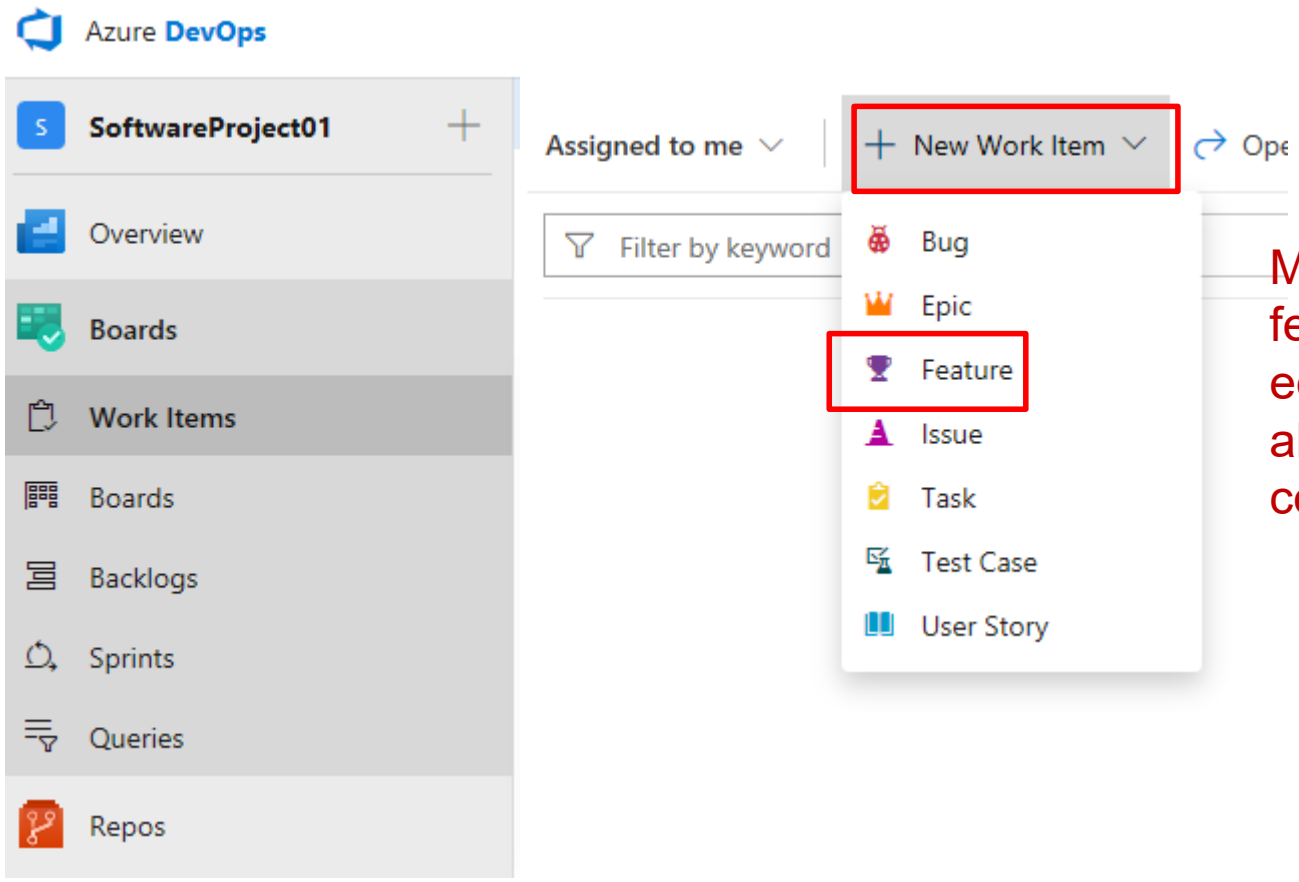
✓ Work Management (Work Items)



List of work items filtered by different criteria

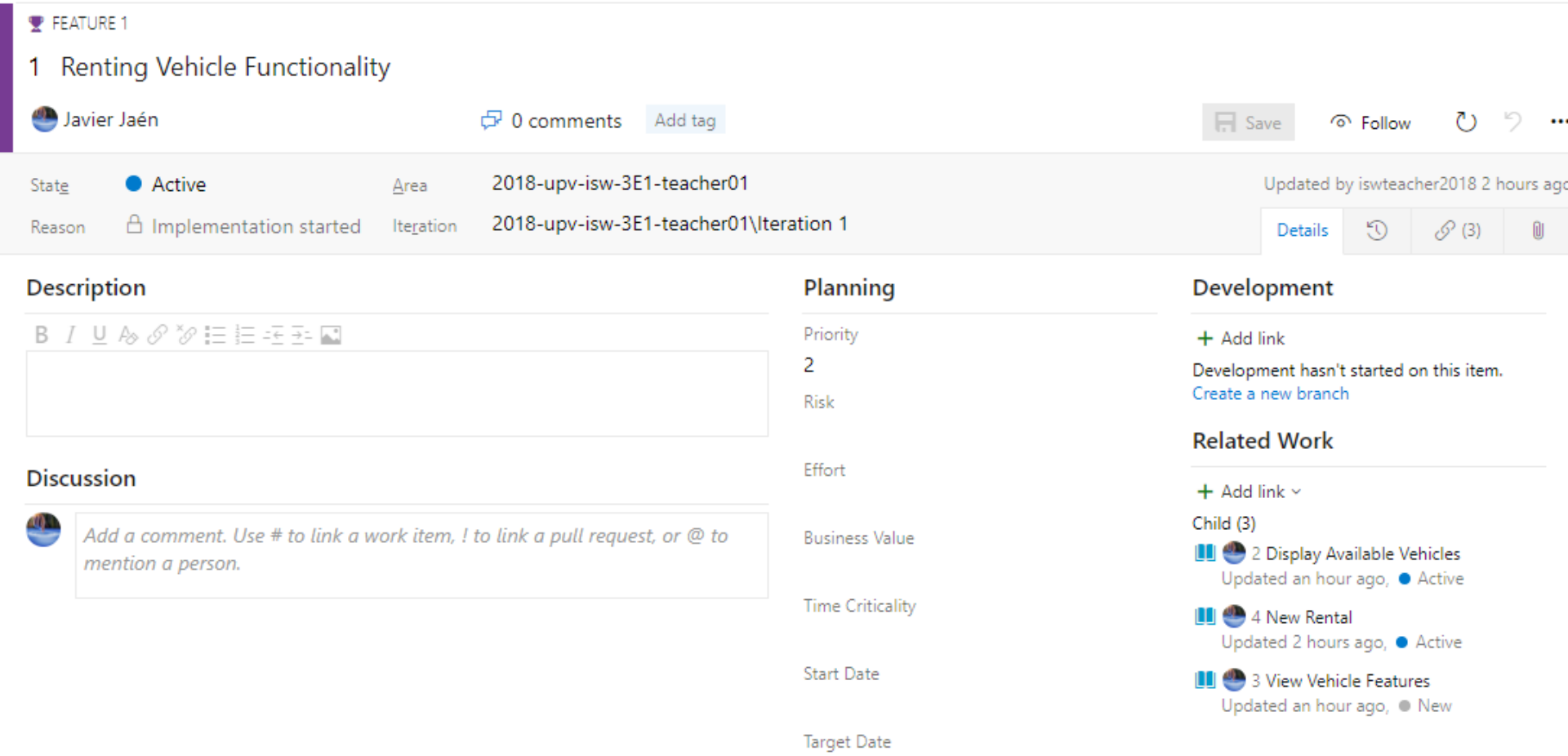
Creating Work Items

Being an Agile methodology we have *sprints*, *features, user stories, tasks* (inside user stories), etc.

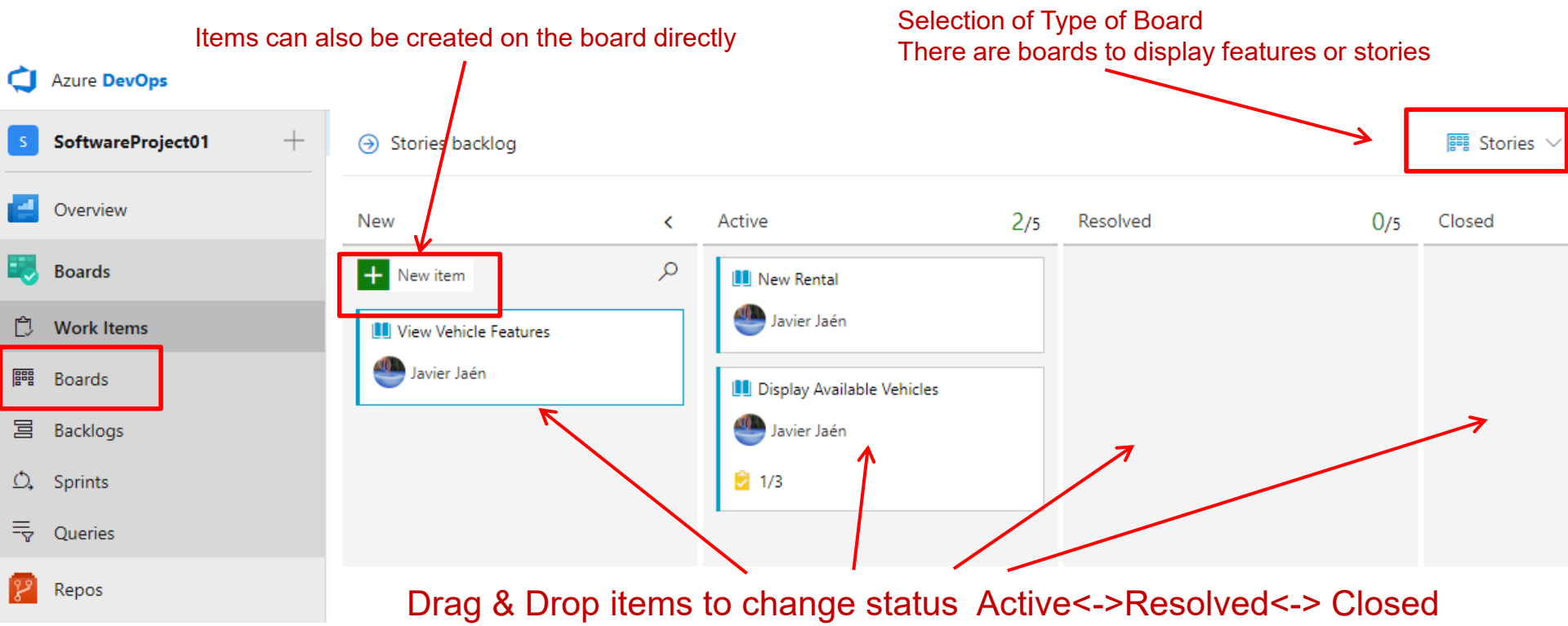


Many developers consider features and user stories equivalent but a feature can also be considered a collection of user stories

Creating Work Items



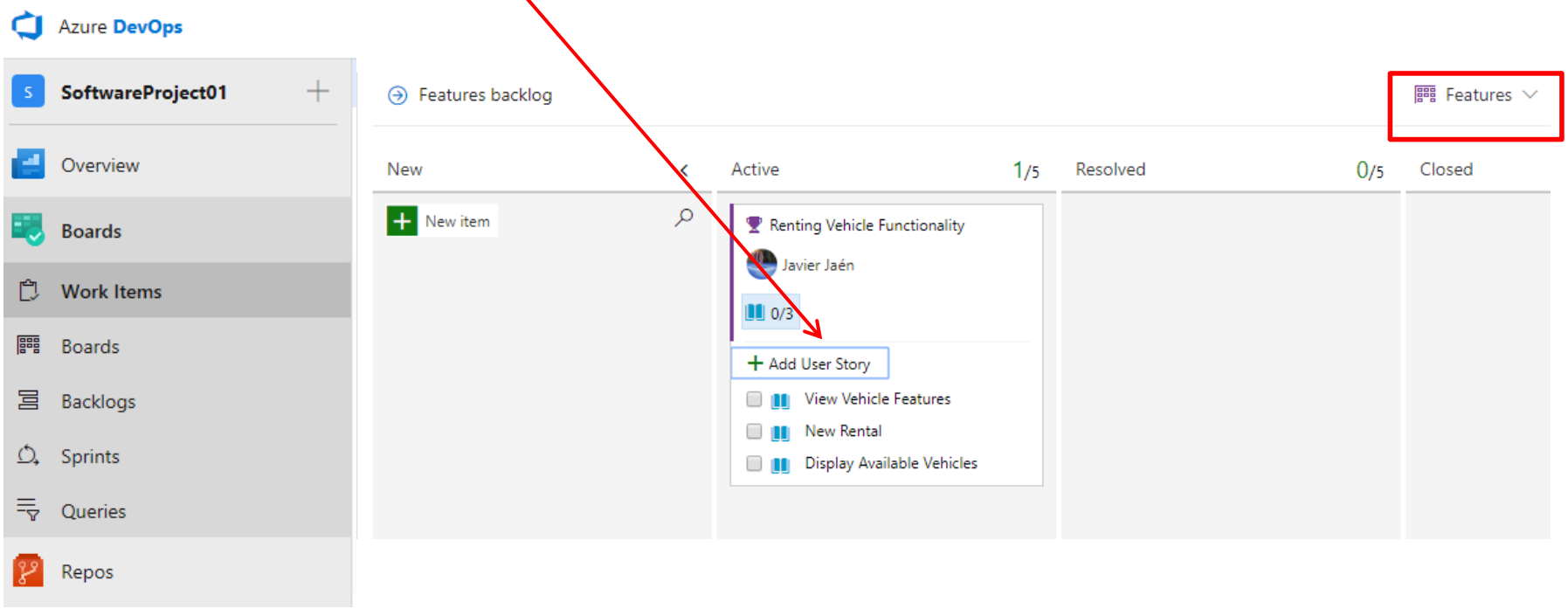
✓ Work Management (Boards)



Your board consists of a list of work items. You use work items to share information, assign work to team members, track dependencies, organize work, etc.

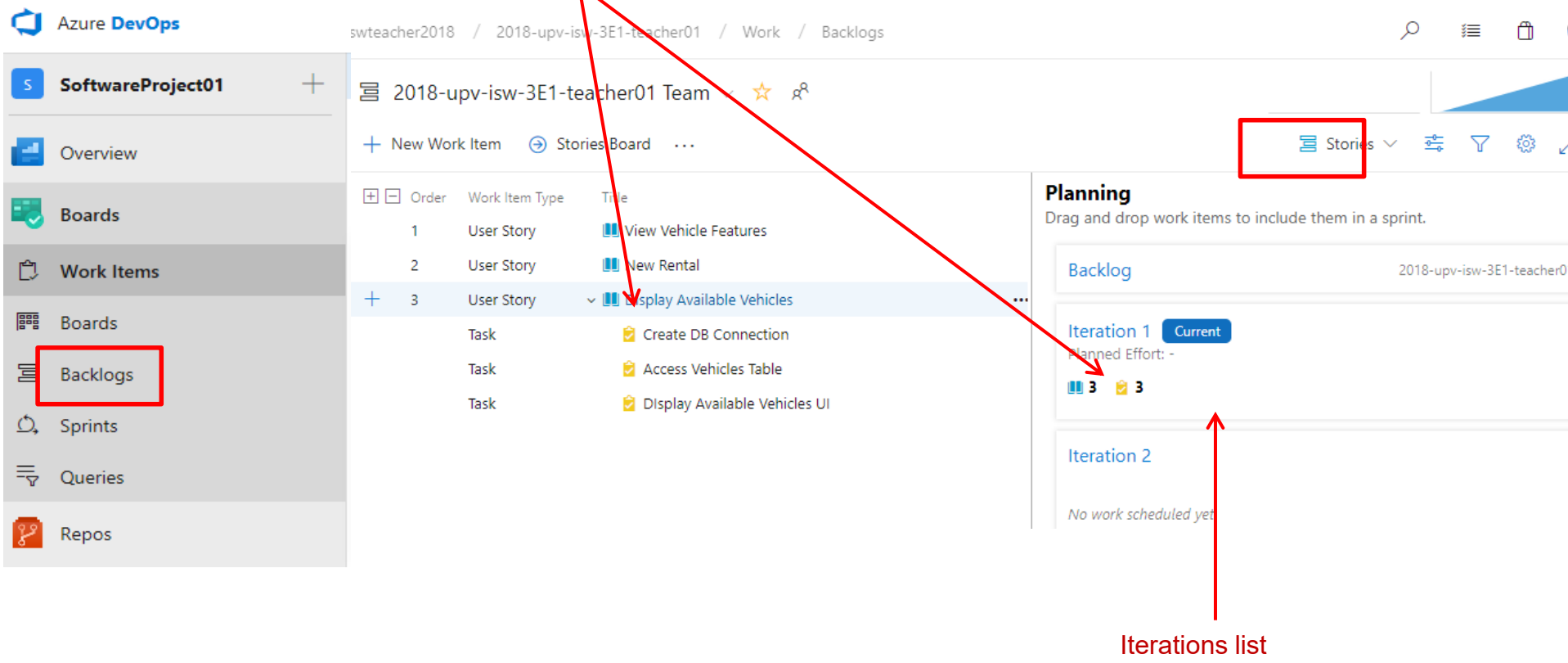
Work Management (Boards)

User Stories can be added to a Feature directly on the board



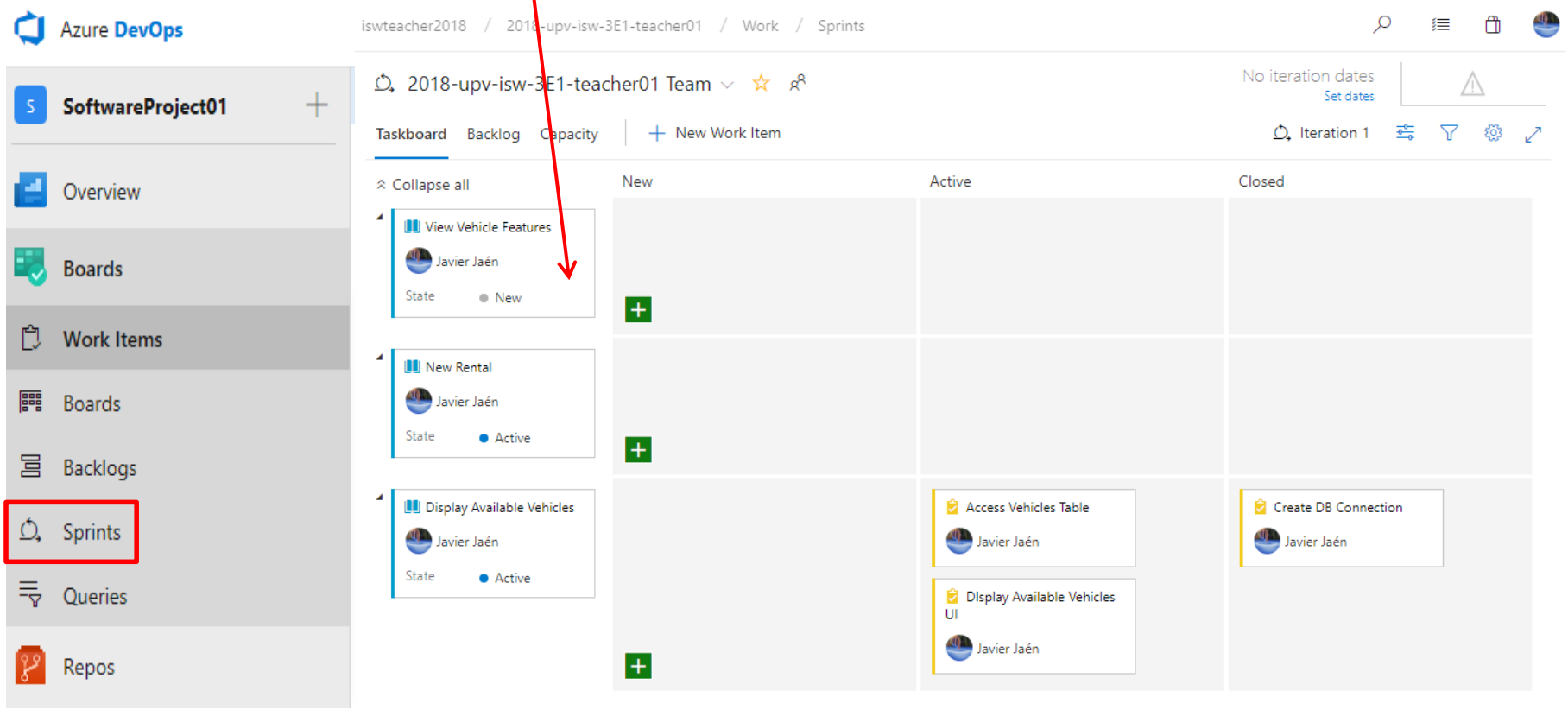
Work Management (Backlogs)

Backlogs can be used to assign work items to Iterations using Drag and Drop



Work Management (Sprints)

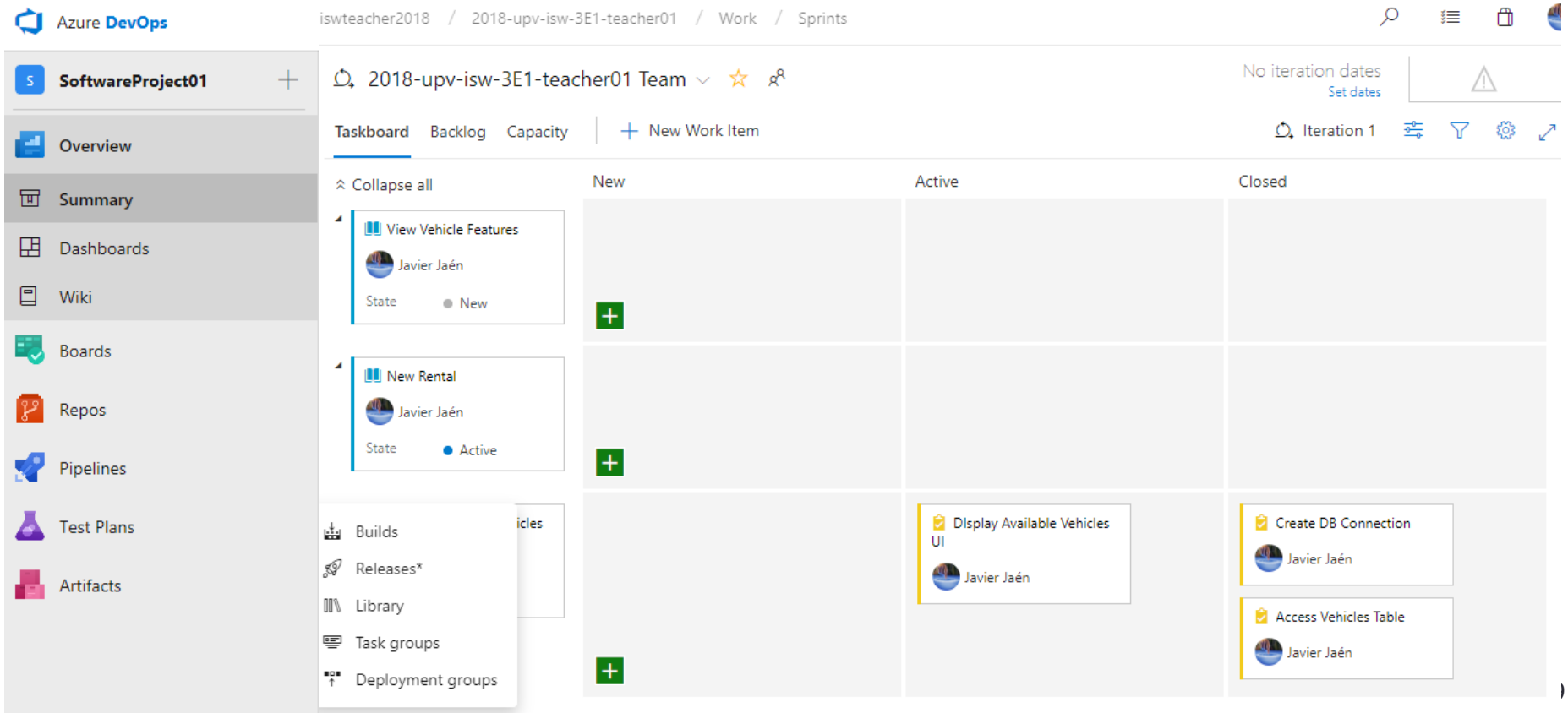
Tasks can be added to User stories directly



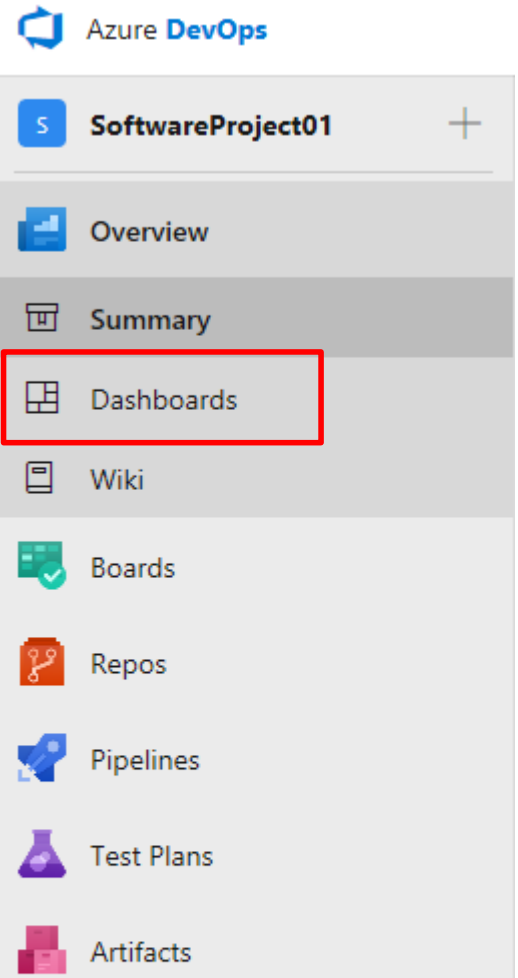
Sprints show the progress of tasks within a given sprint

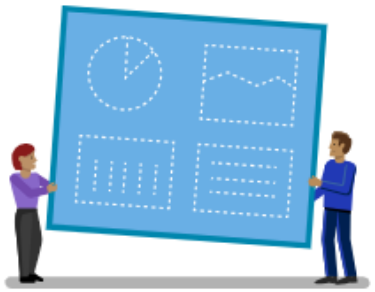
✓ Work management. Workflow progression

As work progresses, team members can update the state and reassign it as needed until they are completed (closed)



✓ Dashboards





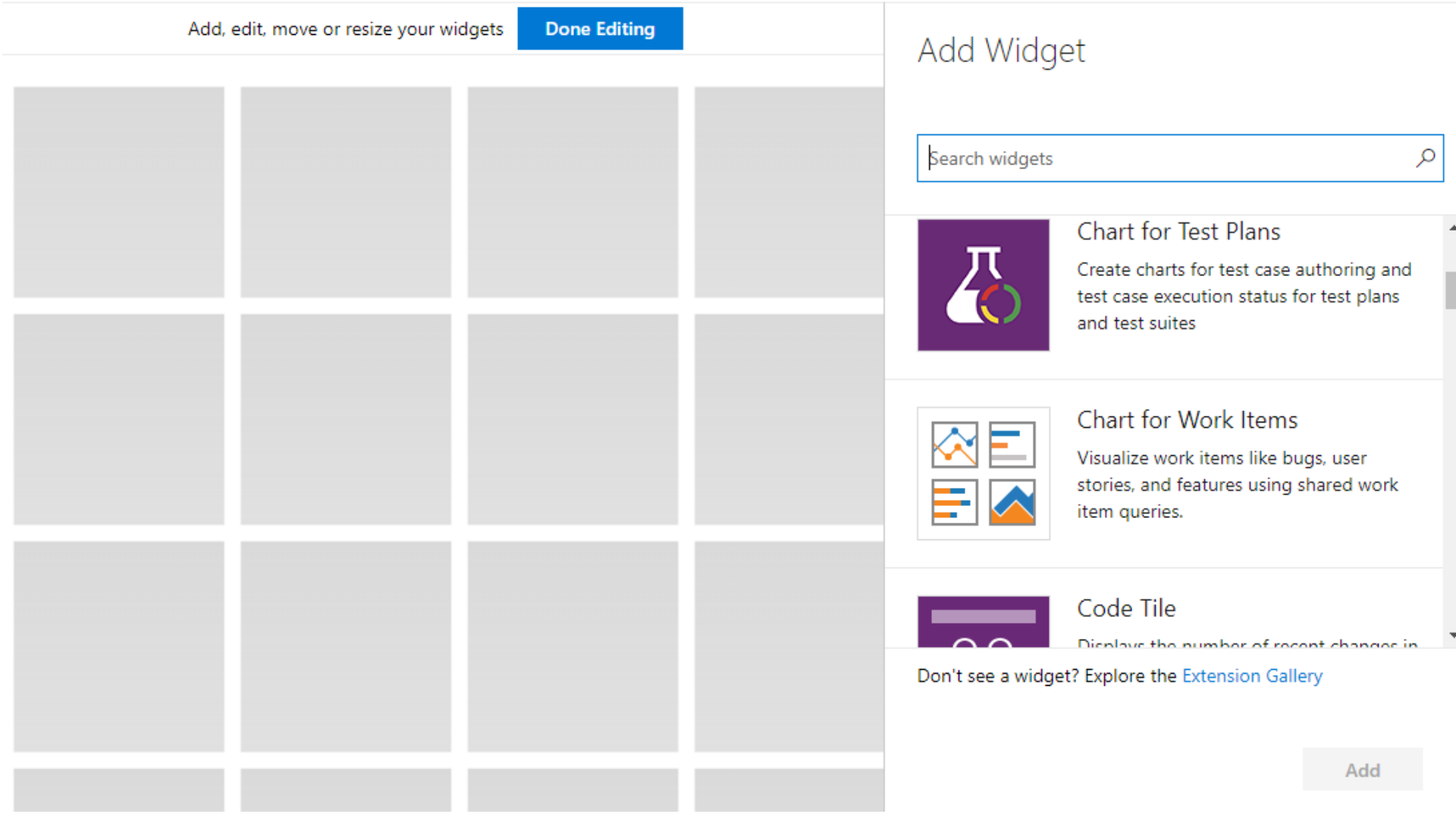
This dashboard doesn't have widgets just yet!

Add one or more widgets to gain visibility into your team's progress.

Add a widget

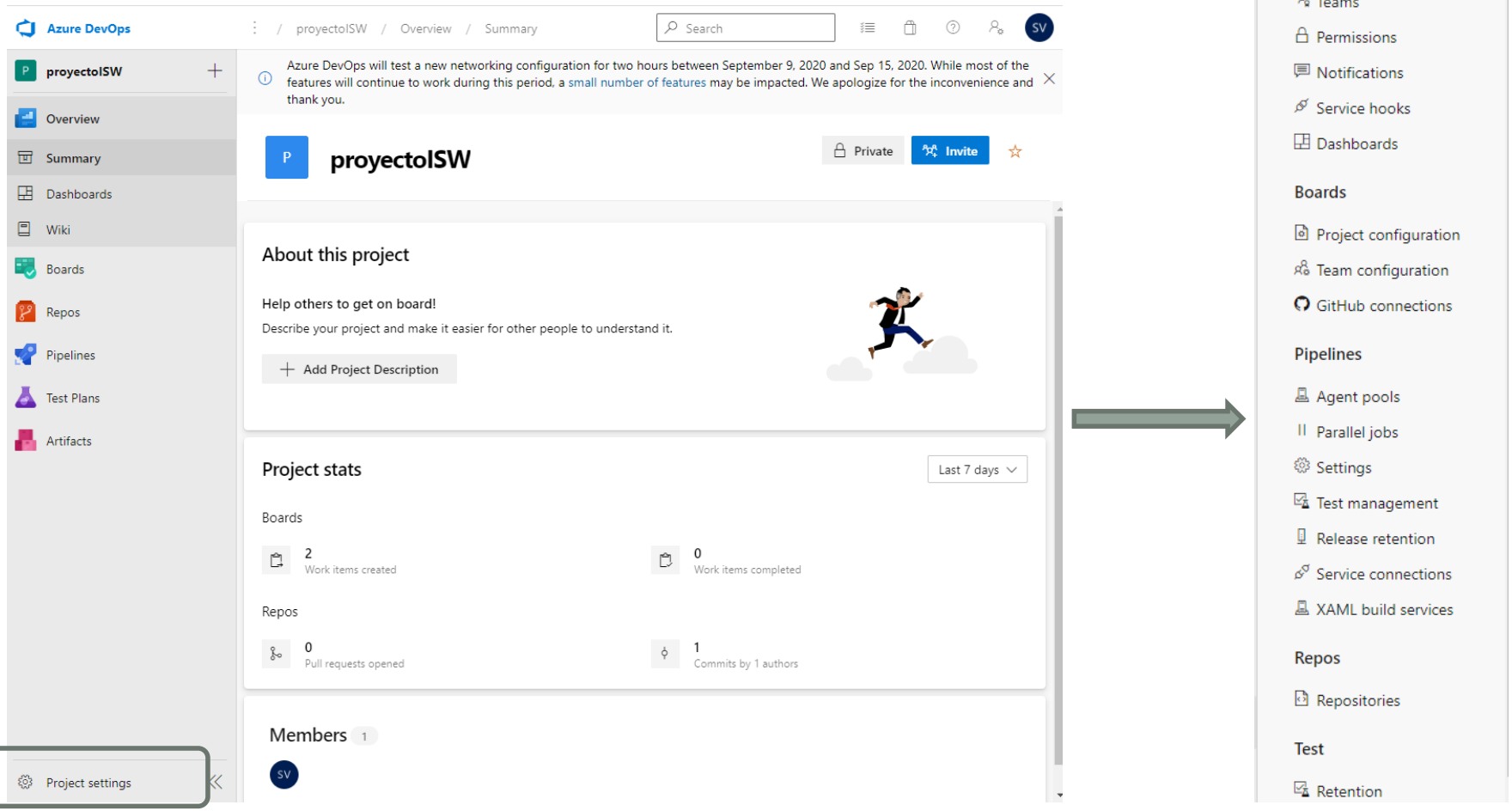
You can configure your own personalized dashboard by adding widgets with the reporting information you are interested in

✓ Dashboards


Add, edit, move or resize your widgets
Done Editing
Add Widget
Search widgets
Chart for Test Plans
Create charts for test case authoring and test case execution status for test plans and test suites
Chart for Work Items
Visualize work items like bugs, user stories, and features using shared work item queries.
Code Tile
Don't see a widget? Explore the Extension Gallery
Add

Project Settings

- Permissions, notifications, repositories, etc. may be configured

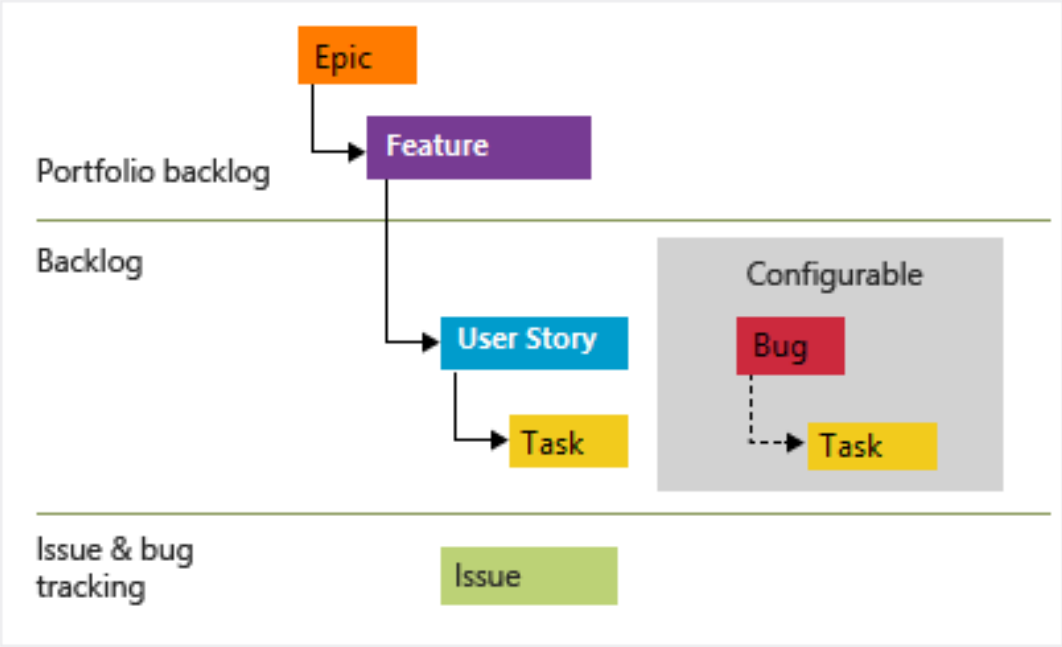


1

Task (Team Leader)

- Create an Azure DevOps organization (your lab organization name in the registration excel file, e.g. 2025-upv-isw-3el1-team01)
- Add a private, git, Scrum project named ManteHos (see slides 9-11)
- Add all lab team members and myself (fjaen@upv.edu.es) as members with “Basic” access level (to change Access level go to Organization settings >Users, see slide 17)
- **DO NOT** forget to perform the code repository configuration step (see slide 14)

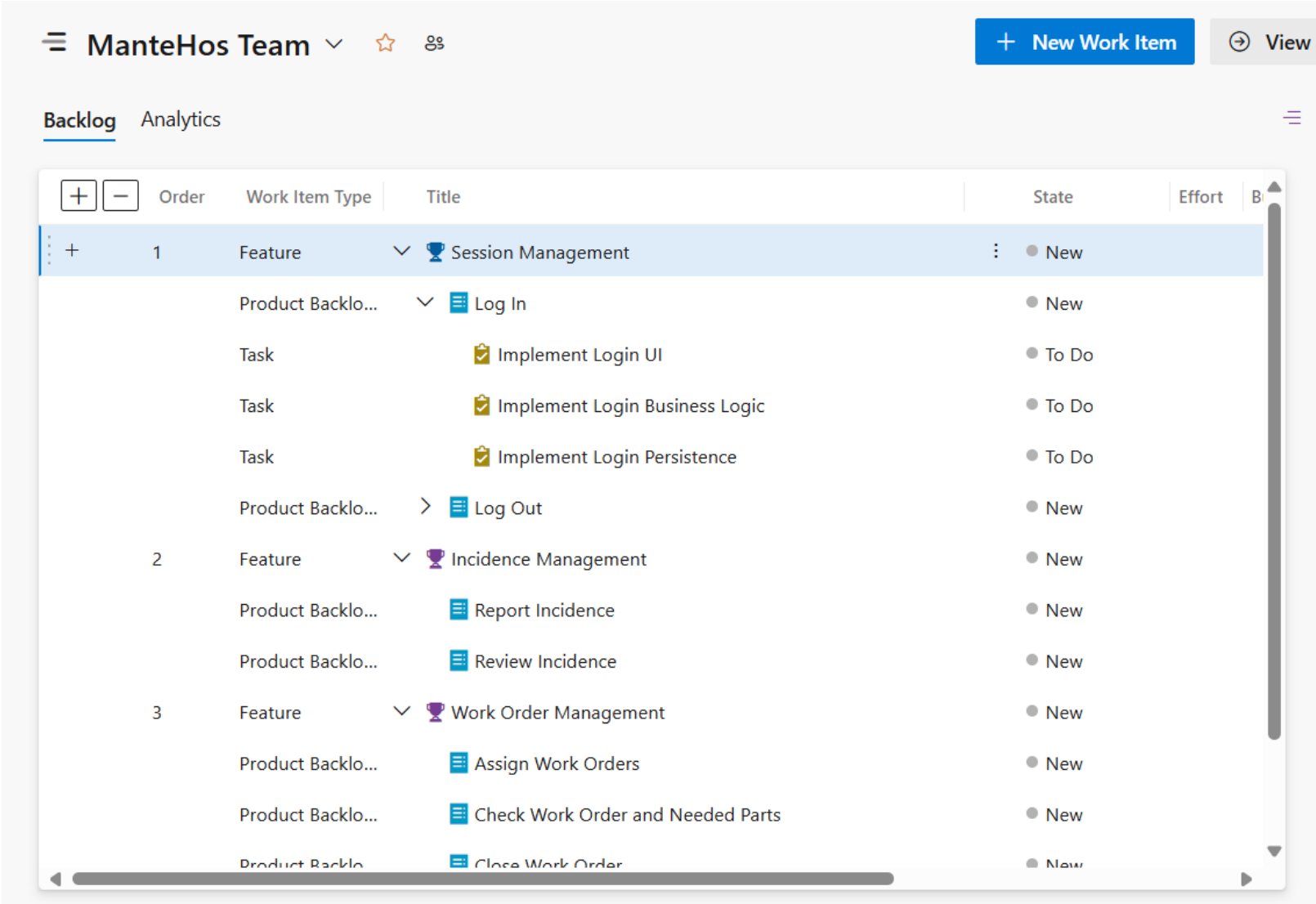
Work Items Types



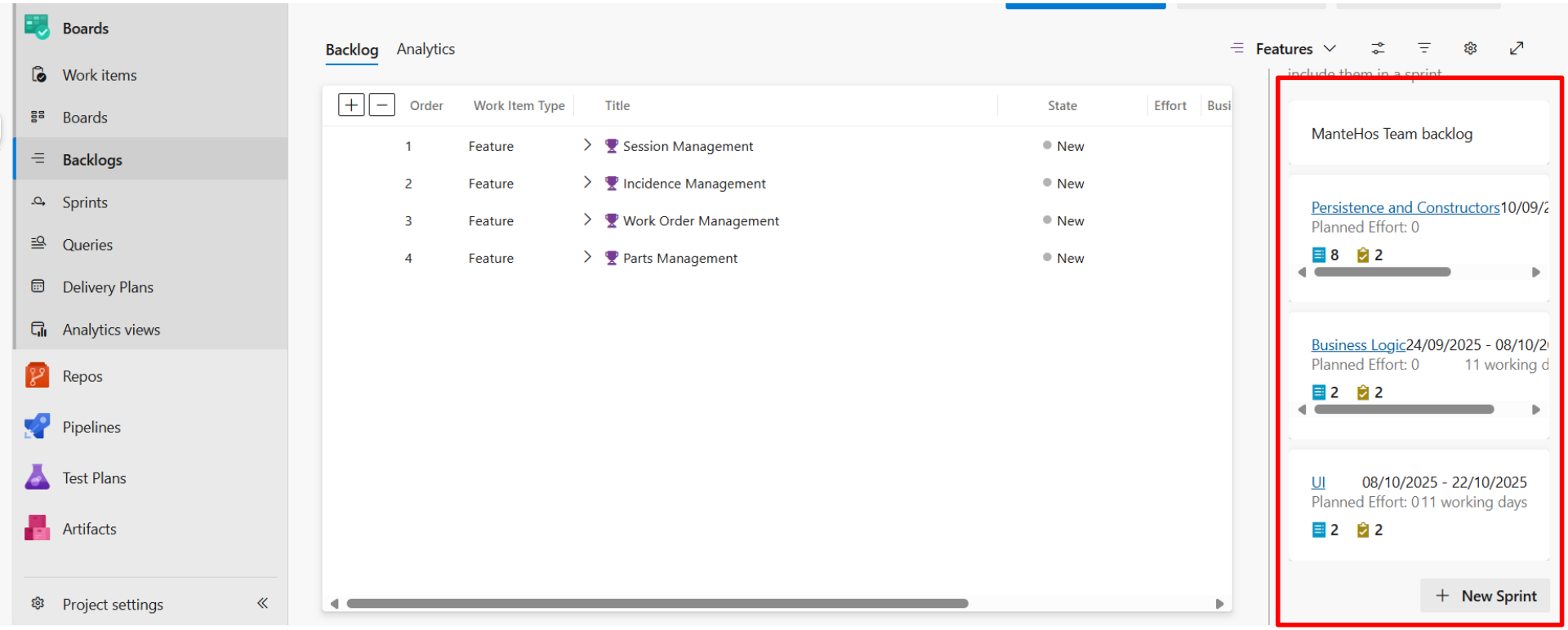
Epics, Features

- An epic represents a business initiative to be accomplished
  - Increase customer engagement
  - Improve and simplify the user experience
  - Implement new architecture to improve performance
  - Engineer the application to support future growth
  - Support integration with external services
  - Support mobile apps
- A feature typically represents a shippable component of software.
  - Add view options to the new work hub
  - Add mobile shopping cart
  - Support text alerts
  - Refresh the web portal with new look and feel

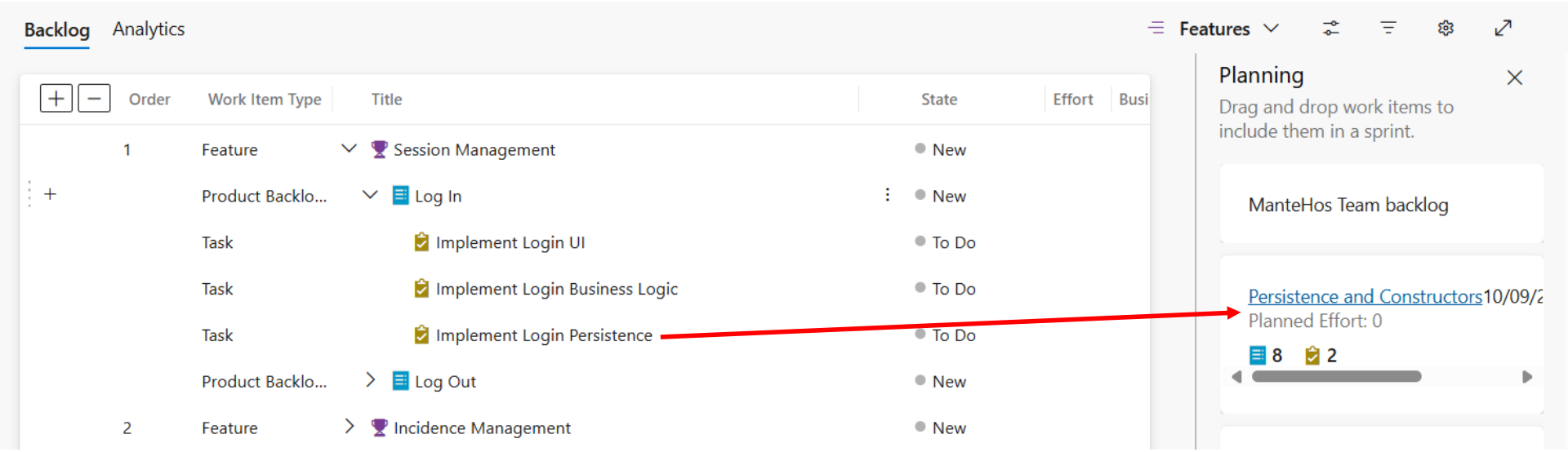
Task: Define Sprints & Work Items



Task: Define Sprints & Work Items



Task: Define Sprints & Work Items



To assign a task to a sprint drag and drop the task in the corresponding sprint

Optional Tasks

- Read the DevOps documentation
  - https://docs.microsoft.com/en-us/azure/devops/index?view=vsts
  - https://docs.microsoft.com/en-us/azure/devops/user-guide/index?view=vsts

Additional Resources

- Visual Studio Walkthroughs (English) https://msdn.microsoft.com/es-es/library/szatc41e(v=vs.110).aspx

- Introduction to Azure DevOps. *Donovan Brown*. Microsoft Visual Studio

- Plan Your work with Azure Boards. *Ali Tai.* Microsoft Visual Studio

- Manage and store your code in Azure Repos. Edward Thomson. Microsoft Visual Studio