Azure DevOps

Tech Data
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5. Azure DevOps

Azure DevOps server (formally team Foundation server and Visual Studio team system vsts) is a Microsoft product that provides version control reporting requirements management project management automotive builds testing and release management capabilities.

• This covers the entire application life cycle and enables DevOps capabilities.

• Azure DevOps is offered Azure DevOps services.

• This is hosted solution on Microsoft Azure.

• Azure DevOps server

• This is installation that can be done on the on premises.

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Azure DevOps services –

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• Azure DevOps server –

This is installation that can be done on the premises.

• During the plan phase, teams use backlogs or kanban boards to define track and layout the work that needs to be done for application in Azure board we also create a SCM system that can be GitHub or Azure Git Repos.

• During the development phase we create Azure pipelines to create automated builds from the source code. we can use Visual Studio code to create pipelines for building the code.

• During the delivery phase we deploy applications and services to the target environments we use terraform or ARM templates to create infrastructure.

• During the operate phase, we implement monitoring for application and services.

Azure Boards –

• They are used to plan track and discuss work across teams using agile planning tools that are available.

• Teams can manage their software with native support for scrum and kanban.

• You also create customizable dashboards

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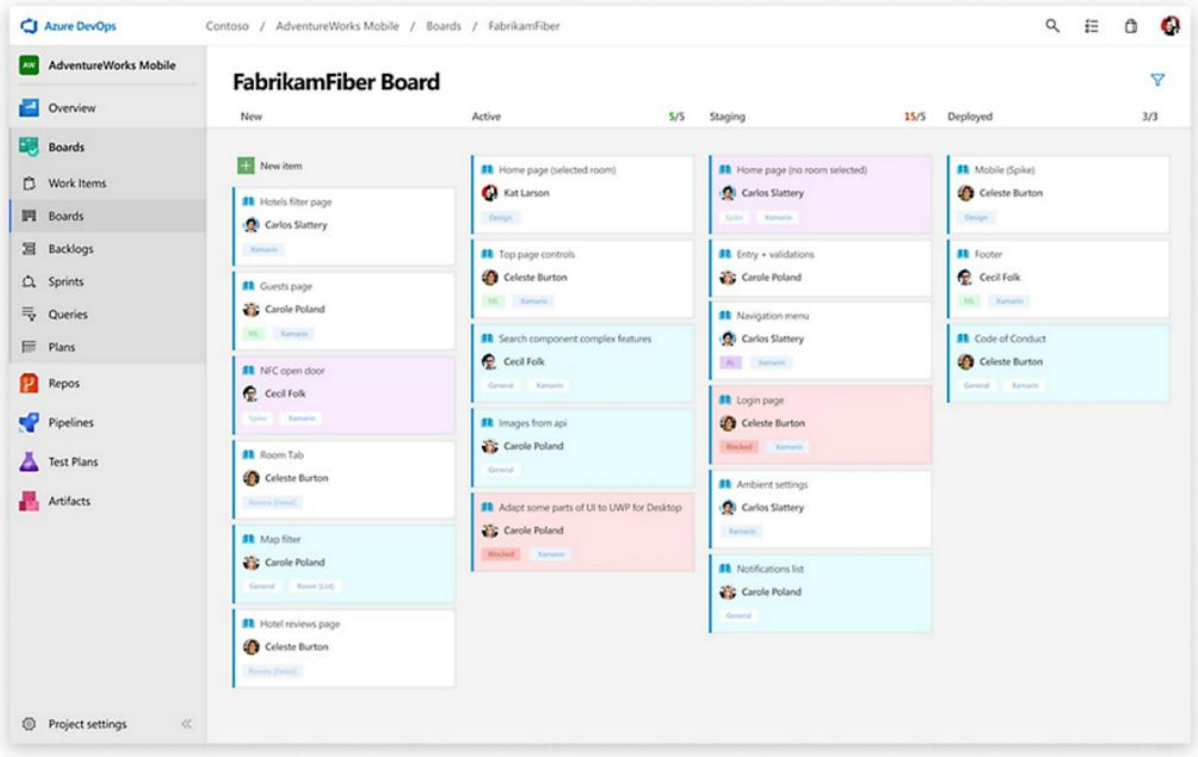
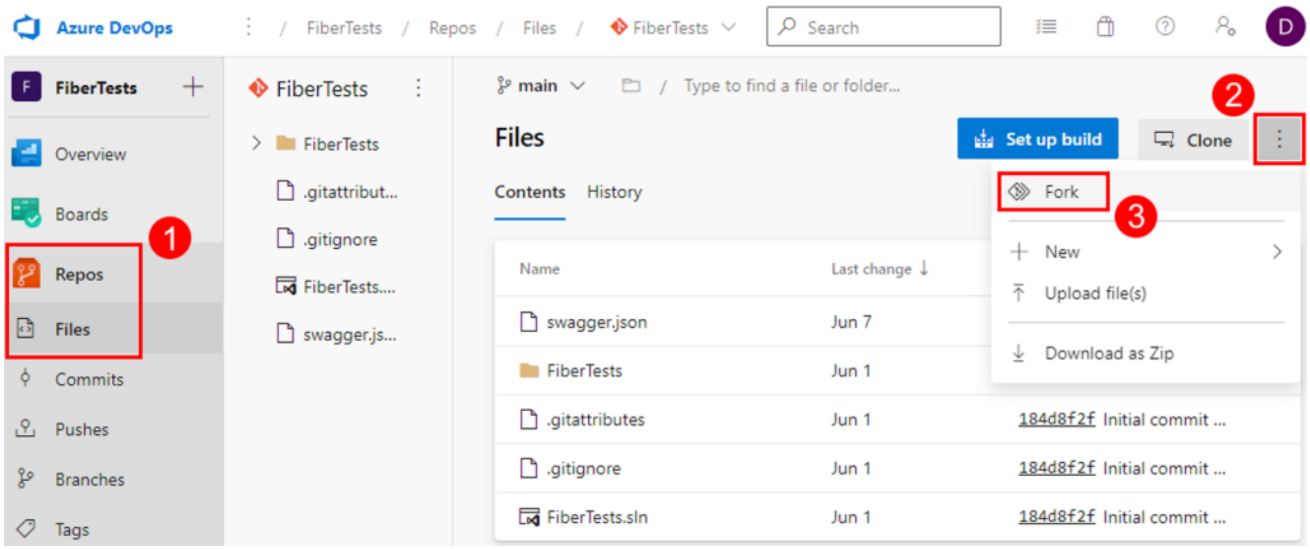


Azure Repos –

They support Git repository hosting and also team Foundation server version control.



Azure Test Plans –

With Azure test plans teams can use features offered to plan manual test exploratory test and user acceptance testing and gathering feedback from stake holders.

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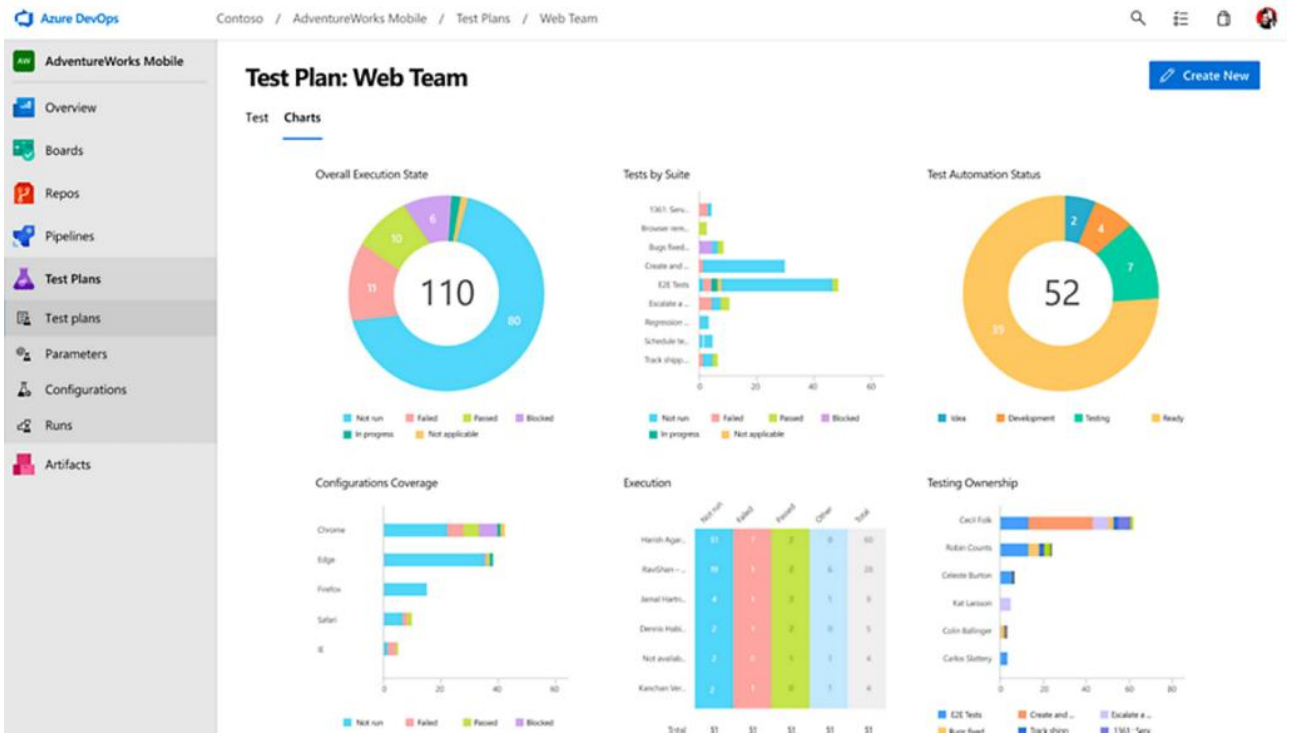

• Tests are organized as test plans and test suites by tester and team leads.

Azure artifacts –

• Test exploratory tests and user acceptance testing and gathering feedback from stake holders

• Tests are organized as test plans and test suites by tester and team leads

• With Azure artifacts we can create share nugget NPM Python and marvel package from public and private sources with teams in Azure DevOps extension Marketplace

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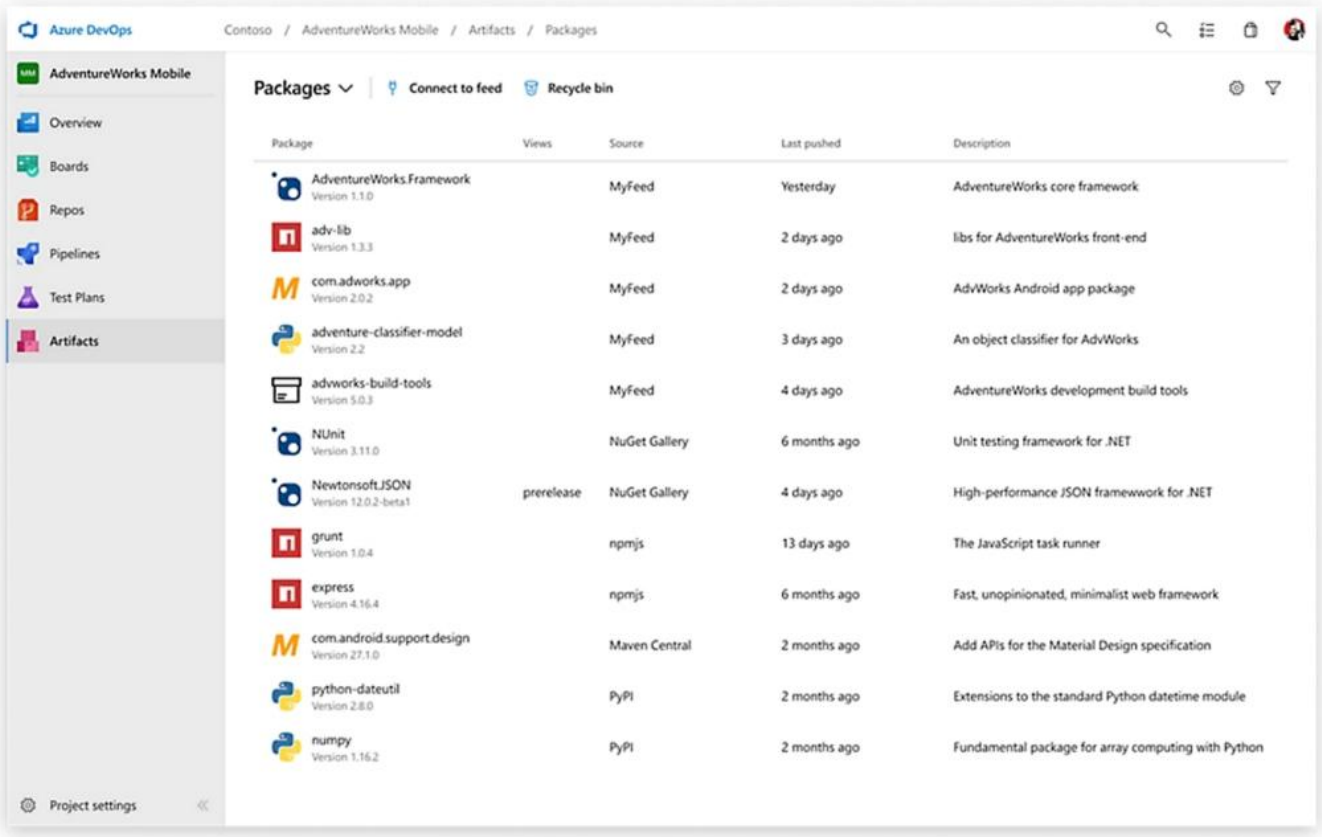

Azure Pipelines –

• We can Azure pipelines to automatically build test and deploy code and make it available for other targets.

• Azure pipeline is a cloud service offered by Azure platform to automate building testing releasing face of your development cycle (CI CD)

• Azure pipeline works with the following schema.

• To use Azure pipelines we need to create a pipeline a pipeline in azure DevOps can be create in two ways

- Using the classic interface
- Using a YAML

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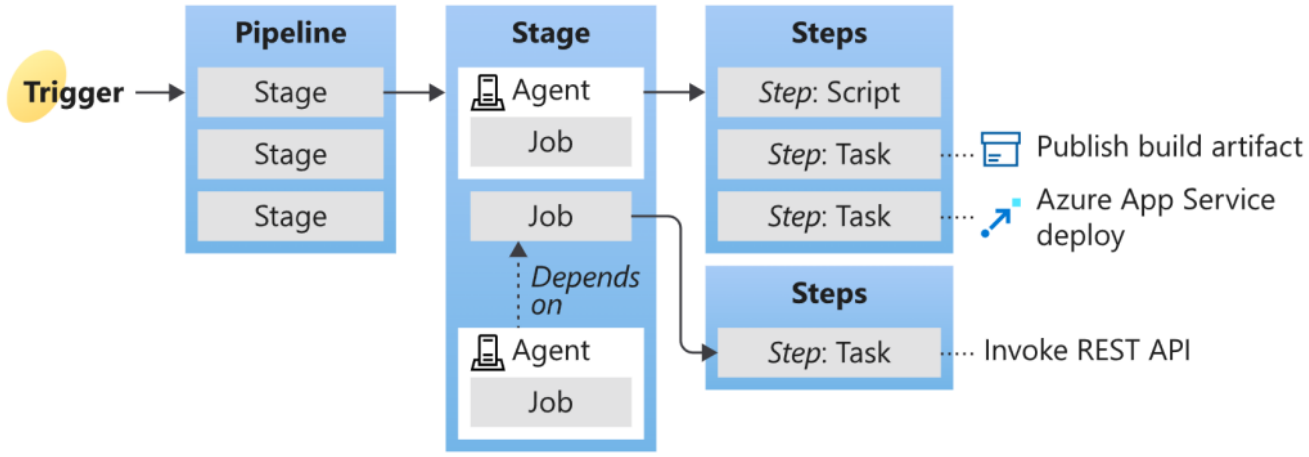

• In the case of Azure DevOps we create a Azure pipeline yml file to define the pipeline

• Pipeline starts from a trigger a manual a push inside repository or schedule

• Pipeline is generally composed of one or more stages. Each stage contains one or more jobs.

• Each job runs on a agent and it has steps

• Each steps is composed to task that performs some actions

• The final output of the pipeline is an artifact.

Build agents-

• To build and deploy code using Azure pipeline we need at least one agent

• Agent is a service that runs the job define in pipeline

• Execution of this jobs occur directly on agents host machine

• When defining agents for the pipeline we have to possible agents

1. Microsoft hosted agents – This is service managed by Microsoft and its cleared on every execution of pipeline

2. Self-hosted agents – This is a service which you set up and manage yourself this can be custom VM on Azure or on premise in the self-hosted agent you need the install the necessary software's to perform bills a self-hosted agents can be windows Linux, Mac or container