Visual Studio 2017 and Azure DevOps (Formerly VSTS)

A Lap Around Visual Studio Family

What’s new in Visual Studio 2017

- Redefined fundamentals. A new setup experience means that you can install more quickly and install what you want when you need it.
- Performance and productivity. We have focused on new and modern mobile, cloud, and desktop development capabilities. And, Visual Studio starts faster, is more responsive, and uses less memory than before.
- Cloud app development with Azure. A built-in suite of Azure tools enable you to easily create cloud-first apps powered by Microsoft Azure. Visual Studio makes it easy to configure, build, debug, package, and deploy apps and services on Azure.
- Windows app development. Use the UWP templates in Visual Studio 2017 to create a single project for all Windows 10 devices – PC, tablet, phone, Xbox, HoloLens, Surface Hub, and more.
- Mobile app development. Innovate and get results fast with Xamarin, which unifies your multi-platform mobile requirements to one core codebase and set of skills.
- Cross-platform development. Seamlessly deliver software to any targeted platform. Extend DevOps processes to SQL Server through Redgate Data Tools and safely automate database deployments from Visual Studio. Or, use .NET Core to write apps and libraries that run unmodified across Windows, Linux, and macOS operating systems.
- Games development. With Visual Studio Tools for Unity (VSTU), you can use Visual Studio to write game and editor scripts in C# and then use its powerful debugger to find and fix errors.
- AI development. With Visual Studio Tools for AI, you can use the productivity features of Visual Studio to accelerate AI innovation. Build, test, and deploy Deep Learning / AI solutions that seamlessly integrate with Azure Machine Learning for robust experimentation capabilities.

Visual Studio 2017 Family

- Visual Studio 2017 Community, Professional, Enterprise
- Visual Studio 2017 for Mac
- Visual Studio Test Professional 2017
- Azure DevOps - Visual Studio Team Services (VSTS)

Visual Studio 2017 Product Features

Supported Features	Visual Studio Community	Visual Studio Professional	Visual Studio Enterprise
⊕ Supported Usage Scenarios	●●●○	●●●●	●●●●
Development Platform Support [2]	●●●●	●●●●	●●●●
⊕ Integrated Development Environment	●●●○	●●●○	●●●●
⊕ Advanced Debugging and Diagnostics	●●○○	●●○○	●●●●
⊕ Testing Tools	●○○○	●○○○	●●●●
⊕ Cross-platform Development	●●○○	●●○○	●●●●
⊕ Collaboration Tools and Features	●●●●	●●●●	●●●●

https://visualstudio.microsoft.com/vs/compare/

Azure DevOps (Server and Services)

- Requirement Management with traceability
- Agile Planning
- Version Control
- Build
- Unit Testing
- Release Management – Multi staged provisioning and deployment
- Functional Testing and Performance (Load) Testing
- Monitoring Availability and Performance
- Feedback

Requirement Management and Agile Planning

- Work Item Tracking Service
  - Work Item
  - Work Item Types
  - Work Item Processes
  - Work Item Queries and Charts

- Agile Planning
  - Product Backlog
  - Sprint Details – Start and End Dates, Capacity of team, Working Days
  - Burndown chart
  - CFD

Version Control

- TFVC – Centralized – Only Private Repositories
  - Workspace
  - Check-in, ChangeSet, Check-out, Get Latest, Get Specific Version
  - Labeling
  - Branch, Merge
  - ShelveSet, Request Review
  - Check-in policies
- Git – Distributed – Private and Public Repositories
  - Clone, Commit, Push, Fetch, Pull, Sync
  - Branch, Merge
  - Branch Policies
  - Pull Request

Build

- Latest Code changed by all team members is compiled and integration is verified
- Automation Workflow
- Trigger Automation – Continuous Integration
- Output in the form of Artifacts that are shared by Release service

Release

- Multi Staged Deployment model
- Authorization workflow
- Continuous Deployment triggers

Test

- Test Case Management
  - Test Plan
  - Test Suites
  - Test Cases
  - Configurations
  - Settings
- Test Runner
- Exploratory Testing

TFS coverage of ALM and DevOps

Requirements Gathering

Requirements Analysis

Requirements Finalization