

# SaaS CI/CD Feature Comparison

Azure Pipelines, CircleCI, Gitlab-CI

## Features Support by All Platforms

- › *Github Integration*  
Every service can report back on PRs
- › *Parallel Builds*  
Multiple builds can run at the same time
- › *Scheduled Builds*  
Builds can be scheduled for specific times:  
weekly, monthly (cron-syntax)
- › *Manual Approvals*  
Builds can be halted waiting for approval  
before continuing
- › *Deployment Support*  
Some integration with cloud providers to  
support deploy environments  
(Kubernetes, PaaS, VMs).
- › *Linux Support*  
All services support building on Linux
- › *Sharable Configuration*  
Each provider has a way of publishing and  
sharing pre-defined CI configuration
  - CircleCI: Orbs
  - Azure Pipelines: Tasks
  - Gitlab-CI: Imports
- › - Jenkins (Pipelines): Shared Libraries

## Per-Platform Feature Breakdown

- › *Container Registry*  
Registry hosted by the provider to store container build images
- › *Package Hosting*  
Support for top package formats (Ex: Maven, NPM, Helm)
- › *Bring-Your-Own-Builder*  
External machines (VMs, hardware, containers) can be connected to the platform
- › *Test Result Reporting*  
Insights and statistics for test results
- › *Dependency Caching*  
Support for caching packages or files between builds (Ex: Maven, PyPI, NPM)
- › *Matrix Builds*  
Reduces job configuration needed to build the combination of multiple versions across multiple platforms
- › *Cross Project Pipelines*  
Dependent builds can be easily traced across projects (not just within a project)
- › *SSH Debugging*  
Pausing the execution of a build to login and debug build failures
- › Local Builds  
Reduced CI development time by supporting verifying CI configuration and builds locally

## Per-Platform Feature Comparison

	Container Registry	Local Builds	Bring Your Own Builder	Test Result Reports
Azure Pipeline	<b>Y(\$)</b>		<b>Y</b>	<b>Y</b>
CircleCI		<b>Y</b>		
Gitlab-CI	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>
Jenkins (Pipelines)			<b>Y</b>	<b>Y</b>

## Per-Platform Feature Comparison (Cont.)

	Windows & Mac Builds	Dependency Caching	Package Hosting	Matrix Builds	Cross Project Pipelines	SSH Debug Support
Azure Pipeline	<b>Y</b>	~	<b>Y</b>	<b>Y</b>	~	
CircleCI	<b>Y</b>	<b>Y</b>			~	<b>Y</b>
Gitlab-CI		<b>Y</b>	<b>Y</b>		<b>Y</b>	
Jenkins (Pipelines)	~	<b>Y</b>		~	<b>Y</b>	~

## Free Build Resources

	vCPUs	Ram (Gb)	Disk (Gb)	Build Duration Limit (hours)
Azure Pipelines	<b>2</b>	<b>7</b>	<b>10</b>	<b>6</b>
CircleCI	<b>2</b>	<b>4</b>	<b>100</b>	<b>5</b>
Gitlab-CI	<b>1</b>	<b>3.75</b>	<b>25</b>	<b>3</b>

## Supported Source Code Providers

	Github	Gitlab	Azure Devops	Gerrit
Azure Pipelines	<b>Y</b>	<b>Y</b>	<b>Y</b>	
CircleCI	<b>Y</b>			
Gitlab-CI	<b>Y</b>	<b>Y</b>		

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