TeamCity
by JetBrains

Why You Should Pick TeamCity for Your CI/CD Pipeline

TeamCity

TeamCity is a powerful and versatile continuous integration and continuous delivery (CI/CD) solution developed by JetBrains. With its robust features and user-friendly interface, TeamCity helps software development teams – no matter how big or small – to enhance their workflows.

TeamCity simplifies the complex task of building, testing, and deploying software while promoting a culture of automation, collaboration, and quality assurance.

Whether you're a small startup or a large enterprise, TeamCity offers a flexible and scalable solution that adapts to your specific needs, helping to ensure the seamless delivery of high-quality software.

In this document, we'll explore the core features and benefits of TeamCity, shedding light on how it empowers development teams to streamline their processes and achieve DevOps excellence.

Key benefits of TeamCity

TeamCity is easy to set up and has **low maintenance costs**, thanks to all its main functionality being available out of the box.

It helps you **save a lot of time** on regular and repetitive build engineering and development tasks, aided by its deep understanding of and integration with the development process.

An **intuitive UI** makes it easy for end users and administrators to work with TeamCity.

TeamCity is **ready to scale** as your organization grows, with advanced scalability features and cost-efficient licensing models.

It can adjust to multiple development styles and frameworks so **your teams can perform better**, no matter which tool stack or development methodology they use.

Advanced security features help you defend the integrity of your source code and systems.

TeamCity is being continuously improved and updated by a team of 50+ JetBrains developers. You receive **professional enterprise-level support** from the development team via both public and private channels.

“One of the competitors had a very unfriendly UI. The feeling that people should have when they come into a CI/CD system is that it is very sturdy, it won’t break when I try to do anything in it. I think TeamCity has a very well-polished UI. You have confidence that it is a well-working system when you navigate it.”

— Steve Fortier, Lead Release Engineer, Gearbox

Read the Gearbox case study

TeamCity’s unique features

In addition to providing all of the standard functionality of a CI and CD server, TeamCity offers a number of unique features derived from JetBrains’ deep expertise in all stages of the software development lifecycle. The result is a mature, powerful tool trusted by thousands of organizations to enhance their DevOps practices, ensure code quality, and accelerate the delivery of software products, with a user experience unmatched by the competition.

Project hierarchy allows you to group builds in a tree structure, helping not only to better represent the structure of your organization but also to share common settings or enforce common practices. Large installations also become easier to maintain as you delegate administration tasks to development teams.

You can **reuse settings** by taking advantage of build configuration templates and configuration parameters, or reuse a set of build steps with meta-runners.

Thanks to parallel tests, TeamCity intelligently distributes tests across multiple build agents to minimize their overall duration. Unlike any other CI/CD solution, this feature takes into account not only the latest run but also the history of your tests.

Real-time tracking (as builds are still running) shows new commits appearing in a code base, newly failed tests, and recently reported problems, to help resolve issues faster and keep the main code base ‘green’.

Advanced integration with version control systems lets you check out only specific parts of the code base, check out from several repositories at once, and view or download diffs right from the web interface.

Out-of-the-box integration with the tech stack that you already use for building great software, from languages and technologies to version control systems and cloud providers, ensures that all your tools work together seamlessly.

Powerful agent management options allow you to easily manage your existing build farm and scale dynamically as and when necessary. Thanks to **cloud profiles**, you can start virtual machines with installed TeamCity agents on demand, all while distributing a build queue.

You can configure the dependencies between builds, pass parameters or artifacts from build to build, ensure that dependent builds get the same snapshot of the code base, and prevent unnecessary rebuilding of dependencies.

TeamCity's unique features

Configuring your pipelines as code is easier than you might think. Using the powerful the Kotlin DSL, you can efficiently replicate build logic across projects, consistently apply updates to multiple configurations, and manage your pipelines in a systematic fashion.

Integration with IDEs (like IntelliJ IDEA, Eclipse, or Visual Studio) lets you test local changes on the CI server before committing them to version control. This is especially beneficial with centralized VCS systems, such as Subversion, Perforce, or TFS.

Built-in **static code analysis**, based on the powerful IntelliJ IDEA and ReSharper engines, lets you track the health of your codebase and manually terminate builds if they decrease it. The **built-in integration with Qodana** lets you add static analysis to your build chain, run advanced code inspections, find code duplicates, track the quality progress of your code, and much more.

The **built-in statistics engine** allows you to configure charts, report custom statistic values, or fail builds if statistical values fall outside of the specified range.

TeamCity's powerful extensibility features allow you to write custom plugins with the help of a Java API, or easily report custom statistical values and tests from a custom testing framework with the help of service messages – no plugin writing required.

“We've relied on TeamCity as our CI system of choice for over a decade. It provides all the features we need out of the box. We also appreciate its reliability and like the Kotlin DSL for configuring our build pipelines.”

— Piotr Jagielski, VP of Engineering, Gradle Build Tool

Read the Gradle case study

How TeamCity Compares to Other CI/CD Tools

The table below represents a feature-by-feature comparison between TeamCity and Jenkins, an open-source CI/CD tool.

We tried to make the comparison as comprehensive and neutral as we possibly can. As both of the products mentioned in the document are being actively developed and their functionality changes on a regular basis, this comparison applies to specific releases indicated in the table headers.

Please note that TeamCity is being compared to Jenkins – the free and open-source tool – not the Cloudbees Jenkins Platform, which is an enterprise solution by Cloudbees based on Jenkins OSS.

Feature	TeamCity	Jenkins
Pricing		
Enterprise version	From $2,399 for 3 build agents	Jenkins is free and open-source**
Free version available?	✓ for 100 build configurations (jobs) and 3 build agents. Full functionality.	
Additional licensing options	$359 per additional build agent (adds 10 build configurations)	
Installation and setup		
Distribution type	Standalone, Cloud	Standalone
Supported platforms	Windows, Linux, macOS, JavaEE	Windows, Linux, macOS
Distribution packages	.exe, .tar.gz, .war	.exe, .pkg, .deb, .rpm
Docker image available?	✓	✓
Version control support		
Git	✓	✓*
Mercurial	✓	✓*
Subversion	✓	✓

* - Installation, maintenance, and upgrades require additional effort.

** - A paid enterprise version of Jenkins is available from Cloudbees, with pricing available upon request. Some of the plugins are also commercial.

Feature	TeamCity	Jenkins
Version control support		
Perforce	✓	✓*
TFVC	✓	✓*
CVS	✓	✓*
StarTeam	✓	✓*
ClearCase	✓ via plugin	✓*
SourceGear Vault	✓ via plugin	✓ via plugin (outdated, unsupported)
Version control hosting support		
GitHub	✓	✓*
BitBucket	✓	✓*
GitLab	✓	✓*
Azure DevOps	✓	✓*
VCS interoperability		
Storing projects settings in VCS	✓ (Git, Mercurial, SVN, Perforce, TFS) – per project	✓ (Git, SVN) – entire server only
Feature branches	✓	✓*
Advanced VCS build triggering options	✓	✗
Checking out multiple repositories in a single build	✓	Not fully
Partial sources checkout	✓ (via checkout rules)	✗
Automatic merge	✓ (Git, Mercurial)	✓* (Git)
VCS labelling (tagging)	✓	✓*
View diff on changed files	✓	✓*

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Feature	TeamCity	Jenkins
Continuous integration		
Remote run and pre-tested commit	✓ (for Subversion, Perforce, TFS)	✗
Real-time build progress reporting	✓	✓*
Flaky tests reporting	✓	✓*
Newly failed tests detection	✓	✗
Assign build problem investigations to team members	✓	✓*
Risk group test reordering	✓	✗
Run builds with custom parameters	✓	✓
Build promotion	✓	✓*
History builds	✓	✗
Customizable notifications	In IDE, Slack, email, Windows tray*, browser	Jabber*, Slack*, email*, Windows tray*, browser*
Cloud integrations		
Amazon EC2	✓	✓*
Microsoft Azure	✓	✓*
VMware vSphere	✓	✓*
Google Cloud	✓	✓ (artifact storage)
Configuration		
Artifact dependencies	✓	✓
Build chains (pipeline)	✓	✓*
Seamless configuration as code (configure project in the UI and commit changes in the VCS)	✓	✗
Reuse of the same build in different pipelines	✓	✗

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Feature	TeamCity	Jenkins
Configuration		
Build templates	✓	✓*
View as code feature	✓	✗
Programmatic project creation (configuration DSL)	✓ (Kotlin-based DSL)	✓* (Groovy-based DSL)
Debug pipeline scripts locally	✓	✗
Build failure conditions	✓	✓*
Shared (lockable) resources	✓	✓*
Parameters in builds	✓	✓* (no password parameters)
Automatic files cleanup on agents	✓	✓*
Built-in NuGet feed	✓	✗
Built-in artifacts storage	✓	✓
Issue tracker integrations	JIRA, YouTrack, GitHub, TFS, Bitbucket	JIRA*, GitHub*, YouTrack*, TFS*, Bitbucket*
Build infrastructure		
Multiple build agents	✓	✓
Agent pools	✓	✗
Favorite agent pools	✓	✗
Installing tools on agents	✓	✗
Agents auto-update to a new version	✓	✓ (Linux only)
Agent terminals	✓	✗
Agent compatibility check in runtime	✓	✗
Cloud agents	✓	✗

* - Installation, maintenance, and upgrades require additional effort.

Feature	TeamCity	Jenkins
Scalability		
Ability to connect multiple servers via common cross-server navigation	✓	✓*
Multi-node cluster configuration	✓	✓*
Automatic switch to failover server	✓	✓* (via paid plugin)
Agent-side checkout	✓	✓
Server-side checkout	✓	✗
Commit hooks in REST API	✓	✓*
Builds history and monitoring		
Storing build data	✓	✓
Test history	✓	✓
Statistics reports and dashboard	✓	✓
Build tags	✓	✓
Favorite builds	✓	✗
Project change log	✓	✓*
Structured build log	✓	✗
Code quality tracking (for Java, JavaScript, .NET)		
First-class integration with JetBrains code analysis tools	✓	✗
Duplicate code analysis	✓ (bundles IntelliJ IDEA and ReSharper code analysis tools)	✓*
Static code analysis	✓ (based on IntelliJ IDEA and ReSharper inspections)	✓*
Code coverage	✓	✓*
Code quality reports in IDE	✓	✗

* - Installation, maintenance, and upgrades require additional effort.

Feature	TeamCity	Jenkins
Extensibility and Customization		
REST API	✓	✓
Service messages (custom testing frameworks integration)	✓	✗
Meta-runners (reusable sets of build steps)	✓	✗
Number of third-party plugins	300+	1000+
System maintenance		
Backup and restore	✓	✓
Projects import	✓	✓*
Projects export	✓	✗ (only jobs)
Disk usage report	✓	✓*
Build time report	✓	✓*
Centralized server health report	✓	✗
Automatic builds history cleanup	✓	✓*
User management		
User actions audit log	✓	✓*
LDAP integration	✓	✓*
User roles	✓	✓*
Group roles	✓	✓*
Technical support		
Public channels	Online documentation, public issue tracker, forum	Public wiki, public issue tracker, IRC channel, mailing lists
Private channels	Support via email (for Enterprise customers), private Slack channels for Enterprise customers	✗ (email support only with a purchase of Cloudbees Jenkins Platform)

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Accuracy of Comparison

We tried to make it as comprehensive and neutral as we possibly can. If you discover any inaccuracies in this table, please contact us at sales@jetbrains.com and we'll update it as soon as possible.

Integration with JetBrains Tools

TeamCity is a part of the JetBrains team tools stack, which additionally includes YouTrack, an issue tracking and agile project management tool. Team tools are integrated via Hub, permission and user management tool, which ensures single sign-on to all team tools and unified user and permission management.

To learn more about how JetBrains team tools work together, please check our website at jetbrains.com/hub

Sales Contacts

If you need assistance with managing your licenses, selecting a licensing option, requesting assistance with a JetBrains offer, or any special request or suggestion for JetBrains tools, please do not hesitate to contact us.

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