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TOPIC : DEVELEOPERS TOOLS

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## What are Developer Tools?

Developer tools are technologies that make software development faster and more efficient.

Software development is a complex process of translating real-world objects into mathematical and electronic representations that machines can understand and manipulate

## **What are the benefits of developer tools?**

Software teams use developer tools to overcome challenges when writing code, testing programs, deploying applications, and monitoring production releases. With the right development tools, you can reduce time to market, resolve bugs, optimize development workflows, and more. The following are the benefits in detail.

### ****Improve code quality****

### ****Reduce coding errors****

### ****Develop cross-platform applications****

### ****Shorten development time****

### ****Improve collaboration & Reduce costs****

## What are some types of developer tools?

You use different types of tools to support development workflow. Each tool is often specific to a programming language, platform, or purpose. The following are several common development tools.

### ****Coding****

With coding tools, you can write, edit, build, and simulate code. For example:

* You can use compilers to convert high-level codes into machine language that the computer understands.
* After conversion, you can use a code builder to assemble all relevant software modules into an application file.
* You can use frameworks, libraries, or software development kits to accelerate software development. These tools provide readily available codes that you can use, modify, and implement in your applications.

### ****Programming support****

With programming support tools, you can streamline development efforts, increase efficiency, and collaborate better when you’re building complex projects. Rather than assisting in the direct process, support tools offer built-in features to manage projects more effortlessly.

For example, you use an integrated development environment (IDE) to access different coding tools required for creating a specific application. An IDE hosts all relevant tools in a single environment so that you can manage their workflow without switching platforms. Similarly, with code versioning systems, multiple developers can modify an application without causing code conflicts.

### ****DevOps****

With DevOps tools, software developers can work closely with operation engineers to respond to technical issues or implement feature updates. For example:

* Software teams use DevOps tools to enable continuous pipelines that enable the coding, testing, and releasing of applications more rapidly
* Operation engineers use DevOps tools to provide immediate feedback that helps developers remediate software issues
* DevOps teams use infrastructure as code (IaC) services automatically to build, test, and prepare for software

### ****Software testing****

With software-testing tools, you detect bugs, technical issues, and vulnerabilities that affect software usability and data safety. For example:

* You can use a profiler to map memory usage, inspect elements, and troubleshoot webpage performance issues
* Debuggers and bug trackers can identify coding errors or irregularities during development
* You can use security testers—such as static application security testing (SAST) and dynamic application security testing (DAST) tools—to detect, analyze, and remediate code vulnerabilities