

Oracle® Developer Studio 12.5: Security Guide

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Using This Documentation

- **Overview** – Describes the security issues users need to be aware of with this Oracle Developer Studio 12.5 release.
- **Audience** – Application developers, system developers, architects, support engineers.
- **Required knowledge** – Programming experience, software development testing, aptitude to build and compile software products.

Product Documentation Library

Documentation and resources for this product and related products are available at <http://www.oracle.com/pls/topic/lookup?ctx=E60778-01>.

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◆◆◆ CHAPTER 1

Oracle Developer Studio Security Information

This document includes information about the following:

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- [“Precautions for Developers” on page 10](#)
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Oracle Developer Studio Security Considerations

Oracle Developer Studio is a suite of compilers, debuggers, and analysis tools, and an integrated development environment (IDE), for developing, debugging, and tuning applications for the Oracle Solaris and Linux platforms. Like other development tools, the Oracle Developer Studio compilers and tools are intended to be used in an environment that is isolated from production environments since these tools can be accessed by users to manipulate applications during execution. While production environments are typically the focus of security considerations, developer tools and development environments should also be considered from a security perspective.

System administrators play an important role in determining which assets require protection and putting in place controls and policies to protect these assets. By itself, Oracle Developer Studio does not provide any access to assets or operating environment features that the user does not already have. The risk that Oracle Developer Studio adds is that it allows users who have gained un-entitled access to assets or systems by means that don't include Oracle Developer Studio to use the capabilities of the developer tools to cause a security breach.

Precautions for System Administrators and Users Installing Oracle Developer Studio

Oracle Developer Studio compilers and tools are intended for use in development environments. If Oracle Developer Studio is needed in a production environment (for example, to debug a production application or analyze a performance bottleneck), take measures to limit access to these tools. Install only the Oracle Developer Studio components needed for the task at hand. Provide access to users that are doing the investigation via temporary accounts that are time limited. When the investigation is completed, remove the installed Oracle Developer Studio components from the production system.

Oracle Developer Studio IDE lets you install non-Oracle supported plugins. Before downloading any third-party software such as these plugins, assess the security safety of such plugins.

Keep installations of Oracle Developer Studio current with the latest patches, especially security patches.

Oracle Developer Studio Performance Analyzer requires elevated privileges for certain debugging and analysis tasks. Provide these privileges through temporary accounts, and monitor these accounts accordingly.

Precautions for Developers

Oracle Developer Studio compilers and tools create output files such as logs, core dumps, and object files. The permissions on these files are set using the user's default permissions. To protect the output files from unwanted access, limit the default permissions to allow only access that is absolutely needed. Users set the default permissions using the Oracle Solaris and Linux `umask` command.

Using Oracle Developer Studio Libraries

Oracle Developer Studio includes a set of libraries that provide runtime support on supported platforms: performance libraries targeted for compute-intensive applications, and debugging and performance analysis libraries used in tuning applications in a development environment. Performance and runtime libraries are used in production environments and are installed by system administrators as required for the applications that will be run.

As the name implies, performance libraries are optimized for performance, which means that data checking is kept to a minimum insuring maximum performance. When using performance

libraries, the application developer is responsible for validating data being passed to these libraries.

Using Remote Development in the IDE

Using remote build hosts in the IDE requires login credentials. Compromised security on the client system running the IDE might lead to unauthorized access of remote server hosts. In this environment, do not store login credentials that might be compromised.

Another area of consideration with respect to remote development is the caching of source code on client systems during remote development. To increase IDE performance and responsiveness, the remote development feature in the IDE caches files from the server, including source code, on the client machine. The cache folder on the client machine is *user_directory/var/cache/remote-files*.

On Oracle Solaris and Linux platforms, *user_directory* is *~/.oracledevstudio/ide-version-OS-architecture* (for example, *~/.oracledevstudio/ide-12.5-SunOS-i386*).

On Microsoft Windows platforms, *user_directory* is *~/Application Data/.oracledevstudio/dd-version*.

On Mac OS X platforms, *user_directory* is *~/Library/Application/Support/oracledevstudio/dd-version*.

In sensitive security environments, take care with this cache folder to encrypt the data and delete when no longer in use.

Using Remote Development in Performance Analyzer

The Performance Analyzer remote client requires a user name and password to connect to the remote server. The user name is stored to the disk in the user's home directory, but the password is never stored to the disk.

The Performance Analyzer remote client uses a Java implementation of ssh (jsch version 0.1.49) for connection to the sshd server on the remote host.

The Performance Analyzer client stores information in the file *~/.oracledevstudio/analyzer-12.5/analyzer.xml* on all client platforms including Oracle Solaris, Linux, MacOS, and Microsoft Windows.

