ClearTrigger/ClearTrigger Lite
Version 13.1 Installation Guide
Audience

The **ClearTrigger Installation Guide** is intended as an installation reference for those responsible for installing ClearTrigger or ClearTrigger Lite. Oft times these individuals are different than those responsible for day-to-day ClearTrigger Administration. It is expected that this document is not made highly available and that copies might reside primarily with UNIX or Windows System Administrators.

For day-to-day ClearTrigger or ClearTrigger Lite Administration or help with configuring ClearTrigger or ClearQuery or for help writing triggers or policy, refer to the **ClearTrigger Administration Guide**.

Product Demarcation

This document covers both ClearTrigger and ClearTrigger Lite. As of Version 12.0 both products are combined in the same executable. ClearTrigger contains significantly more features the ClearTrigger Lite and they use a similar clearbits file; the license key in that clearbits file determines if the executable provides all of the ClearTrigger functionality or only the ClearTrigger Lite functionality. Within this document ClearTrigger may sometimes be used to mean both ClearTrigger and ClearTrigger Lite. When a feature applies only to ClearTrigger or ClearTrigger Lite it will be so noted.
Introduction

**ClearTrigger Overview**

ClearTrigger is a custom add-on to IBM/Rational Software’s ClearCase product. It serves to simplify the task of maintaining triggers and policy for your ClearCase installation. It is flexible in that it allows the user to enforce separate sets of triggers across different projects, teams or operating systems. ClearTrigger enables organizations to add triggers for specialized processing requests. It conveniently integrates with your current ClearCase installation and does not require moving VOBs to new machines or reorganizing your network. Upon installation and configuration ClearTrigger, it is ready to use. ClearTrigger makes it an efficient way to manage current and existing triggers for the enterprise. Though, it does not stop there! ClearTrigger also provides policy so you do not have to create it. Functionality bits are provided to ensure that the most used and requested policy by ClearCase administrators around the world are already coded into ClearTrigger. Simply turn the bit on.

ClearTrigger makes use of basic, straightforward instructions to apply triggers. The dilemma of creating triggers using `cleartool mktrtype` is circumvented. Additional features were also added and some restrictions that existed with native ClearCase trigger definitions were either removed or relaxed.

ClearTrigger’s simple method of implementation is accomplished through the use of configuration files called `clearbits_file`. The `clearbits_file` does not have to be named such, but for the sake of continuity within the document, all configuration files shall be referred as “clearbits_file.” The `clearbits_file` file allows you to define up to two different policy depots. The policy depot contains all of the trigger code to be managed by ClearTrigger. You may setup policy depots for UNIX and Windows if your site requires. There is no limit to the amount of `clearbits_files` that your organization can have. You may create multiple configuration files to divide your policy depot among multiple teams or departments. Thereby creating ClearTrigger regions. Suppose you wanted specific VOB groups to have a specialized high security policy versus the entire organization. This, too, can be easily done with ClearTrigger.

Using ClearTrigger is faster and simpler than going to each of your organizations VOBs to redefine triggers to restrict certain users or groups (as done when using the `-nusers` option on the `mktrtype` command). It also eliminates the need to update multiple script files to prohibit individual users belonging to UNIX or NT groups allowed to access the VOBs. VOBs do not have to be moved to new machines or networks reorganized. Simply install and configure ClearTrigger and get started!

**ClearTrigger Lite** is a custom add-on to the IBM Rational ClearCase product. It provides about 1 half of the Functionality of ClearTrigger including the highly popular functionality bits, region-wide inhibit features as well as simple CPDs which allow a region wide command/user availability matrix.
ClearQuery Overview

ClearQuery is a ClearTrigger add-on providing methods to test the usefulness of policy by providing a query mechanism allowing you to track successes and failures (something ClearCase does not do). You can query by commands, users, functionality bits, command keys or all of the above. The queries return easy to read graphs that allow you to quickly decide if a policy is working for your organization or if someone may need extra help/training.

You can view some sample reports in the ClearTrigger Administration Guide.
Customer Support
To obtain additional information on ClearTrigger or other services offered by A Better Solution, Inc., visit our web site at www.abs-consulting.com. To report problems with the ClearTrigger software or documentation, please send e-mail to cleartrigger_team@abs-consulting.com.

Supported Platforms
ClearTrigger integrates with ClearCase installations of 3.2 and higher. A single installation of ClearTrigger can typically serve an entire organization. The system requirements for ClearTrigger are consistent with those used to run ClearCase versions 3.2 and higher. ClearTrigger will operate in a mixed version environment as well as a mixed OS environment. The following operating systems are supported for ClearTrigger:

- **WINDOWS:**
  - Windows 9x
  - Windows NT
  - Windows 2000 and higher

- **UNIX:**
  - Solaris
  - SunOS
  - HP-UX
  - RedHat Linux
  - AIX
  - CentOS
  - SUSE Linux
  - Solaris X86
Installing ClearTrigger/ClearTrigger Lite

There are two (2) methods to install ClearTrigger, the automated installation and the classic method which is a manual process. Each method will set up ClearTrigger for all supported architectures. The table below depicts the supported architectures for ClearTrigger as it relates to the install methods.

<table>
<thead>
<tr>
<th>Supported ClearTrigger Architecture</th>
<th>Automated Installation supported</th>
<th>Classic (manual) install supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HP11 and higher</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sun/Solaris 56 and higher</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>AIX</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Linux (RedHat)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CentOS</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SUSE Linux</td>
<td>No*</td>
<td>Yes</td>
</tr>
<tr>
<td>Solaris x86</td>
<td>No*</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The install executable is architecture-specific as limited by the architecture that the install is performed from, not specific as to the architecture that ClearTrigger is installed for. Each installation can install all of the binaries for all supported architectures, but the install can only be performed from the architecture of the associated executable. For example the install_cleartrigger_window.exe executable can install all of the binaries for all architectures to a network depot location when the install is being performed from a Windows machine.

If you are installing from any of the InstallShield supported architectures: Windows, HP, Sun, AIX or Linux then you may proceed to the section entitled Automated ClearTrigger Install for installation instructions or if you prefer, the section entitled Manual ClearTrigger Install for manual install instructions.

If you are installing from either a supported Solaris x86, CentOS or SUSE Linux architecture then proceed to Manual ClearTrigger Install for installation instructions.

Note: * You can proceed to the Manual ClearTrigger Install section for this architecture or perform the automated install from a machine in your network of an architecture that supports the automated install.
Automated ClearTrigger Install

ClearTrigger may be installed locally or in a central network location accessible by ClearCase clients and servers. This installation procedure can be used for each of the supported platforms. You must download the appropriate installer for the architecture you are installing from. The table below depicts the supported architectures that ClearTrigger can be installed from using the automated installation. The installer executables can be downloaded from the ABS website at the ABS Download Center (http://www.abs-consulting.com/_products/download.shtml).

<table>
<thead>
<tr>
<th>Supported ClearTrigger Windows Architectures</th>
<th>Instructions for starting automated installer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>After downloading, double-click install_cleartrigger.exe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supported ClearTrigger UNIX Architectures</th>
<th>Instructions for starting automated installer</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP11 and higher</td>
<td>• After downloading open a shell and cd to the directory where you downloaded the installer</td>
</tr>
<tr>
<td>Solaris56 and higher</td>
<td>• At the prompt type: chmod 700 install_cleartrigger.bin</td>
</tr>
<tr>
<td>AIX</td>
<td>• At the prompt type: sh ./install_cleartrigger.bin</td>
</tr>
<tr>
<td>Linux (RedHat)</td>
<td>• You do not need to install any other software. A Java virtual machine is included with this download.</td>
</tr>
<tr>
<td>CentOS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Supported ClearTrigger UNIX Architectures</th>
<th>Instructions for starting automated installer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUSE Linux</td>
<td>Note: You can proceed to the Manual ClearTrigger Install section for this architecture or perform the automated install from a machine in your network of an architecture that supports the automated install.</td>
</tr>
<tr>
<td>Solaris x86</td>
<td></td>
</tr>
</tbody>
</table>

Once started you will see output or dialogs similar to the ones that follow if using Windows:
Select “Next” when you see this panel to continue or “Cancel” to stop the install.

Read the license agreement and if you agree then accept the terms of the license agreement and select “Next” to continue the install.
Input the path to the installation directory. The ClearTrigger Depot will be placed under this directory. The directory should be network accessible to all ClearTrigger/ClearCase clients that will need access to the depot (for single-machine trials it is perfectly OK to use a local name).

You are then asked if the installation should support an interop environment (Windows and UNIX ClearCase clients) or just the OS platform you are currently installing from.

Make your selection then select “Next” to continue.
If you selected “Yes” (for interop support) in the previous panel then you will be asked to input the network available path for the associated depot for the other platform (Unix if you are installing from a Windows platform or Windows if you are installing from a UNIX platform). Generally, this path should map to the same physical location as the path given for the windows location so that the same depot is used regardless of platform being used by any ClearCase clients.

For windows installs, you are asked for a Folder Shortcut Folder to place tool and documentation shortcuts.
You are shown a summary of what will be installed. This is the final chance you have to cancel the installation.

If you select “Next” on the previous panel, the installation starts and you are shown the process panel below:
When the installation completes you are shown the summary panel. Select “Next” to continue.

You are then given the opportunity to modify your new clearbits.txt file. You can elect to modify your license key, have it guide you through population or modification of select fields, create keys or you can elect to run it later. You can also elect to view the ClearTrigger Admin. Documentation at this time if you like.
If you installed from a UNIX platform or installed an interop. configuration from a Windows platform then you will also be shown a panel similar to the one below.

Read the information to see how you will need to possibly modify UNIX clients to see their architecture-specific binaries.

**Final Pane.** After selecting “Finish” you should perform any needed post-installation steps outlined in previous panes.

**NOTE:** If ClearTrigger was installed from a Windows architecture then some menu shortcuts were also created; you can read about these shortcuts in the next section.
Windows Menu Shortcuts and on-line help tools

When ClearTrigger is installed on Windows architectures a menu pane is created under Start>Programs>ABS>ClearTrigger similar to the one below. They are placed here for convenience so it is easier to access these web pages or applications.

Note: If you installed ClearTrigger using a network path you might want to change the UNC path to the ClearApply and ClearQuery programs to a “drive resident” path. When displayed, right mouse button click on the item to display its properties menu item then select “properties” to display the item’s properties tab. Map a drive (if needed) and change the “Target” and “Start in” fields to a drive-resident path.
Manual (Classic) ClearTrigger Install

ClearTrigger may be installed locally or in a central network location accessible by ClearCase clients and servers. This installation procedure can be used for each of the supported platforms. You must download the ClearTrigger executables: `cleartrigger.exe`, `cleartrigger_server.exe`, `clearapply.exe` and `clearquery.exe`, from the ABS Download Center (http://www.abs-consulting.com) for the operating system on which you wish to run ClearTrigger. Once you have completed the download, proceed as follows:

❖ Copy the `cleartrigger` and `cleartrigger_server` executables to either:
  o A network accessible area for all ClearCase client machines
    (i.e. `/net/earth/policy` for UNIX  `\third_rock\policy` for Windows)
  o A local path that is common to all clients machines
    (i.e. `/usr/abs/policy` for UNIX  `d:\policy` for Windows)

Note: ClearTrigger clients are ClearCase client machines that access ClearCase VOBs. ClearTrigger itself does not have to be installed on the ClearCase client machine.

❖ Copy the `clearapply` executable to a location that is accessible to the VOB administrator for your organization. This executable does not (and probably should not) need to be widely distributed or available, as only the VOB owner can apply ClearTrigger to a ClearCase VOB. Placing the clearapply executable in the owner’s home directory is acceptable.

❖ Create a `clearbits_file` (i.e. clearbits.txt) in a network accessible location available to all ClearCase clients.

For a detailed description of the clearbits_file, read the section entitled “A Clearbits file” in the ClearTrigger Administration Guide. Populate the clearbits_file using our ClearQuery executable.

Note: The location of the clearbits_file does not have to be on a ClearCase installed client or even a ClearCase supported architecture (or even a ClearTrigger client for that matter); it must just be a readable flat file system accessible from all ClearTrigger clients (machines that access VOBs with ClearTrigger applied). The pathname cannot have embedded spaces.

❖ Create a `depot directory` to a network accessible location available to all ClearTrigger clients:

Note: The depot directory does not have to be named “depot” but it usually is for convention. The location of this or any depot directory does not have to be on a ClearCase installed client, ClearCase supported architecture, or a ClearTrigger client. It must simply be a readable flat file system accessible from all ClearTrigger clients (machines that access VOBs with ClearTrigger applied). The pathname cannot have embedded spaces.
❖ Create a daemon directory directly under the depot directory so this directory is location is available to all ClearTrigger clients:

The directory should be rwx for everyone and remain empty for now (ClearTrigger process read and write there).

❖ Use clearapply.exe to apply ClearTrigger to all VOBs. You can read more applying ClearTrigger to specific VOBs in the ClearTrigger Administration Guide.

Installing ClearQuery

To install ClearQuery follow the steps below:

1) Create a directory called “query_results” in your ClearTrigger depot – make sure it is writable by anyone that you will allow to run queries. ClearQuery will place any web pages it builds in this directory.

2) Place the ClearQuery executable (cleaquery.exe) where it will be used. The location selected should have accessibility to the clearbits file for the region(s) from which ClearQuery will be used.

The installation of ClearQuery is complete.
Client setup

ClearTrigger requires the following components for setup:

UNIX & Windows:

❖ That ClearCase is properly installed on the client machine. Without ClearCase, there is no need for ClearTrigger as ClearTrigger relies on ClearCase to function.

❖ A well-known temp directory must be found or set. ClearTrigger will use the value of either the TMP or TEMP variable if set. If neither of those variables is set, it tries writing to the default temp directories for the operating system (/tmp or /temp if running on UNIX or c:\tmp or c:\temp for Windows). If neither the TMP nor TEMP environmental variable is set and writable AND the default temp directories for the operating system are not writable, ClearTrigger displays the following dialog. Because this is also a requirement of ClearCase, a proper ClearCase installation would not yield this error.

Windows Only:

The following changes are not required to run ClearTrigger unless the policy maker uses group names in any of the access lists in the clearbits_file (i.e. Region Inhibited List, Region Special Access List etc.). If you don’t use this functionality, skip this section.

• The CLEARCASE_PRIMARY_GROUP variable must be set (a requirement of ClearCase checked for by ClearTrigger). Because ClearTrigger may be used to create enterprise group policy, this variable is checked against the creds information. If this function is not set and ClearTrigger reads a command_key definition requiring group checking, he user will get the error message below:

• Place a copy of the creds.exe distributed by Rational Software in the cleartrigger windows policy depot. If you performed an automated install this was already performed for you.