

# Configuring SimDiff 4 for use with Mercurial

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## General Instructions for Mercurial

To configure SimDiff 4 for use with Mercurial, the Mercurial configuration file must be edited. The configuration file location depends on the operating system. On Windows, it is %USERPROFILE%/Mercurial.ini, and on Linux, it is \$HOME/.hgrc

### *Use SimDiff 4 as an External Diff Tool*

The best way to use an external diff tool with Mercurial is to use the `extdiff` extension that is distributed with it.

SimDiff requires specified left and right model path input arguments to be prefixed with `-leftModel` (or `-l`) and `-rightModel` (or `-r`) arguments respectively. The Mercurial `extdiff` extension allows specifying 2 options:

- `cmd.xxx`: which defines the name of an executable program that will be run
- `opts.xxx`: which defines the set of command-line options which will be inserted to the command between the program name and the files to diff

Here are the steps to configure SimDiff as an external diff tool:

1. Create a new batch script file in a location you have write access to, such as `"C:\Users\<username>\hg-simdiff4.bat"`
2. Add this single line to the batch file (this assumes SimDiff is installed in the default location):  
`"C:\Program Files\EnSoft\SimDiff 4\simdiff4.exe" -l "%1" -r "%2"`
3. Next, modify the `mercurial.ini` configuration file to have the `simdiff4` command point to the batch file:  
`[extdiff]`  
`cmd.simdiff4 = C:\Users\<username>\hg-simdiff4.bat`  
`opts.simdiff4 =`

The commands can then be used similarly to the `hg diff` command:

```
> hg simdiff4 model.mdl
```

Please note that the custom commands will only work for comparing revisions for a single model file - the command will fail if a directory is specified.

## Use SimDiff 4 as a Merge Tool for Simulink Model Files

There are two sections to modify: [merge-patterns] and [merge-tools].

```
[merge-patterns]
**.mdl = simdiff4

[merge-tools]
simdiff4.executable =
C:\ProgramFiles\EnSoft\SimDiff4\simdiff4.exe
simdiff4.args = -b $base -l $local -r $other -o $output
simdiff4.binary = true
simdiff4.gui = true
```

SimDiff 4 will then be launched to merge files with extension `.mdl`, but *only if there is a conflict at the file level*. For example, when a model file is only modified in one branch, the merge tool (SimMerge) is not launched.

## Reference Documentation

<http://www.selenic.com/mercurial/hgrc.5.html#merge-patterns>

<http://mercurial.selenic.com/wiki/ExtdiffExtension>

## Additional Instructions for TortoiseHg

By default, TortoiseHg will use the first specified external diff tool in the config file for the “*Visual Diff*”. SimDiff is a Simulink model file diff tool, not a text diff tool. Therefore, when diffing text-based files, it is recommended to either configure another external diff tool above it in the preferences, or modify the TortoiseHg global settings to explicitly specify a different tool:

1. Right-click an empty space in a Windows Explorer window and select *TortoiseHg* ▸ *Global Settings*.
2. Select the *TortoiseHg* preference group on the left.
3. For the *Visual Diff Tool* drop-down, choose a tool other than SimDiff or SimMerge, such as *kdiff3*.

Note: TortoiseHg will properly use SimDiff 4 as the merge tool if it is specified in the configuration file, because the external merge tools are organized by file extension.