

-deterministic

📅 04/12/2018 ⌚ 2 minutes to read Contributors   

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Causes the compiler to produce an assembly whose byte-for-byte output is identical across compilations for identical inputs.

Syntax

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<code>-deterministic</code>	

Remarks

By default, compiler output from a given set of inputs is unique, since the compiler adds a timestamp and a GUID that is generated from random numbers. You use the `-deterministic` option to produce a *deterministic assembly*, one whose binary content is identical across compilations as long as the input remains the same.

The compiler considers the following inputs for the purpose of determinism:

- The sequence of command-line parameters.
- The contents of the compiler's .rsp response file.
- The precise version of the compiler used, and its referenced assemblies.
- The current directory path.
- The binary contents of all files explicitly passed to the compiler either directly or indirectly, including:
 - Source files
 - Referenced assemblies
 - Referenced modules
 - Resources
 - The strong name key file
 - @ response files
 - Analyzers
 - Rulesets

- Additional files that may be used by analyzers
- The current culture (for the language in which diagnostics and exception messages are produced).
- The default encoding (or the current code page) if the encoding is not specified.
- The existence, non-existence, and contents of files on the compiler's search paths (specified, for example, by `/lib` or `/recurse`).
- The CLR platform on which the compiler is run.
- The value of `%LIBPATH%` , which can affect analyzer dependency loading.

When sources are publicly available, deterministic compilation can be used for establishing whether a binary is compiled from a trusted source. It can also be useful in a continuous build system for determining whether build steps that are dependent on changes to a binary need to be executed.

See Also

- [C# Compiler Options](#)
- [Managing Project and Solution Properties](#)