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What is a PDB file? [↗](#)

A file with .pdb extension is a program database file that contains debugging information for a compiled executable (EXE/DLL). PDB files are generated by Microsoft Compilers when an application program is compiled in debug mode. The presence of PDB file can help in reverse engineering an executable as it contains significant information about all symbols of the modules. It is for this reason that these files are kept separate from the final executable. Microsoft's [DgbHelp API](#) can open a PDB file to obtain information such as publics and exports, global symbols, local symbols, type data, source files and line numbers.

PDB File Format [↗](#)

PDB is Microsoft's proprietary file format and has not been officially documented anywhere yet. However, a starting documentation is available [here](#) and can be referenced.

PDB Streams [↗](#)

PDB files consist of multiple streams where each stream acts as a virtual individual file and contains information. PDB file writers can write to these files and the file is finalized only after an explicit commit is issued. A compiler can keep writing to a PDB file but commit only if all user code compiles successfully. A PDB file consists of following streams:

Stream No.	Contents	Short Description
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1	Pdb (header)	Version information, and information to connect this PDB to the EXE
2	Tpi (Type manager)	All the types used in the executable.
3	Dbi (Debug information)	Holds section contributions, and list of 'Mods'
4	NameMap	Holds a hashed string table
4-(n+4)	n Mod's (Module information)	Each Mod stream holds symbols and line numbers for one compiland
n+4	Global symbol hash	An index that allows searching in global symbols by name
n+5	Public symbol hash	An index that allows searching in public symbols by addresses
n+6	Symbol records	Actual symbol records of global and public symbols
n+7	Type hash	Hash used by the TPI stream.

Each stream in a PDB file comprises of several pages which are not necessarily consecutively numbered.

PDB header [↗](#)

A PDB file begins with a Header that consists of a signature for identifying and validating the specific format. The length of the signature depends on the PDB format. The header may be longer than a single page.

PDB Metadata [↗](#)

The PDB metadata is responsible to recognize all of the component streams, giving the length and sequence of pages for each stream. Orders are given to streams consecutively; starting 0. There is also an un-ordered root stream, which contains some of the metadata.



[PDB - Wikipedia](#)

- [Microsoft PDB](#)

See Also

- [TS File Format - Video Transport Stream File](#)
- [AAC - Advanced Audio Coding File](#)
- [AC3 - Audio Codec 3 File](#)
- [MIDI File Format](#)
- [MP3 - Audio File Format](#)

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