

- A comment of the form `/// <reference path="...">` adds a dependency on the source file specified in the path argument. The path is resolved relative to the directory of the containing source file.
- An external import declaration that specifies a relative external module name (section 11.2.1) resolves the name relative to the directory of the containing source file. If a source file with the resulting path and file extension `'ts'` exists, that file is added as a dependency. Otherwise, if a source file with the resulting path and file extension `'d.ts'` exists, that file is added as a dependency.
- An external import declaration that specifies a top-level external module name (section 11.2.1) resolves the name in a host dependent manner (typically by resolving the name relative to a module name space root or searching for the name in a series of directories). If a source file with extension `'ts'` or `'d.ts'` corresponding to the reference is located, that file is added as a dependency.

Any files included as dependencies in turn have their references analyzed in a transitive manner until all dependencies have been determined.

## 11.2 External Modules

External modules are separately loaded bodies of code referenced using external module names. External modules can be likened to functions that are loaded and executed once to initialize their associated module instance. Entities declared in an external module are private and inaccessible elsewhere unless they are exported.

External modules are written as separate source files that contain at least one external import declaration, export assignment, or top-level exported declaration. Specifically, if a source file contains at least one

- *ExternalImportDeclaration*,
- *ExportAssignment*,
- top-level exported *VariableDeclaration*,
- top-level exported *FunctionDeclaration*,
- top-level exported *ClassDeclaration*,
- top-level exported *InterfaceDeclaration*,
- top-level exported *EnumDeclaration*,
- top-level exported *ModuleDeclaration*,
- top-level exported *ImportDeclaration*, or
- top-level exported *AmbientDeclaration*,

that source file is considered an external module; otherwise, the source file is considered part of the global module.

Below is an example of two external modules written in separate source files.

File main.ts: