

NOTE: Dev Mode does not currently work with Dev15 Preview 5.

Dev Mode is a feature for TypeScript 1.4 and higher that allows you to

1. Debug the script side of the language service in Visual Studio.
2. Use a custom language service file of your choosing.

Enabling script debugging

Note: You may also use the VSDevMode.ps1 script to easily set these values.
See the comments in the script for usage.

1. Open up the Registry Editor (`regedit.exe` from the Run prompt).
2. If you are using...
 - **Visual Studio 2013:** Navigate to `HKEY_CURRENT_USER\Software\Microsoft\VisualStudio\12.0\TypeScript` (or create the key if it does not exist).
 - **Visual Studio 2015:** Navigate to `HKEY_CURRENT_USER\Software\Microsoft\VisualStudio\14.0\TypeScript` (or create the key if it does not exist).
3. Create a new registry, *DWORD (32-bit) Value*, with the name `EnableDevMode`.
4. Right click the `EnableDevMode` value and **Modify** it.
5. Change the value data to 1.

Using a custom language service file

Note: You may also use the VSDevMode.ps1 script to easily set these values.
See the comments in the script for usage.

1. Open up the Registry Editor.
2. If you are using...
 - **Visual Studio 2013:** Navigate to `HKEY_CURRENT_USER\Software\Microsoft\VisualStudio\12.0\TypeScript` (or create the key if it does not exist).
 - **Visual Studio 2015:** Navigate to `HKEY_CURRENT_USER\Software\Microsoft\VisualStudio\14.0\TypeScript` (or create the key if it does not exist).
3. Create a new registry, *String Value*, with the name `CustomTypeScriptServicesFileLocation`.
4. Right click the `CustomTypeScriptServicesFileLocation` value and **Modify** it.
5. Change the value data to the full path of your alternative services file (e.g. `C:\Users\Daniel\TypeScript\built\local\typescriptServices.js`)

To use a custom `lib.d.ts` library definition in conjunction with the custom language service file, one need to create two additional registry values: `CustomDefaultLibraryLocation` for `lib.d.ts` and `CustomDefaultES6LibraryLocation` for `lib.es6.d.ts`. Both reside in the `TypeScriptLanguageService` key.

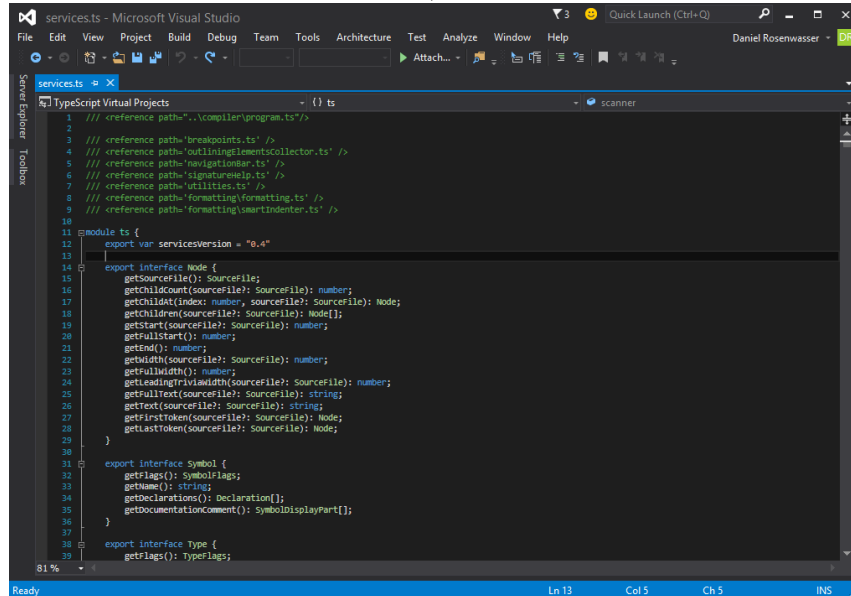
1. Create new registries, *String Value*, with the name `CustomDefaultLibraryLocation` and `CustomDefaultES6LibraryLocation`.
2. Right click the `CustomDefaultLibraryLocation` value and **Modify** it. Change the value data to the full path of your alternative library file (e.g. `C:\Users\Daniel\TypeScript\built\local\lib.d.ts`)
3. Right click the `CustomDefaultES6LibraryLocation` value and **Modify** it. Change the value data to the full path of your alternative ES2015 library file (e.g. `C:\Users\Daniel\TypeScript\built\local\lib.es6.d.ts`)

Hot swapping

When the language service's script side is modified in any way (whether or not you are using a custom location for your language service file), it will be reloaded on the fly for a given thread the next time any of that thread's services are requested. However, this means that if debugging, your language service threads will be purged.

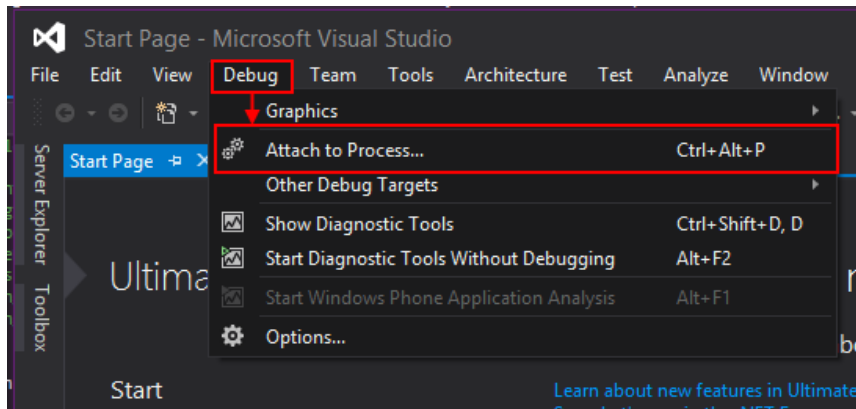
Debugging the language service in Visual Studio using Visual Studio

1. Have a running instance of Visual Studio 2013/2015 with an open Type-

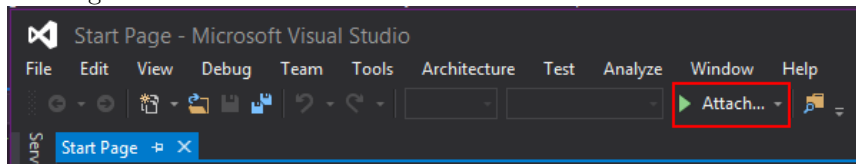


Script file.

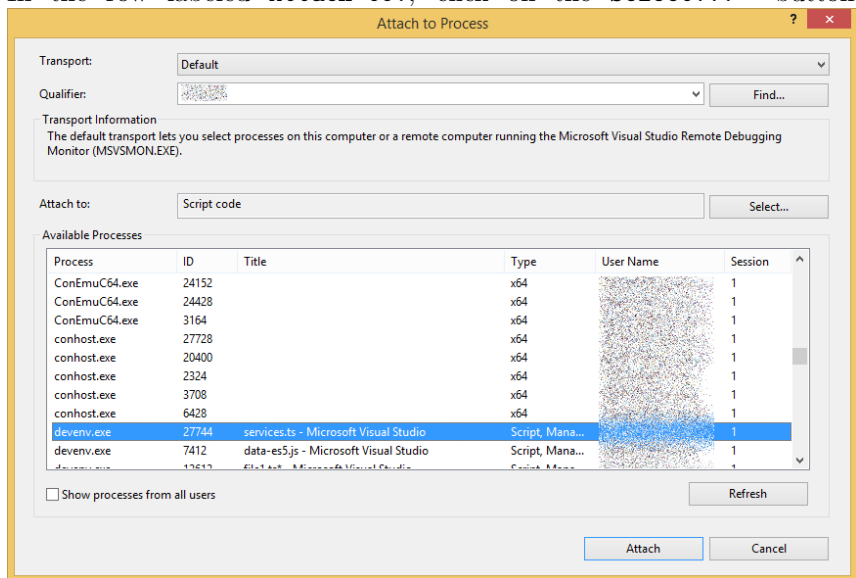
2. Open a new instance of Visual Studio 2013/2015.
3. Bring up the **Attach to Process** dialog by either
 - Using menu bar and navigating from `Debug -> Attach to Process`.



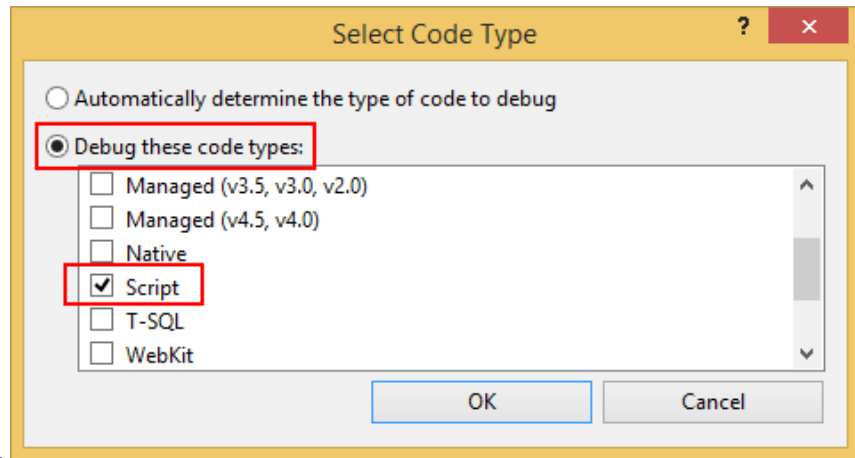
- Clicking on the **Attach** button from the **Standard** toolbar if it is visible.



4. In the row labeled **Attach to:**, click on the **Select...** button.

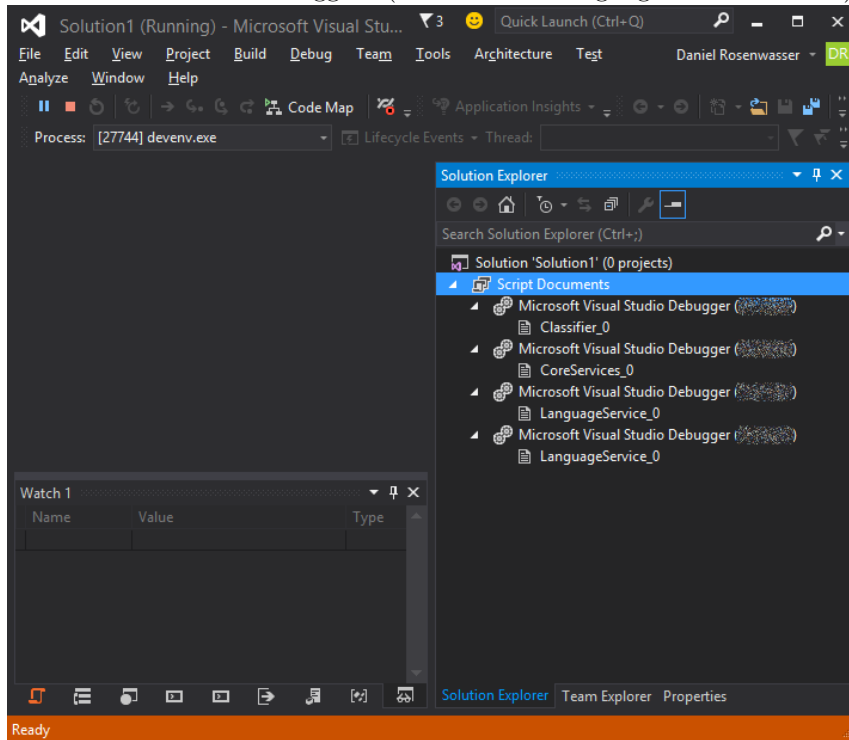


5. Click the radio button **Debug these code types** and select **Script**. Then



press OK.

6. Find the appropriate Visual Studio instance in your list. Visual Studio instances have the process name `devenv.exe` and you can typically narrow down your instance looking for its current file in the Title field.
7. Hit the **Attach** button. In the **Solution Explorer**, you should now see four active debuggers (one for each language service thread).



At this point you should be able to hit debug points and get an understanding of what's going on.

Language Service Threads

- **Classifier__N**: This thread runs the lexical classifier - a line-oriented classifier which is primarily concerned with fast rudimentary colorization.
- **LanguageService__N** and **LanguageService__N**: Unfortunately these haven't been distinctly named.
 - One of these is the syntactic classifier, giving accurate (semantically agnostic) classifications.
 - The other performs all syntax-related questions such as formatting, smart indentation, etc.
- **CoreServices__N**: This is used to perform semantic operations such as providing diagnostics, completion lists, quick info, etc. Effectively, anything that needs the typechecker will use this thread.