Windows Compiler for User Subroutines

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To compile Fortran user subroutines for Coreform IGA for Abaqus on Windows, you need Intel Fortran Compiler (`ifx`) and Microsoft Visual Studio Build Tools. This compiler setup is optional when you use only the libraries included with Coreform IGA.

1 Software and Downloads

The following combination passed our Windows user-subroutine test with Abaqus 2026 Hot Fix 5 and Coreform IGA 2026.11:

Software	Tested version	Where to get it
Intel Fortran Compiler (`ifx`)	**2026.2.0**	Windows offline installer
Microsoft Visual Studio Build Tools	**2026, version 18.11.1**	Visual Studio Build Tools download

In the Visual Studio Installer, select **Desktop development with C++**, including the x64 MSVC tools and a Windows SDK. Our test used MSVC **14.51.36231** and Windows SDK **10.0.26100.0**. Build Tools supplies the linker and Windows libraries; `ifx` compiles the Fortran source.

> **i** Note
>
> These are tested versions, not a minimum-version range or a Dassault Systèmes qualification statement.

2 Environment Prerequisites

Submit the job from **Windows Command Prompt (`cmd.exe`)** with the compiler environment initialized in that same terminal. For the tested Build Tools and Intel oneAPI installation paths:

```
call "C:\Program Files (x86)\Microsoft Visual Studio\18\BuildTools\Common7\Tools\VsDevCmd.bat" -arch=amd64 -host_arch=amd64
call "C:\Program Files (x86)\Intel\oneAPI\setvars.bat"
```

These scripts configure `PATH`, include directories, and library directories for the current session. Adjust the paths to your installation; other Intel layouts may use a different environment initialization script.

The terminal must be able to find `ifx`, `cl`, `link`, and `abaqus`. Use these commands to verify:

```
where.exe ifx
ifx --version
where.exe cl
where.exe link
where.exe abaqus
```

Also make the installed Coreform `bin` directory available on `PATH`, for example:

```
set "PATH=C:\Program Files\Coreform IGA 2026.11\bin;%PATH%"
```

Any directory containing customer DLLs loaded through `uniquelibs` must also be discoverable by the solver. Run from a writable job directory containing the prepared Coreform input files, with access to the Fortran source and the required licenses.

Abaqus must be configured to select `ifx` in its `compile_fortran` setting in `abaqus_v6.env`. Our tested configuration replaced `ifort` with `ifx`, removed `/Qprec-sqrt` and `/Qfp-stack-check`, and retained the other compiler options. Keep any job-specific library staging separate from ordinary verification commands.

3 User Subroutine Submit Command

Once compiler selection and library loading are configured, the command has this form:

```
abaqus job=MyJob input=MyJob.inp user=my_subroutine.for cpus=1 uniquelibs interactive
```

`user=` supplies the Fortran source for Abaqus to compile and link during submission. `uniquelibs` enables the individual user-subroutine libraries used by Coreform IGA. Use the basename of the prepared Coreform job, including its matching `.sql` database; `cpus=1` matches the tested configuration.