

Compiling Abaqus 6.12-1 With Intel Fortran 13.0.1

The compilation procedure presented here applies to

- Abaqus 6.12-1
- Microsoft Visual studio 2012 (Version 11.0.50727.1)
- Intel Parallel Studio XE 2013 (64 bit) (Version 13.0.1.119)

Other versions of 6.12 with Microsoft Visual studio 11 and Intel FORTRAN 13 might work in this way.

1. At first go to the following directory C:\Program Files\ SIMULIA\Abaqus\Commands and right click on “abq6121.bat” to edit the file.

At the beginning the file will appear as,

```
@echo off
```

```
"C:\Program Files\ SIMULIA\Abaqus \6.12-1\code\bin\abq6121.exe" %*
```

2. We have to add the two batch files from Visual Studio and Intel Fortran. The files are “vcvars64.bat” and “ifortvars.bat” respectively. If the location of the file is not known, then use search option on C:\Program Files (x86).
3. When the files are located then add the location of the file in the “abq6121.bat”. The modified batch file reads like this.

```
@echo off
```

```
@call "C:\Program Files (x86)\Microsoft Visual Studio 11.0\VC\bin\amd64\vcvars64.bat"
```

```
@call "C:\Program Files (x86)\Intel\Composer XE 2013\bin\ifortvars.bat" intel64
```

```
"C:\Program Files\abaqus\6.12-1\code\bin\abq6121.exe" %*
```

4. Now if you open the ABAQUS Command Window, it will show that Intel(R) Parallel Studio XE 2013 is linked.
5. Try to run a Subroutine through ABAQUS. If it does not work, add the following ‘path’ to your computer. Go to ‘Environment Variables’ from control panel and edit ‘path variable’ listed in ‘System variables’. Search for the path of following files and add them.

- C:\Program Files (x86)\Microsoft Visual Studio 11.0\VC\bin\
- C:\Program Files (x86)\Intel\Composer XE 2013\compiler\lib\intel64\
- C:\Program Files (x86)\Intel\Composer XE 2013\mkl\bin\intel64\
- C:\Program Files (x86)\Intel\Composer XE 2013\bin\;
- C:\Program Files (x86)\Common Files\Intel\Shared Libraries\redist\intel64\mpirt\
- C:\Program Files (x86)\Common Files\Intel\Shared Libraries\redist\ia32\mpirt\
- C:\Program Files (x86)\Microsoft Visual Studio 11.0\VC\bin\amd64\

- If the subroutine still doesn't run, the 'Target' property for the ABAQUS command needs to be edited. For this right click on ABAQUS Command from 'start menu' and click on 'properties'. Now edit the 'Target' window and it should appear as follows after editing,

```
C:\Windows\SysWOW64\cmd.exe /k "C:\Program Files (x86)\Intel\Composer XE 2013\bin\ifortvars.bat" intel64
```

- You can check the verification of your ABAQUS installation and its collaborating softwares. For this check start the ABAQUS command window and type, `abaqus verify -user_std`

The ABAQUS command window should give the following verification information.



```
Administrator: Intel Composer XE 2013 Intel(R) 64
Intel(R) Parallel Studio XE 2013
Copyright (C) 1985-2012 Intel Corporation. All rights reserved.
Intel(R) Composer XE 2013 Update 1 (package 119)

C:\Windows\system32>abaqus verify -user_std
Intel(R) Parallel Studio XE 2013
Copyright (C) 1985-2012 Intel Corporation. All rights reserved.
Intel(R) Composer XE 2013 Update 1 (package 119)

Abaqus Product Install Verification...
Fri Dec 20 13:02:44 2013

Running system requirement checks.

Requirement:   Windows Server 2003, Windows Server 2008, Windows Server
                2008 R2, Windows HPC Server 2008, Windows XP, Windows Vista,
                or Windows 7
Product:       All Abaqus Products
Status:        Pass - Found Windows 7 Enterprise Service Pack 1 (Build
                7601) (x64).

Requirement:   Microsoft Visual C++ 9.0 (2008), or 10.0 (2010)
Product:       Abaqus make utility with C++ and Abaqus with user
                subroutines
Status:        Warning - Found Microsoft Visual C++ 11.0.50727.1, which is
                newer than the published Abaqus requirement at the time this
                version was released. Later minor releases of a published
                requirement are generally compatible with Abaqus. Please
                check the system requirements web page for the latest
                information on supported configurations.

Requirement:   Intel Fortran Compiler 10.1 or 11.1
Product:       Abaqus make utility with Fortran and Abaqus with user
                subroutines
Status:        Warning - Found Intel Fortran Compiler 13.0, which is newer
                than the published Abaqus requirement at the time this
                version was released. Later minor releases of a published
                requirement are generally compatible with Abaqus. Please
                check the system requirements web page for the latest
                information on supported configurations.

Requirement:   MS-MPI 2.0, 3.0 or greater
Product:       Abaqus analyses using MPI-based parallelization and
                Abaqus/CFD
Status:        Pass - Found MS-MPI 3.0.2369.0.

Requirement:   Internet Explorer 8.0 or 9.0 or greater, Firefox 3.0 or 3.5
                or greater
Product:       Abaqus Documentation
Status:        Fail - Found Google Chrome 31.0.1650.63.

WARNING: Verification for all selected products will be attempted, but some
        products may fail because of the indicated system deficiencies.

Making C:\Windows\system32\verify. All verification files will reside in
this directory.

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Abaqus/Standard with user subroutines
```

Since the updated versions of Intel FORTRAN Compiler and Visual Studio were used, two warning messages for these softwares were shown. But the User Subroutine should work with this setting.