
CFD-ACE+ V2026.0_P1

CFD-ACE+ User Subroutine

컴파일러 환경 구축 가이드

(주)경원이앤씨

❖ CFD-ACE+ V2026.0

- ACE+ SUITE V2026.0은 아래와 같은 64비트 플랫폼에서 사용 가능

Windows:

- Windows 10 and later (Intel or AMD)

Linux:

- Red Hat Enterprise Linux 8+ (glibc 2.28)
- Red Hat Enterprise Linux 9+ (glibc 2.34)
- (Intel or AMD)

❖ Intel FORTRAN Compiler Versions

- ACE+ SUITE 에 지원되는 Intel® Fortran 컴파일러 및 Microsoft® Visual Studio 버전

ACE+ Version	Intel Compiler Version (Linux)	Intel Compiler Version (Windows)	Visual Studio Version (Windows)
2026.0	oneAPI 2024	oneAPI 2024	VS2022

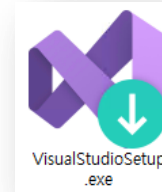
❖ 필요 파일 및 설치 순서

1. Visual Studio 2022
2. Intel oneAPI Base Toolkit (w_BaseKit_p_2024.2.1.101_offline)
3. Intel Fortran Compiler (intel-fortran-compiler-2025.3.2.26_offline)
4. 환경 변수 설정

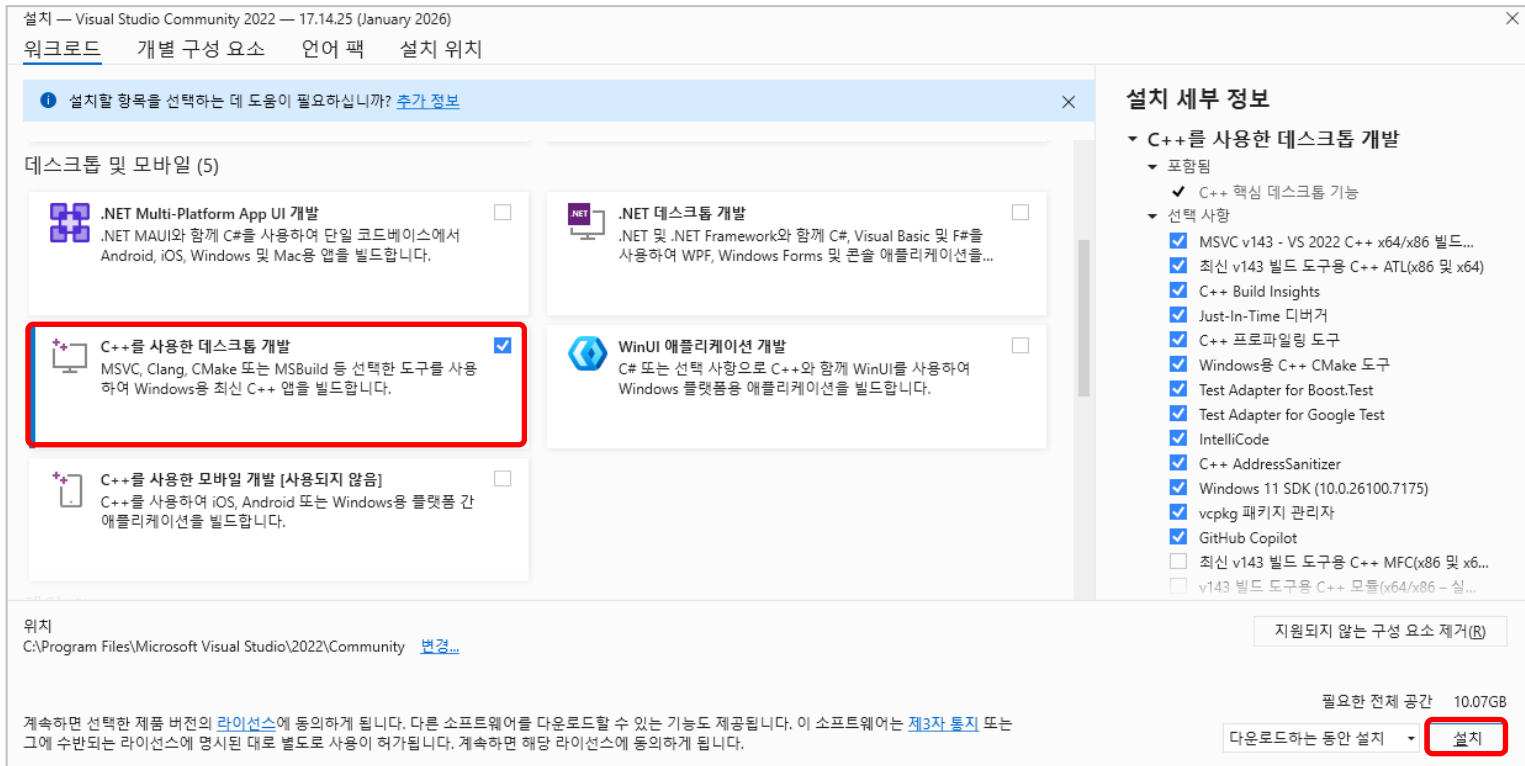
※ Intel 컴파일러가 Visual Studio에 정상적으로 통합되려면, Visual Studio 2022를 가장 먼저 설치

❖ Visual Studio Installer 실행

- VisualStudioSetup.exe 실행 (관리자 권한 권장)
- 워크로드 선택(필수)



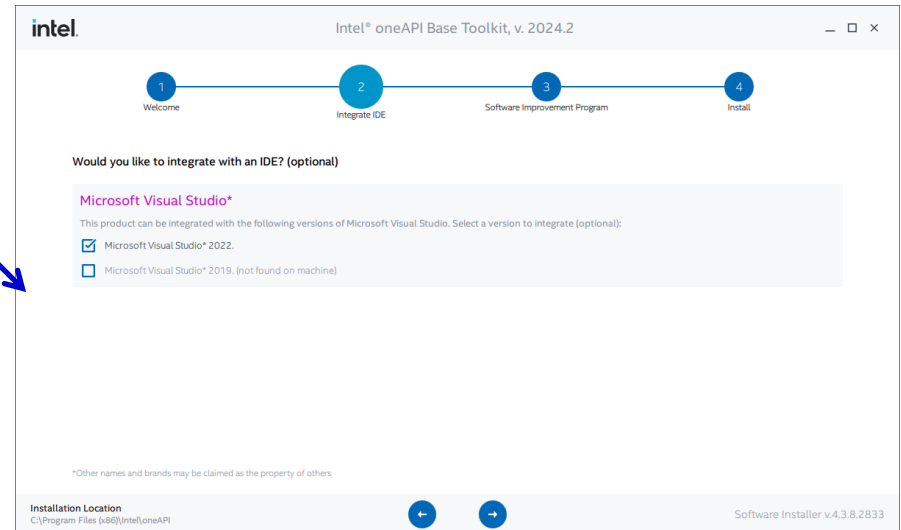
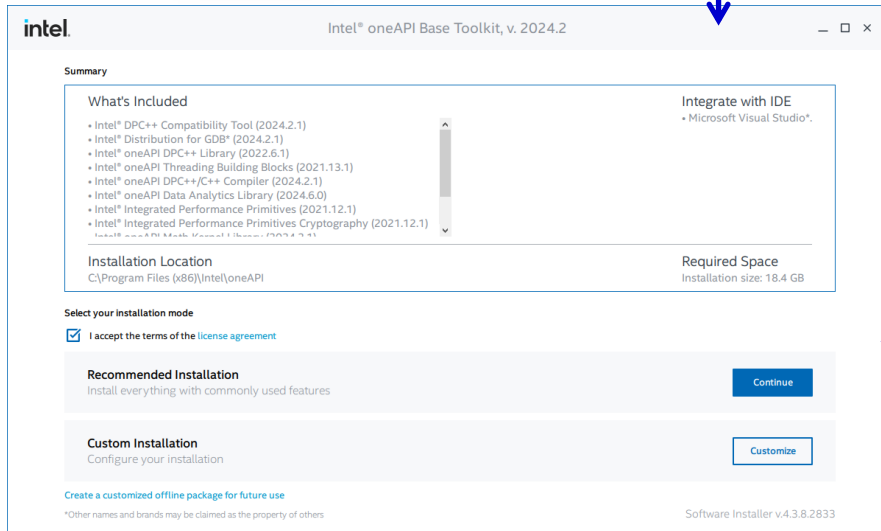
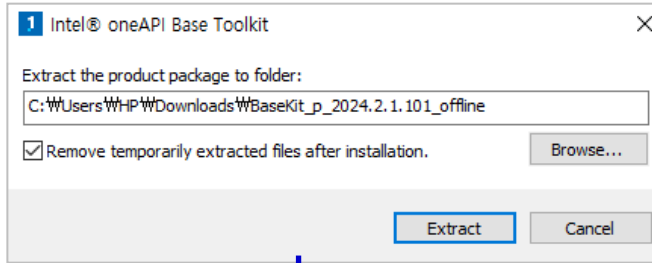
설치 중 'C++를 사용한 데스크톱 개발' (Desktop development with C++) 체크
- 이유 : Fortran 컴파일러가 Visual Studio의 라이브러리를 사용하기 위함



- 설치 완료 후 재부팅

❖ Intel oneAPI Toolkit(BaseKit_p_2024.2.1.101_offline) 실행

- 설치 파일 실행 (관리자 권한 권장)

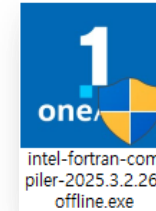


- 설치 마법사에서 'Visual Studio 2022' 통합 옵션 확인 (자동 체크됨)
- 기본 구성요소 유지 후 설치 진행

❖ Intel Fortran Compiler(intel-fortran-compiler-2025.3.2.26_offline) 실행

- Base Toolkit 설치 완료 후 실행

※ 이 과정이 완료되어야 ifort 또는 ifx 명령어를 사용할 수 있게 됨



Operating System ⓘ

Linux* **Windows***

Installer Type ⓘ

Offline Installer Online Installer conda* pip

Intel® Fortran Compiler: Offline

A stand-alone download of the Intel Fortran Compiler is available. You can download binaries from Intel or choose your preferred repository.

For the most current functional and security features, update to the latest version as it becomes available.

Size 335.16 MB
Version 2025.3.2
Date January 22, 2026
SHA384 6f9a92cf5ae8f5479bb76966bf31ff539d44201f4a0da9ffdae484abfebb4f9c21aec53c5a9287aa1d74cc7804daed9c

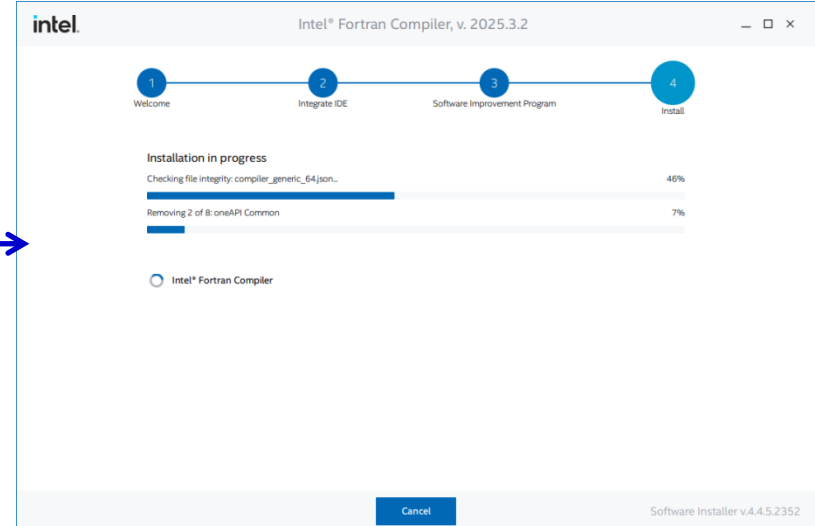
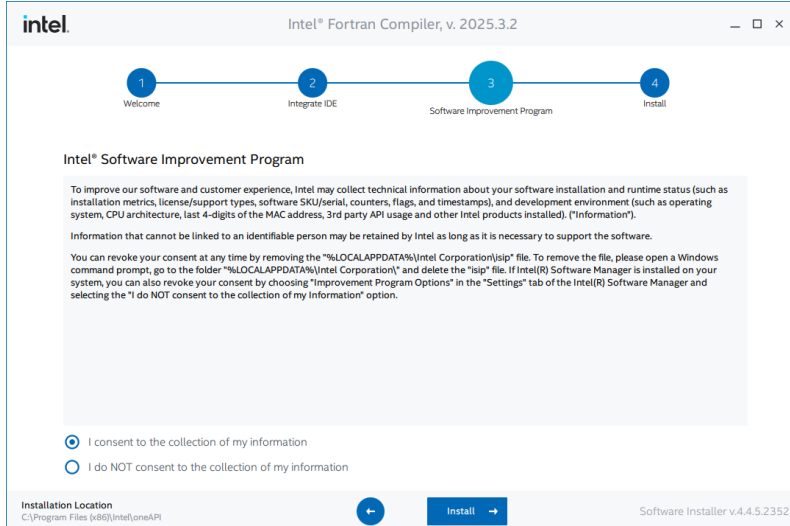
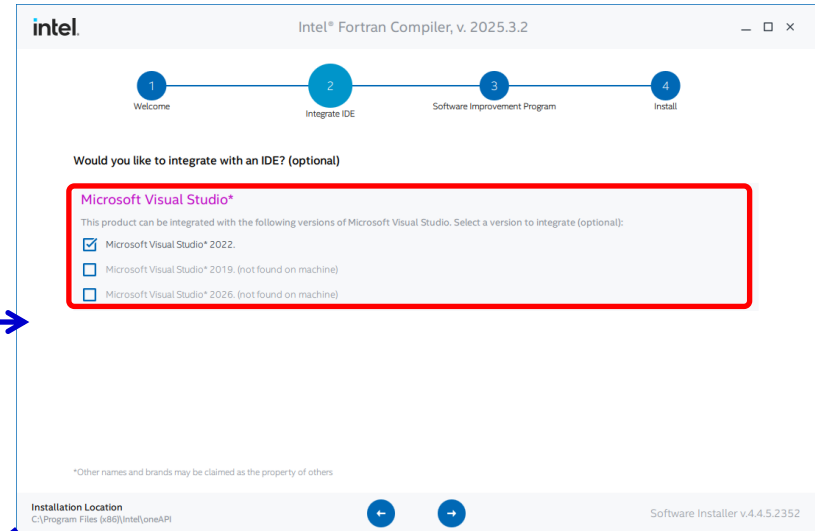
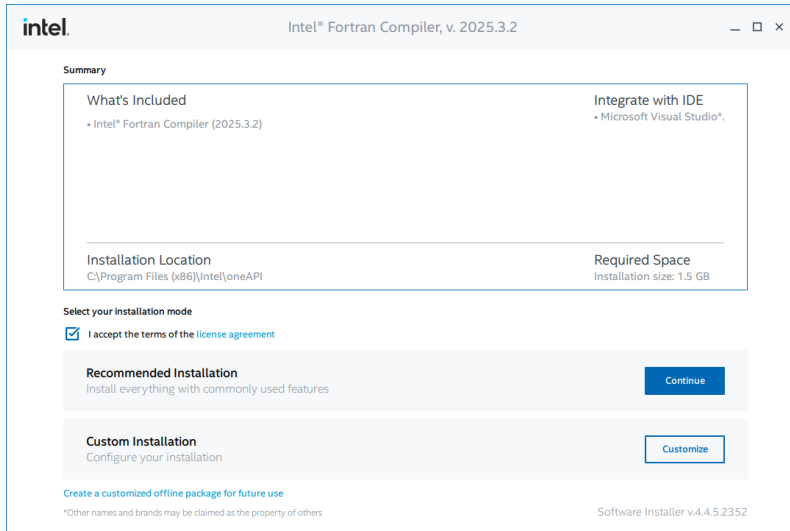
Intel® Fortran Compiler (version 2025.3.2) has been updated to include functional and security updates. Users should update to the latest version.

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❖ Intel Fortran Compiler(intel-fortran-compiler-2025.3.2.26_offline) 실행

- 기존에 설치된 Base Toolkit 및 Visual Studio 2022 환경 감지 확인



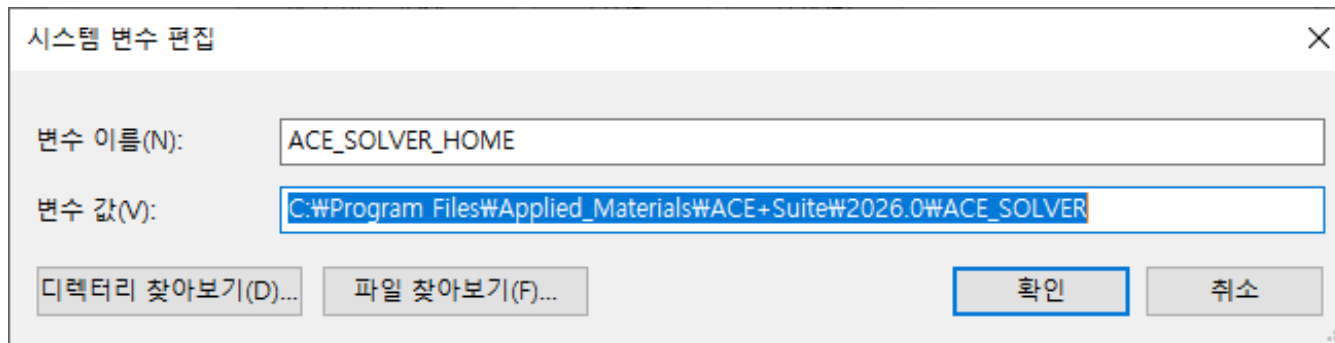
❖ CFD-ACE+ Solver의 환경변수 설정

환경변수 설정 방법

1. Windows 검색 창 → '시스템 환경 변수 편집' 실행
2. '환경 변수(N)...' 버튼 클릭
3. 시스템 변수(S) 영역에서 '새로 만들기(W)...' 클릭

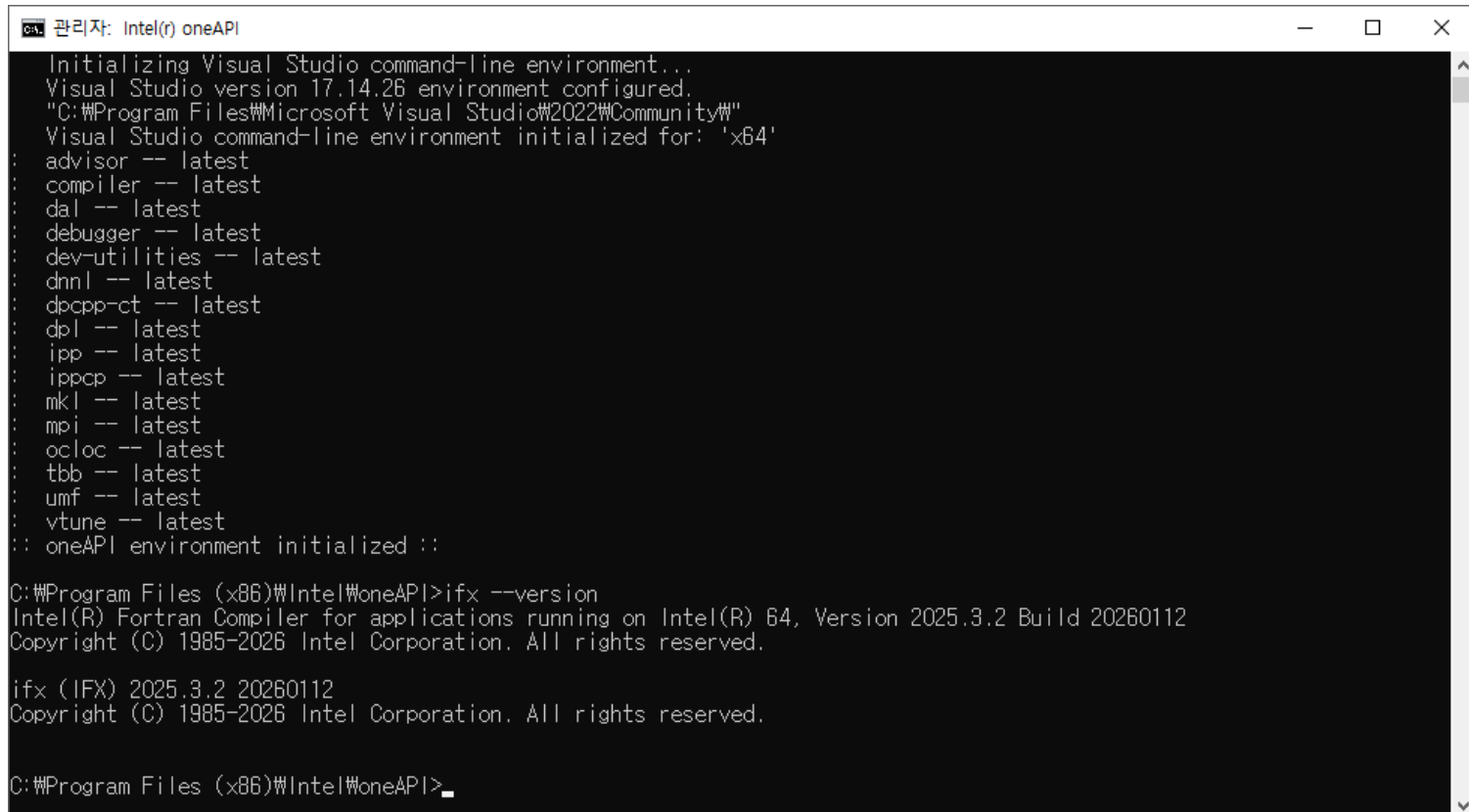
변수 이름: ACE_SOLVER_HOME

변수 값: C:\Program Files\Applied_Materials\ACE+Suite\2026.0\ACE_SOLVER



❖ 설치 검증

1. 명령 프롬프트 Intel oneAPI 실행 (10page 참고)
2. `ifx --version` 입력하여 버전 정보가 출력되는지 확인
3. `echo %ACE_SOLVER_HOME%` 입력하여 설정한 경로가 출력되는지 확인
→ User Subroutine 컴파일을 위한 준비가 완료



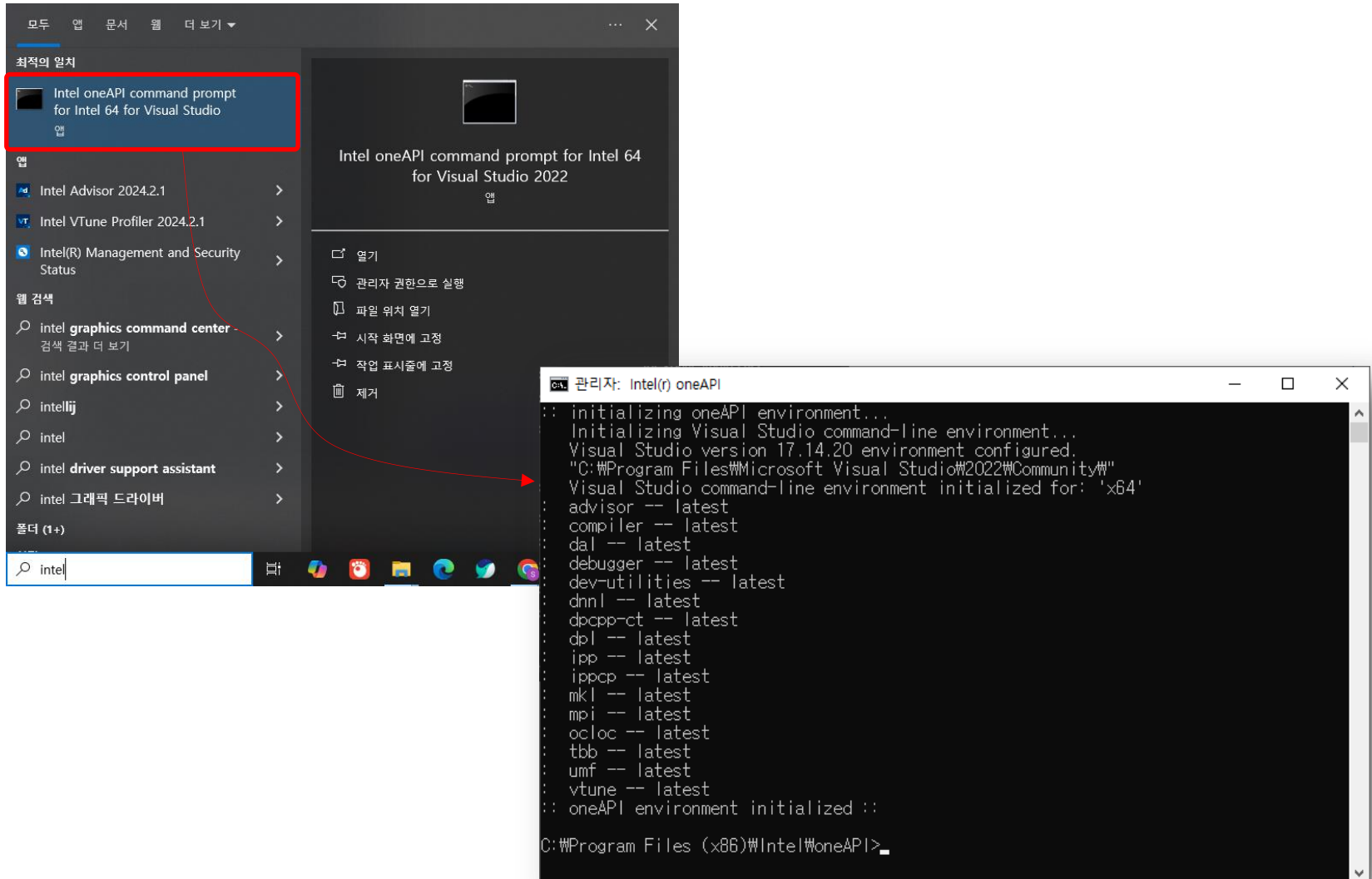
```
관리자: Intel(r) oneAPI
Initializing Visual Studio command-line environment...
Visual Studio version 17.14.26 environment configured.
"C:\Program Files\Microsoft Visual Studio\2022\Community\"
Visual Studio command-line environment initialized for: 'x64'
: advisor -- latest
: compiler -- latest
: dal -- latest
: debugger -- latest
: dev-utilities -- latest
: dnnl -- latest
: dpcpp-ct -- latest
: dpl -- latest
: ipp -- latest
: ippcp -- latest
: mkl -- latest
: mpi -- latest
: ocloc -- latest
: tbb -- latest
: umf -- latest
: vtune -- latest
:: oneAPI environment initialized ::

C:\Program Files (x86)\Intel\oneAPI>ifx --version
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.3.2 Build 20260112
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

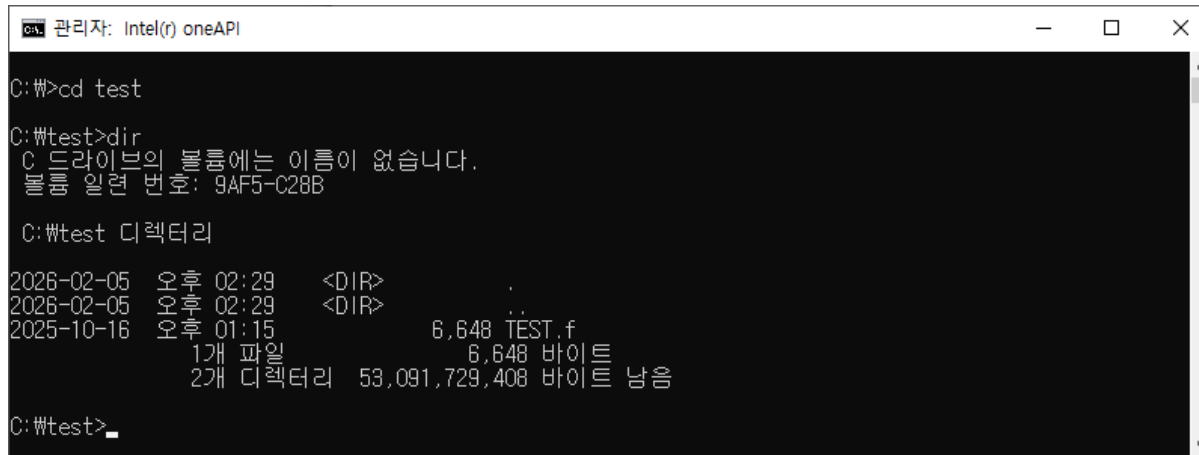
ifx (IFX) 2025.3.2 20260112
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

C:\Program Files (x86)\Intel\oneAPI>_
```

1. Intel oneAPI command prompt for Intel 64 for Visual Studio 2022 실행



2. .f 파일이 있는 작업 폴더로 이동하여 명령어 실행



```

관리자: Intel(r) oneAPI
C:\>cd test

C:\test>dir
C 드라이브의 볼륨에는 이름이 없습니다.
볼륨 일련 번호: 9AF5-C28B

C:\test 디렉터리

2026-02-05 오후 02:29 <DIR> .
2026-02-05 오후 02:29 <DIR> ..
2025-10-16 오후 01:15          6,648 TEST.f
                1개 파일          6,648 바이트
                2개 디렉터리 53,091,729,408 바이트 남음

C:\test>_
  
```

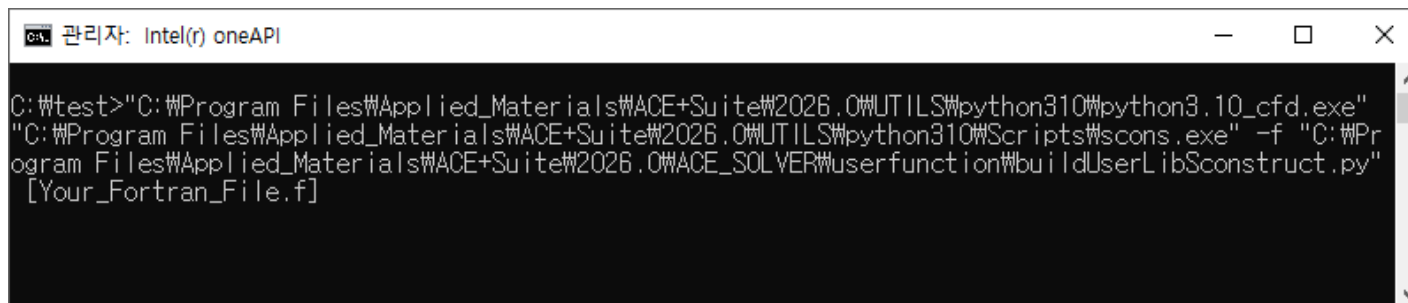
아래와 같은 경로 및 명령어를 입력 후 Enter → 해당 폴더에 .dll을 포함한 파일들이 생성 됨

"C:\Program Files\Applied_Materials\ACE+Suite\2026.0\UTILS\python310\python3.10_cfd.exe"

"C:\Program Files\Applied_Materials\ACE+Suite\2026.0\UTILS\python310\Scripts\scons.exe" -f

"C:\Program Files\Applied_Materials\ACE+Suite\2026.0\ACE_SOLVER\userfunction\buildUserLibSconstruct.py"

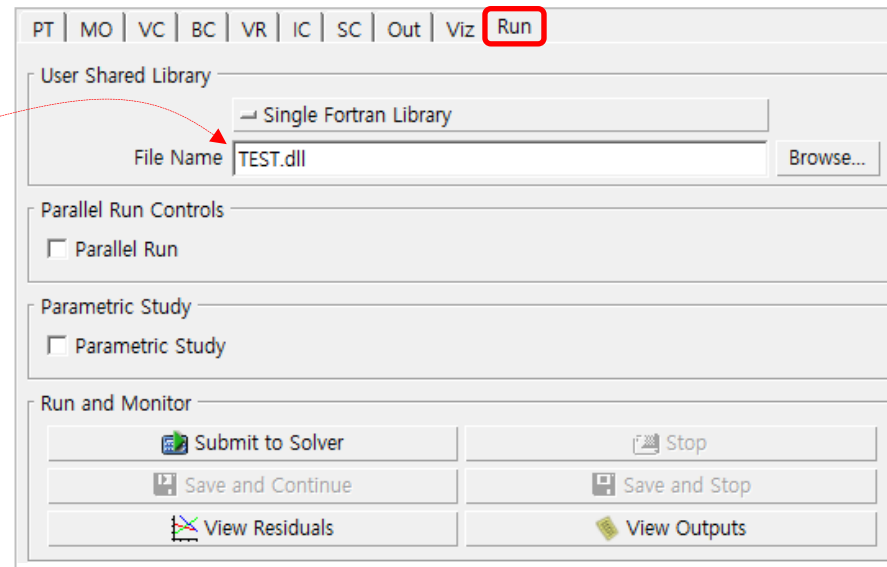
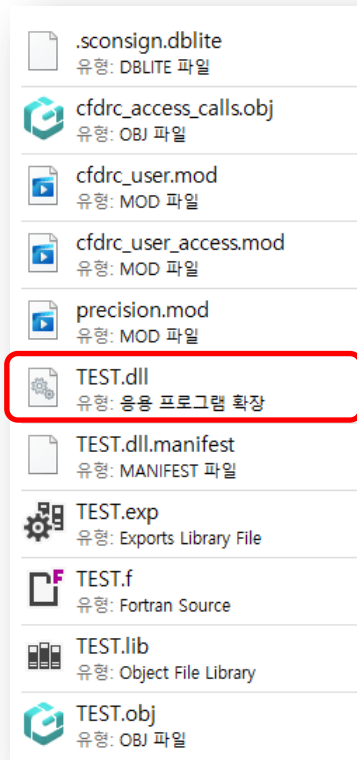
[Your_Fortran_File.f]



```

관리자: Intel(r) oneAPI
C:\test>"C:\Program Files\Applied_Materials\ACE+Suite\2026.0\UTILS\python310\python3.10_cfd.exe"
"C:\Program Files\Applied_Materials\ACE+Suite\2026.0\UTILS\python310\Scripts\scons.exe" -f "C:\Pr
ogram Files\Applied_Materials\ACE+Suite\2026.0\ACE_SOLVER\userfunction\buildUserLibSconstruct.py"
[Your_Fortran_File.f]
  
```

3. 생성된 .dll을 포함한 파일 확인 및 적용



Thank you for your attention

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