OPENVINO INSTALLATION

인텔코리아 이해영

OpenVINO 설치

1. OpenVINO를 설치해줍니다.

- OpenVINO의 완전한 설치를 위해서는 추가적으로

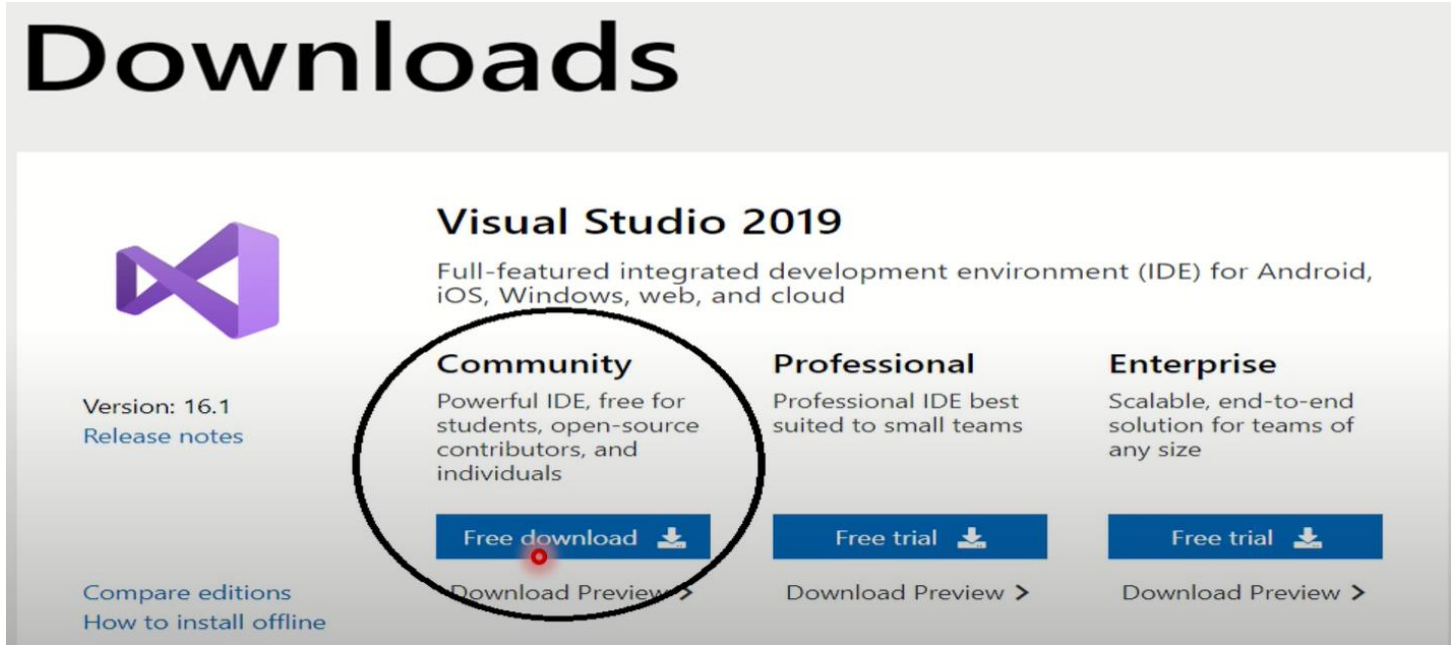
- **Microsoft Visual Studio with C++ 2019 2017, or 2015 with MSBuild**
- **Cmake 3.4 or higher 64-bit**
- **Python 3.6.5 64-bit**

위 세가지를 설치해야합니다.

1. Microsoft Visual Studio 설치

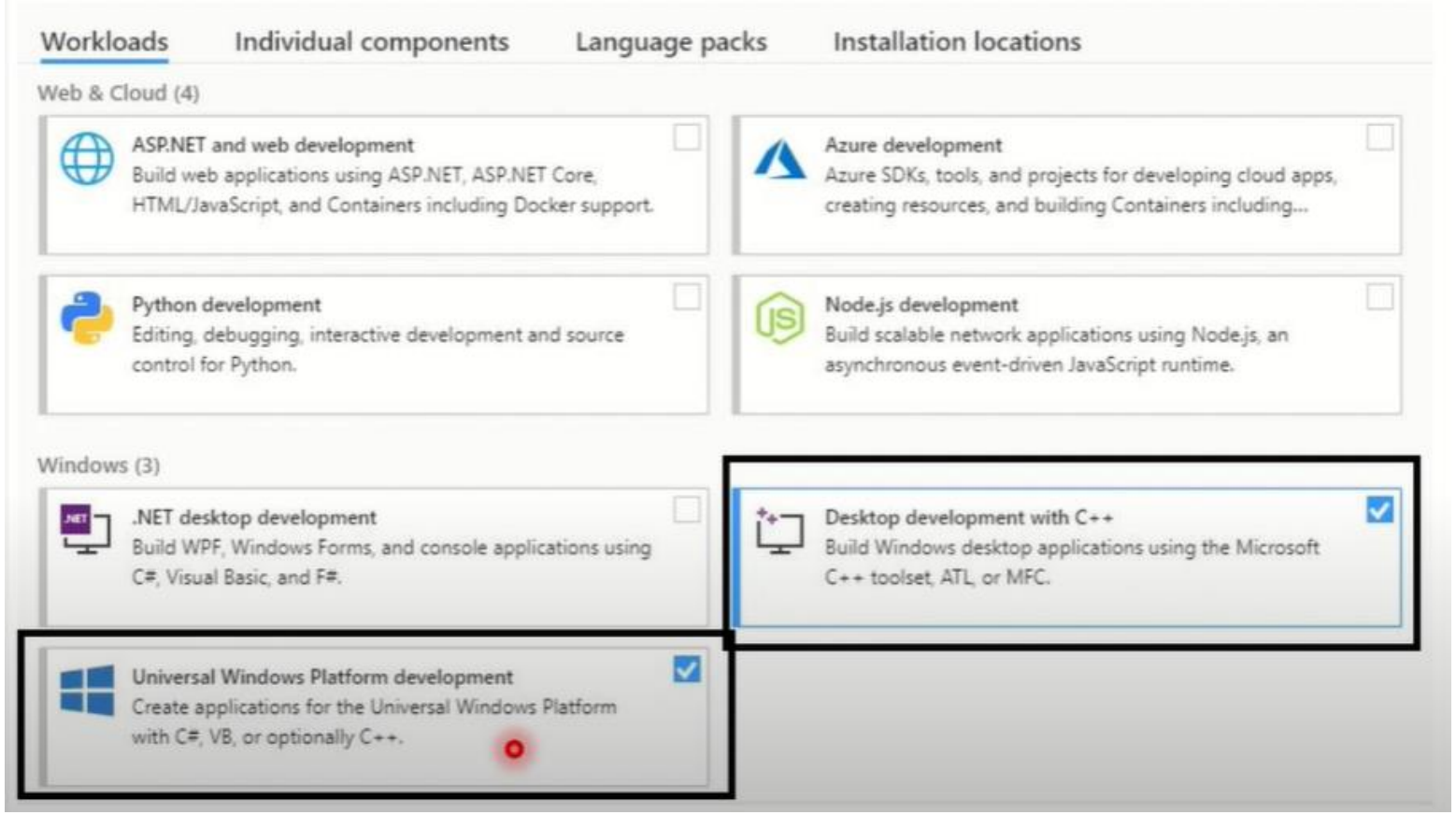
1. OpenVINO 설치를 위해서 먼저 Microsoft Visual Studio를 설치해주어야 합니다.
   아래 링크에 들어가 Visual Studio 2019 버전 Community 를 다운로드 해줍니다.

https://visualstudio.microsoft.com/ko/downloads/



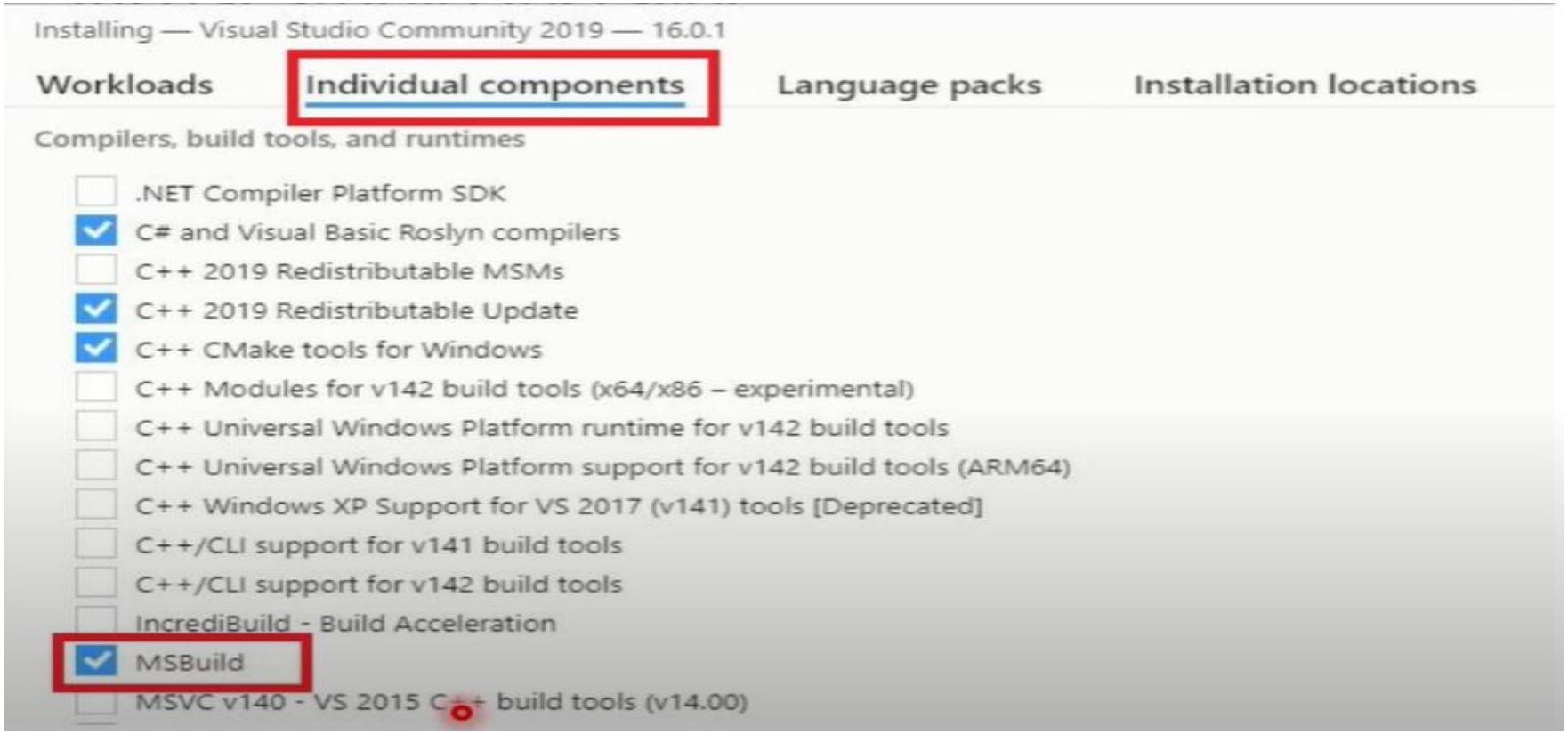
1. Microsoft Visual Studio 설치

2. Workloads 탭에서 Universal Windows Platform development, Desktop development with C++ 를 체크해줍니다.



1. Microsoft Visual Studio 설치

3. Individual components 탭에서 아래 내용을 체크해줍니다. (이 때 MSBuild 는 매우 중요하기 때문에 꼭 체크해줍니다.)
4. Microsoft Visual Studio Community 2019 버전을 설치완료 해줍니다.



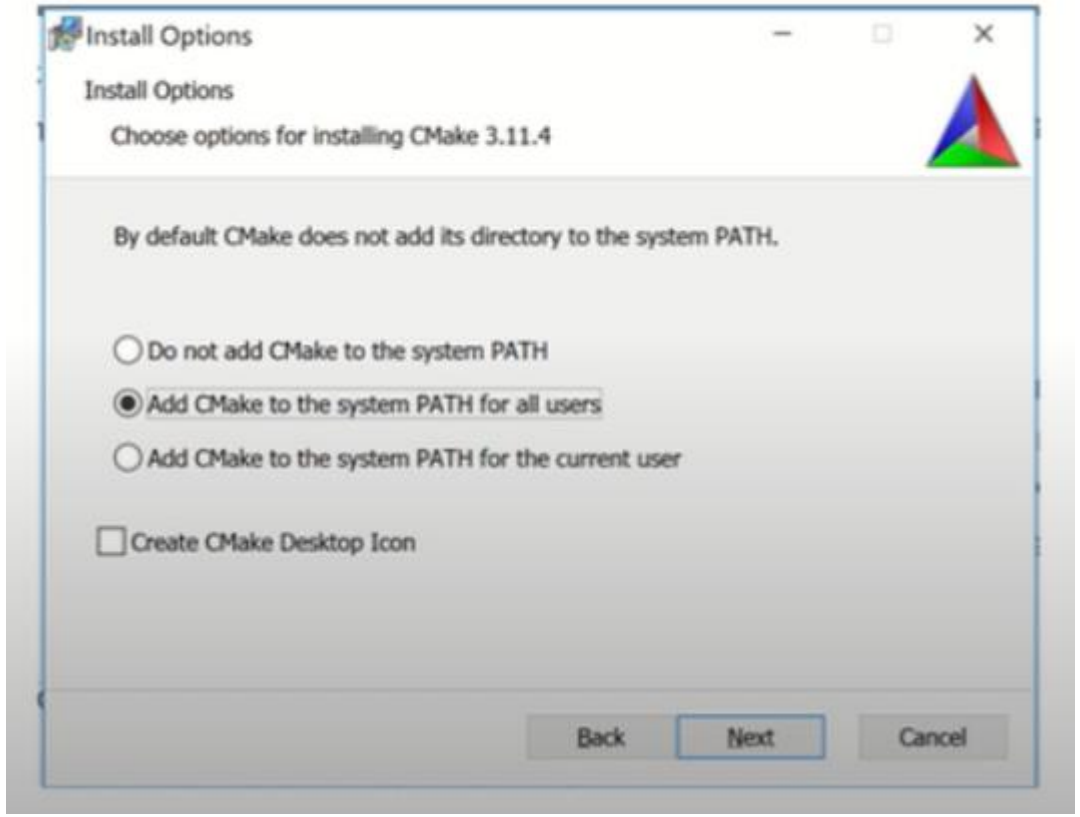
2. CMake 설치

1. 아래 링크에 접속해 Cmake 를 설치해줍니다.

https://cmake.org/download/

2. CMake 설치

2. Add PATH를 아래와 같이 설정해주고 CMake 설치를 완료해줍니다.



3. Python 설치

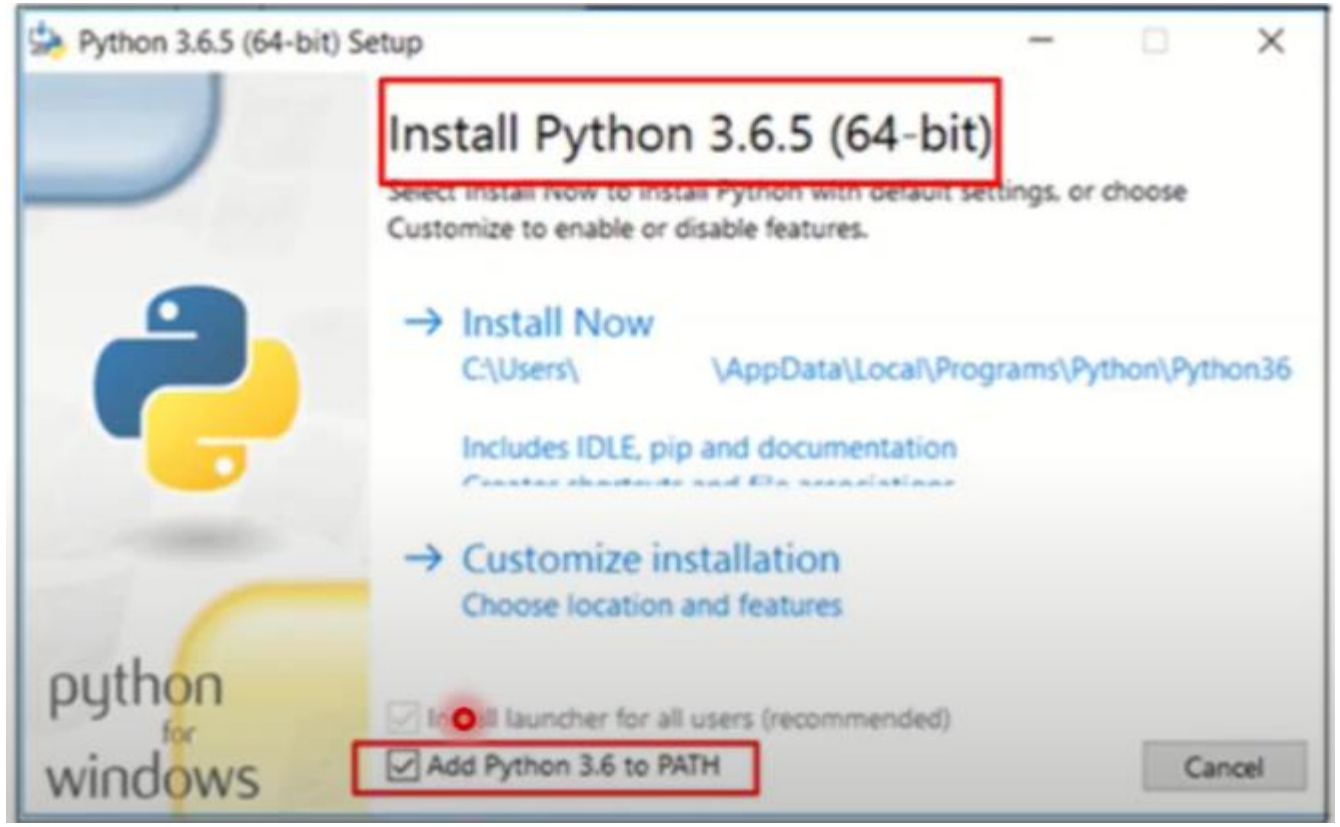
1. 아래 링크에 접속해 Python 을 설치해줍니다.
(버전은 꼭 3.6.5 이어야 하고 아래 64비트로 설치해줍니다.)
http://www.python.org/downloads/release/python-365/

Files

Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		ab25d24b1f8cc4990ade979f6dc37883	22994617	SIG
XZ compressed source tarball	Source release		9f49654a4d6f733ff3284ab9d227e9fd	17049912	SIG
macOS 64-bit/32-bit installer	Mac OS X	for Mac OS X 10.6 and later	bf319337bc68b52fc7d227dca5b6f2f6	28093627	SIG
macOS 64-bit installer	Mac OS X	for OS X 10.9 and later	37d891988b6aeedd7f03a70171a8420d	26987706	SIG
Windows help file	Windows		be70202d483c0b7291a666ec66539784	8065193	SIG
Windows x86-64 embeddable zip file	Windows	for AMD64/EM64T/x64	04cc4f6f6a14ba74f6ae1a8b685ec471	7190516	SIG
Windows x86-64 executable installer	Windows	for AMD64/EM64T/x64	9e96c934f5d16399f860812b4ac7002b	31776112	SIG
Windows x86-64 web-based installer	Windows	for AMD64/EM64T/x64	640736a3894022d30f7babff77391d6b	1320112	SIG
Windows x86 embeddable zip file	Windows		b0b099a4fa479fb37880c15f2b2f4f34	6429369	SIG
Windows x86 executable installer	Windows		2bb6ad2ecca6088171ef923bca483f02	30735232	SIG
Windows x86 web-based installer	Windows		596667cb91a9fb20e6f4f153f3a213a5	1294096	SIG

3. Python 설치

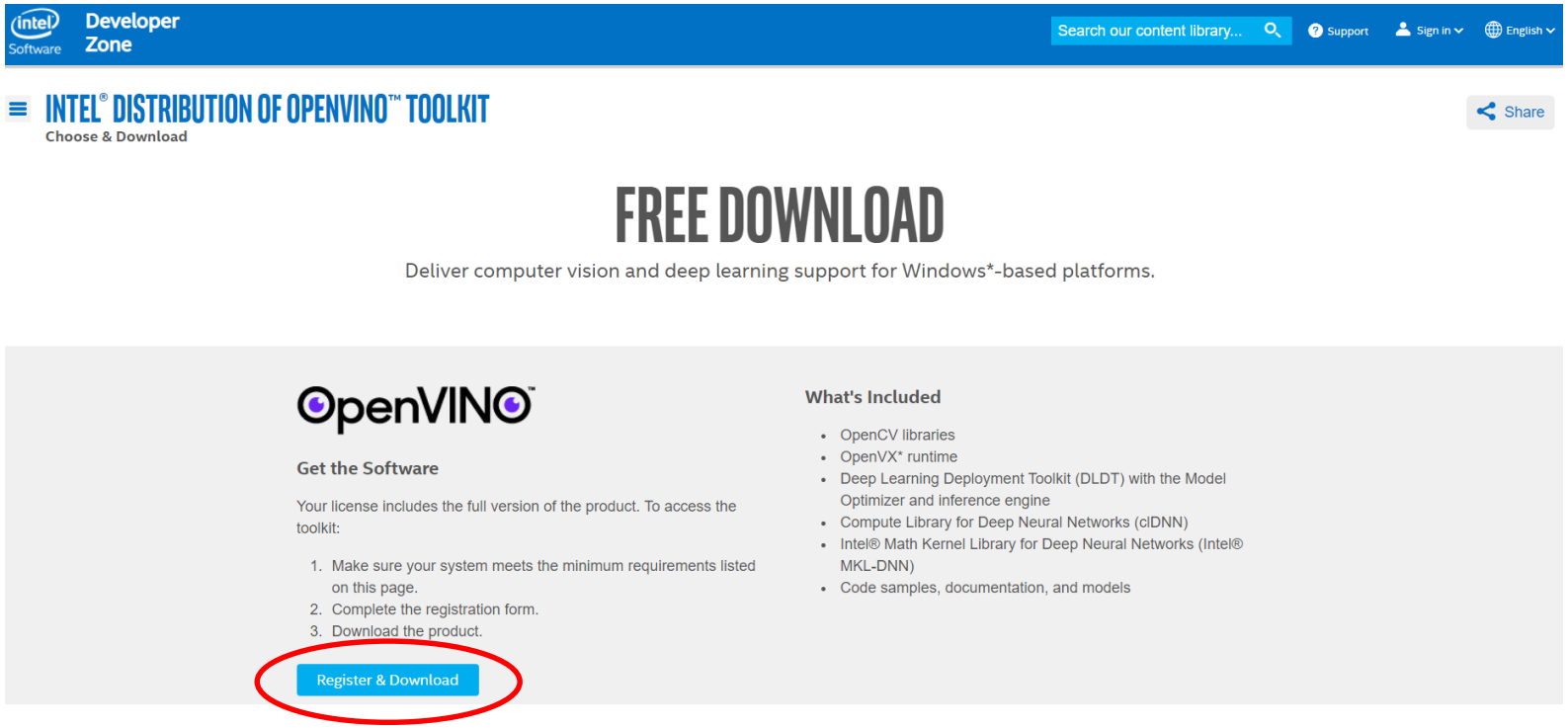
2. Add PATH 를 다음과 같이 해주고 파이썬 설치를 완료해줍니다.



4. OpenVINO 설치

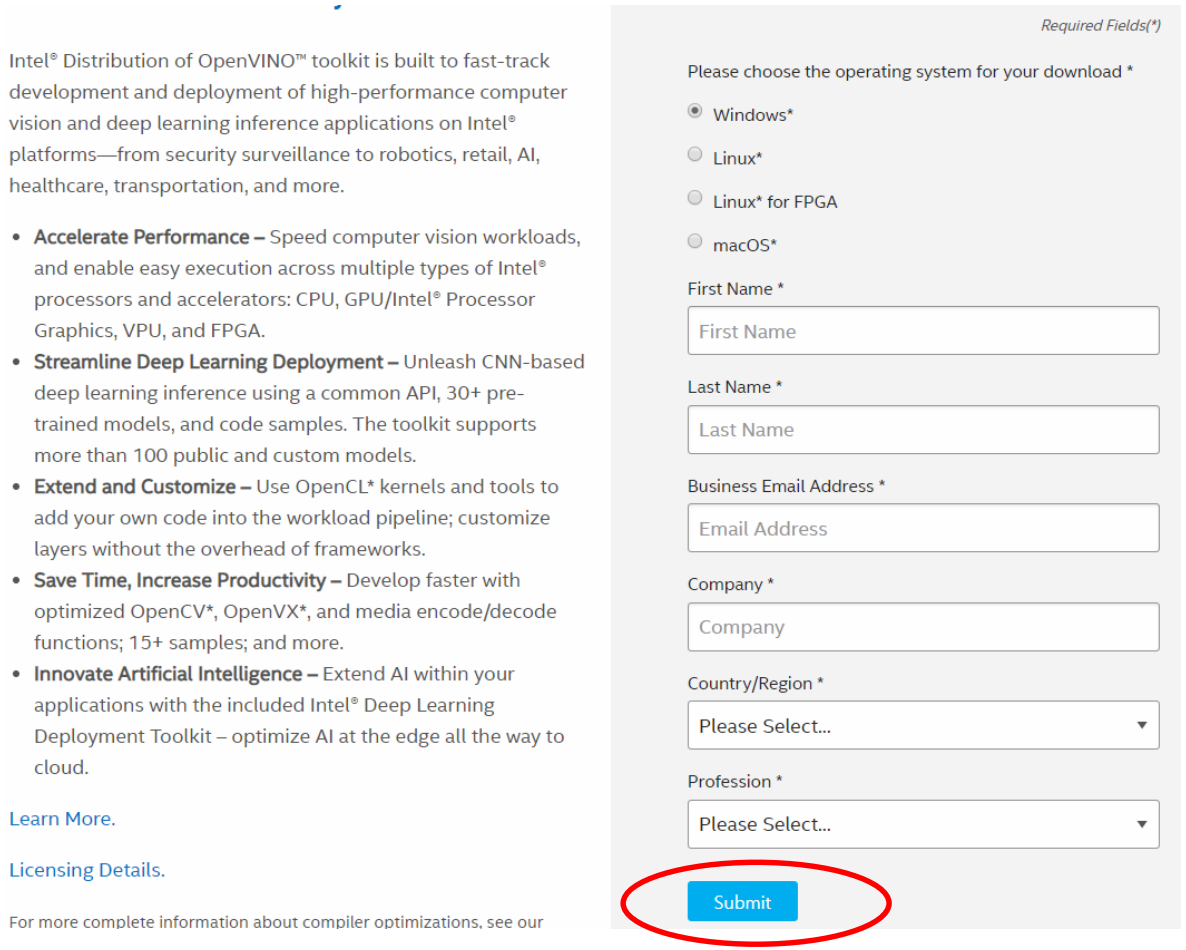
1. 아래 링크에 들어가 “Register & Download“를 눌러줍니다.

https://software.intel.com/en-us/openvino-toolkit/choose-download/free-download-windows



4. OpenVINO 설치

2. “Windows” 를 선택하고 본인의 정보를 입력한 후 “Submit” 을 눌러줍니다.



Intel® Distribution of OpenVINO™ toolkit is built to fast-track development and deployment of high-performance computer vision and deep learning inference applications on Intel® platforms—from security surveillance to robotics, retail, AI, healthcare, transportation, and more.

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For more complete information about compiler optimizations, see our

Required Fields(*)

Please choose the operating system for your download *

- Windows*
- Linux*
- Linux* for FPGA
- macOS*

First Name *

First Name

Last Name *

Last Name

Business Email Address *

Email Address

Company *

Company

Country/Region *

Please Select...

Profession *

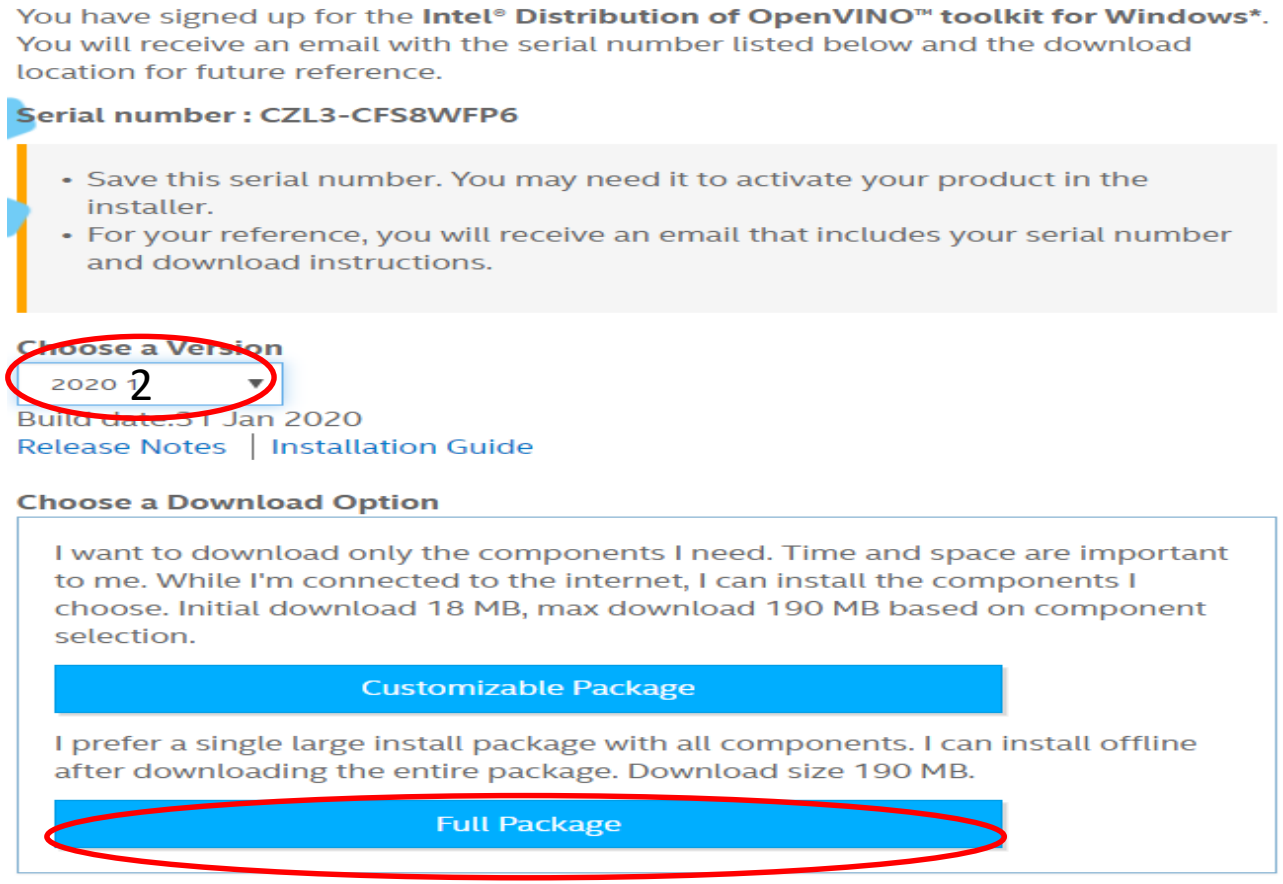
Please Select...

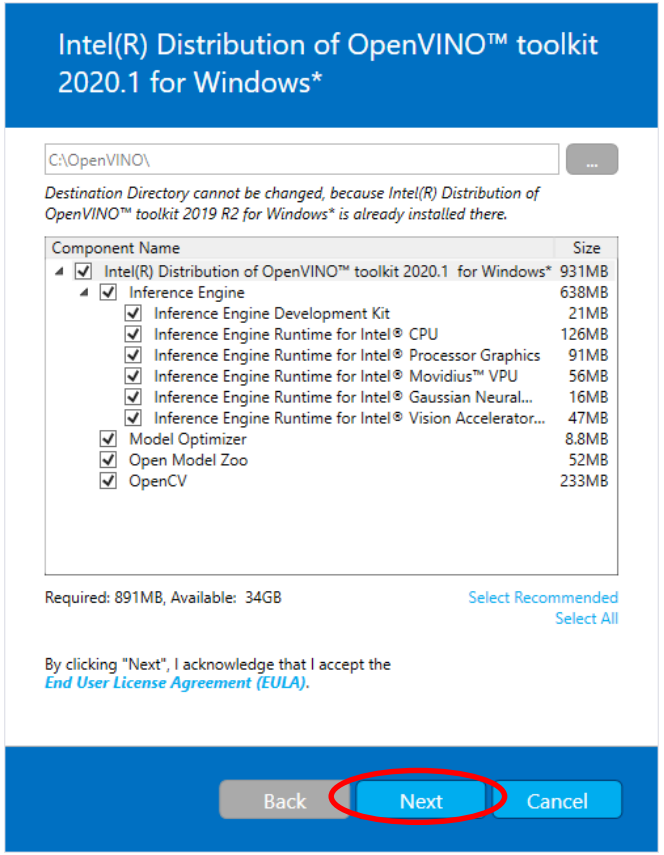
Submit

4. OpenVINO 설치

3. **2020.2 버전** 을 선택하고 Full Package 다운로드를 눌러 오픈비노를 다운로드해줍니다.

4. 다운로드가 완료되면 Next를 계속 눌러 OpenVINO 설치를 완료해줍니다.





5. OpenVINO 환경설정

1. OpenVINO 설치가 완료된 후 가장 중요한 단계인 **환경설정 단계**입니다.
   OpenVINO 어플리케이션을 실행하거나 컴파일하기 위해서는 환경 변수를 설정해주어야 합니다.

   OpenVINO 가 설치되어 있는 경로로 들어가 "**setupvars.bat**" 을 통해 환경변수를 세팅해줍니다.
   (혹시 아래 경로에 오픈비노가 설치되어 있지 않다면 아까 설치한 파일을 아래 경로로 변경해주어야 합니다.)

```
cd C:/Program Files (x86)/IntelSWTools/openvino/bin/
setupvars.bat
```

```
C:\Program Files (x86)\IntelSWTools\openvino\bin>setupvars.bat
Python 3.6.8
ECHO is off.
PYTHONPATH=C:\Program Files (x86)\IntelSWTools\openvino\deployment_tools\open_model_zoo\tools\accuracy_checker;C:\Progra
m Files (x86)\IntelSWTools\openvino\python\python3.6;C:\Program Files (x86)\IntelSWTools\openvino\python\python3;C:\Prog
ram Files (x86)\IntelSWTools\openvino\deployment_tools\model_optimizer;
[setupvars.bat] OpenVINO environment initialized
```

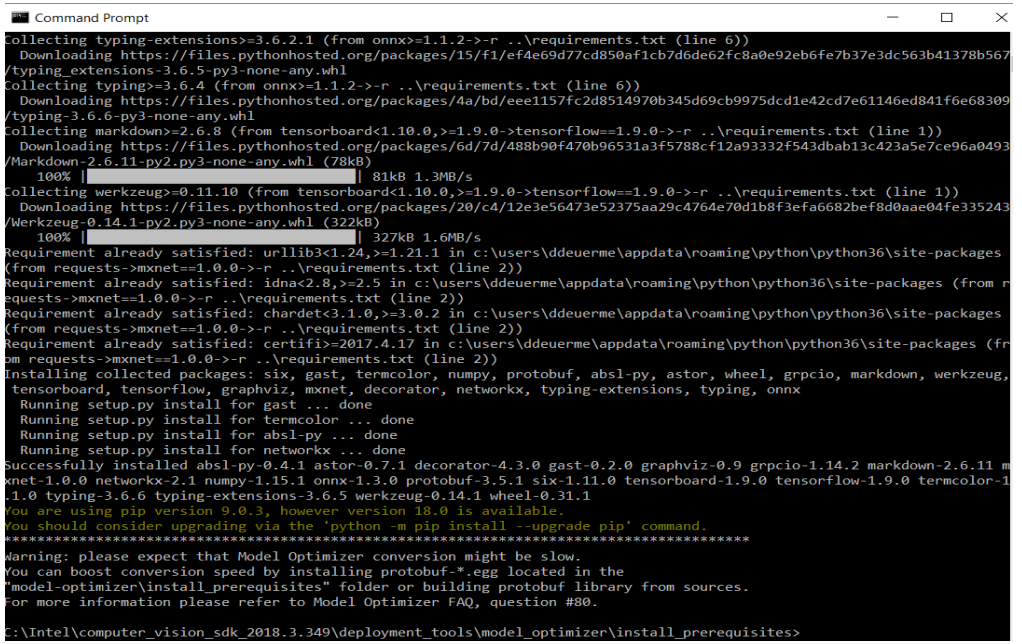
5. OpenVINO 환경설정

2. **Configure the Model Optimizer** 단계입니다.
아래 경로로 들어가서 install_prerequisites.bat을 해줍니다.

모든 frameworks 를 한번에
환경설정해주는 코드

```
cd C:/Program Files (x86)/IntelSWTools/openvino/deployment_tools/model_optimizer/install_prerequisites/
install_prerequisites.bat
```

- Model Optimizer은 OpenVINO의 가장 중요한 component 입니다.
- Model Optimizer 없이는 trained model 을 이용해 추론을 할 수 없습니다.
- Model Optimizer를 통해 pre-trained된 model을 실행시키면 output으로 IR 파일이 나옵니다. (xml, bin)
- .xml : Describes network topology
- .bin : Contains weights, biases
- Model Optimizer은 “mo.py” 라는 파이썬 기반의 명령 툴이고, 이를 통해 Inference Engine 이 사용할 수 있는 IR forma으로 학습된 모델을 convert 해줍니다.



THANK YOU