

# **Lab 4**

## **Secure Coding Lab**

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19BCN7117

# Python script to print hello world

```
C:\Users\user>cd Desktop
```

```
C:\Users\user\Desktop>python 19bcn7117.py  
Hello World 19BCN7117
```

## Converting the script into exe file

```
cmd Command Prompt

C:\Users\user\Desktop>pip install pyinstaller
Collecting pyinstaller
  Downloading pyinstaller-4.2.tar.gz (3.6 MB)
    | 3.6 MB 939 kB/s
  Installing build dependencies ... done
  Getting requirements to build wheel ... done
  Preparing wheel metadata ... done
Requirement already satisfied: setuptools in c:\users\user\appdata\local\programs\python\python36\lib\site-packages (from pyinstaller) (39.0.1)
Collecting importlib-metadata
  Downloading importlib_metadata-3.7.0-py3-none-any.whl (11 kB)
Collecting altgraph
  Downloading altgraph-0.17-py2.py3-none-any.whl (21 kB)
Collecting pefile==2017.8.1
  Downloading pefile-2019.4.18.tar.gz (62 kB)
    | 62 kB 322 kB/s
Collecting pywin32-ctypes==0.2.0
  Downloading pywin32-ctypes-0.2.0-py2.py3-none-any.whl (28 kB)
Collecting pyinstaller-hooks-contrib==2020.6
  Downloading pyinstaller-hooks-contrib-2020.11-py2.py3-none-any.whl (172 kB)
    | 172 kB 1.7 MB/s
Collecting future
  Downloading future-0.18.2.tar.gz (829 kB)
    | 829 kB 1.7 MB/s
Collecting zipp==0.5
  Downloading zipp-3.4.1-py3-none-any.whl (5.2 kB)
Collecting typing-extensions==3.6.4
  Downloading typing_extensions-3.7.4.3-py3-none-any.whl (22 kB)
Using legacy 'setup.py install' for pefile, since package 'wheel' is not installed.
Using legacy 'setup.py install' for future, since package 'wheel' is not installed.
Building wheels for collected packages: pyinstaller
  Building wheel for pyinstaller (PEP 517) ... done
  Created wheel for pyinstaller: filename=pyinstaller-4.2-py3-none-any.whl size=2413076 sha256=7b2dc8870ffe27820cf800970e4f503e88fc04db6f0df018b85e4977df39fccb
  Stored in directory: c:\users\user\appdata\local\pip\cache\wheels\b1\17\ed\959da2734eb4be77422a2a042ed6c77a0ba812f45623b6c56
Successfully built pyinstaller
Installing collected packages: zipp, typing-extensions, future, pywin32-ctypes, pyinstaller-hooks-contrib, pefile, importlib-metadata, altgraph, pyinstaller
  Running setup.py install for future ... done
  Running setup.py install for pefile ... done
Successfully installed altgraph-0.17 future-0.18.2 importlib-metadata-3.7.0 pefile-2019.4.18 pyinstaller-4.2 pyinstaller-hooks-contrib-2020.11 pywin32-ctypes-0.2.0 typing-extensions-3.7.4.3 zipp-3.4.1

C:\Users\user\Desktop>pyinstaller 19bcn7117.py
272 INFO: PyInstaller: 4.2
273 INFO: Python: 3.6.6
274 INFO: Platform: Windows-10-10.0.19041-SP0
275 INFO: wrote C:\Users\user\Desktop\19bcn7117.spec
279 INFO: UPX is not available.
286 INFO: Extending PYTHONPATH with paths
['C:\Users\user\Desktop', 'C:\Users\user\Desktop']
309 INFO: checking Analysis
312 INFO: Building Analysis because Analysis-00.toc is non-existent
309 INFO: Initializing module dependency graph...
312 INFO: Caching module graph hooks...
324 WARNING: Several hooks defined for module 'win32ctypes.core'. Please take care they do not conflict.
320 INFO: Analyzing base_library.zip ...
5195 INFO: Caching module dependency graph...
5286 INFO: running Analysis Analysis-00.toc
5305 INFO: Adding Microsoft.Windows.Common-Controls to dependent assemblies of final executable
required by c:\users\user\appdata\local\programs\python\python36\python.exe
5993 INFO: Analyzing C:\Users\user\Desktop\19bcn7117.py
5996 INFO: Processing module hooks...
5997 INFO: Loading module hook 'hook-difflib.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
6002 INFO: Excluding import of doctest from module difflib
6003 INFO: Loading module hook 'hook-encodings.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
6005 INFO: Loading module hook 'hook-heapq.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
6007 INFO: Excluding import of doctest from module heapq
6008 INFO: Loading module hook 'hook-pickle.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
6103 INFO: Excluding import of argparse from module pickle
6104 INFO: Loading module hook 'hook-xml.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
6451 INFO: Looking for ctypes DLLs
6452 INFO: Analyzing run-time hooks ...
6460 INFO: Looking for dynamic libraries
6563 INFO: Looking for eggs
6563 INFO: Using Python library c:\users\user\appdata\local\programs\python\python36\python36.dll
6565 INFO: Found binding redirects:
[]
6575 INFO: Warnings written to C:\Users\user\Desktop\build\19bcn7117\warn-19bcn7117.txt
6619 INFO: Graph cross-reference written to C:\Users\user\Desktop\build\19bcn7117\xref-19bcn7117.html
6643 INFO: checking PYZ
6644 INFO: Building PYZ because PYZ-00.toc is non-existent
6644 INFO: Building PYZ (ZlibArchive) C:\Users\user\Desktop\build\19bcn7117\PYZ-00.pyz
6662 INFO: Building PYZ (ZlibArchive) C:\Users\user\Desktop\build\19bcn7117\PYZ-00.pyz completed successfully.
7082 INFO: checking PKG
7082 INFO: Building PKG because PKG-00.toc is non-existent
7082 INFO: Building PKG (CArchive) PKG-00.pkg
7116 INFO: Building PKG (CArchive) PKG-00.pkg completed successfully.
7118 INFO: Bootloader c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\bootloader\Windows-64bit\run.exe
7119 INFO: checking EXE
7127 INFO: Building EXE because EXE-00.toc is non-existent
7127 INFO: Building EXE from EXE-00.toc
```

Activate Windows  
Go to Settings to activate Windows.

```
cmd Command Prompt

C:\Users\user\Desktop>pyinstaller 19bcn7117.py
272 INFO: PyInstaller: 4.2
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7119 INFO: checking EXE
7127 INFO: Building EXE because EXE-00.toc is non-existent
7127 INFO: Building EXE from EXE-00.toc
```

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```
cs: Command Prompt
5305 INFO: Adding Microsoft.Windows.Common-Controls to dependent assemblies of final executable
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5993 INFO: Analyzing C:\Users\user\Desktop\19bcn7117.py
5996 INFO: Processing module hooks...
5997 INFO: Loading module hook 'hook-difflib.py' from 'c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\hooks'...
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6006 INFO: Looking for ctypes DLLs
6007 INFO: Analyzing run-time hooks ...
6008 INFO: Looking for dynamic libraries
6009 INFO: Looking for ezes
6010 INFO: Using Python library c:\users\user\appdata\local\programs\python\python36\python36.dll
6011 INFO: Found binding redirects:
[]
6012 INFO: Warnings written to C:\Users\user\Desktop\build\19bcn7117\warn-19bcn7117.txt
6013 INFO: Graph cross-reference written to C:\Users\user\Desktop\build\19bcn7117\xref-19bcn7117.html
6014 INFO: checking PVZ
6015 INFO: Building PVZ because PVZ-00.toc is non-existent
6016 INFO: Building PVZ (ZlibArchive) C:\Users\user\Desktop\build\19bcn7117\PVZ-00.pyz
6017 INFO: Building PVZ (ZlibArchive) C:\Users\user\Desktop\build\19bcn7117\PVZ-00.pyz completed successfully.
6018 INFO: checking PKG
6019 INFO: Building PKG because PKG-00.toc is non-existent
6020 INFO: Building PKG (CArchive) PKG-00.pkg
6021 INFO: Building PKG (CArchive) PKG-00.pkg completed successfully.
6022 INFO: Bootloader c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\bootloader\Windows-64bit\run.exe
6023 INFO: checking EXE
6024 INFO: Building EXE because EXE-00.toc is non-existent
6025 INFO: Building EXE from EXE-00.toc
6026 INFO: Copying icons from ['c:\users\user\appdata\local\programs\python\python36\lib\site-packages\PyInstaller\bootloader\images\icon-console.ico']
6027 INFO: Writing RT_GROUP_ICON 0 resource with 104 bytes
6028 INFO: Writing RT_ICON 1 resource with 3752 bytes
6029 INFO: Writing RT_ICON 2 resource with 2216 bytes
6030 INFO: Writing RT_ICON 3 resource with 1384 bytes
6031 INFO: Writing RT_ICON 4 resource with 37819 bytes
6032 INFO: Writing RT_ICON 5 resource with 9640 bytes
6033 INFO: Writing RT_ICON 6 resource with 4264 bytes
6034 INFO: Writing RT_ICON 7 resource with 1128 bytes
6035 INFO: Appending archive to EXE c:\users\user\Desktop\build\19bcn7117\19bcn7117.exe
6036 INFO: Building EXE from EXE-00.toc completed successfully.
6037 INFO: checking COLLECT
6038 INFO: Building COLLECT because COLLECT-00.toc is non-existent
6039 INFO: Building COLLECT COLLECT-00.toc
6040 INFO: Building COLLECT COLLECT-00.toc completed successfully.
C:\Users\user\Desktop>
```

## Scheduling a task name “Python Execution on the first monday of every month

```
cs: Command Prompt
8624 INFO: Building COLLECT COLLECT-00.toc completed successfully.

C:\Users\user\Desktop>schtasks /create /sc MONTHLY /D MON /TN "Python Execution" /TR "19bcn7117.exe" /ST 14:00
ERROR: Invalid value for /D option.
Type "SCHTASKS /CREATE /?" for usage.

C:\Users\user\Desktop>schtasks /create /sc MONTHLY /D MONDAY /TN "Python Execution" /TR "19bcn7117.exe" /ST 14:00
ERROR: Invalid value for /D option.
Type "SCHTASKS /CREATE /?" for usage.
```

## Scheduling a task named executor to run a calculator every 5 minutes from the start time

```
cs: Command Prompt

C:\Users\user>schtasks /create /sc minute /mo 5 /tn "Executor" /tr "Calculator.exe" /st 14:00
SUCCESS: The scheduled task "Executor" has successfully been created.

C:\Users\user>
```

## Scheduling a task named executor2 to run a notepad at 5pm and then termination at 5.40pm

```
Command Prompt
C:\Users\user>schtasks /create /sc daily /tn "Executor2" /tr "notepad.exe" /st 17:00 /et 17:40
SUCCESS: The scheduled task "Executor2" has successfully been created.

C:\Users\user>
```

## Defragmenting a disk

```
C:\Users\user>schtasks /create /sc daily /tn "Defragment F disk" /tr "defrag.exe F"
SUCCESS: The scheduled task "Defragment F disk" has successfully been created.

C:\Users\user>
```

## Attrib Commands

+r = This assigns the read-only file attribute to the file or directory.

-r = This removes the read-only attribute.

+s = This assigns the system file attribute to the file or directory.

-s = This removes the system attribute.

+h = This assigns the hidden file attribute to the file or directory.

-h = This removes the hidden attribute.

+c = This assigns the compressed file attribute to the file or directory.

-c = This removes the compressed attribute.

```
C:\Users\user>cd..

C:\Users>cd..

C:\>attrib
A                C:\.log
A SH             C:\DumpStack.log
A SH             C:\DumpStack.log.tmp
A SH I          C:\hiberfil.sys
A SH             C:\pagefile.sys
A SH             C:\swapfile.sys
```

## Clearing recycle bin

```
C:\>rmdir /s %systemdrive%\$Recycle.bin
C:\$Recycle.bin, Are you sure (Y/N)? y
C:\$Recycle.bin\S-1-5-18 - Access is denied.
C:\$Recycle.bin\S-1-5-~1 - Access is denied.
Access is denied.
```

## Powercfg

Used to manage and track the computer's energy

```
C:\Users\user>powercfg /energy
This command requires administrator privileges and must be executed from an elevated command prompt.

C:\Users\user>_
```

```
C:\Users\user>powercfg /lastwake
Wake History Count - 1
Wake History [0]
    Wake Source Count - 0

C:\Users\user>_
```

```
C:\Users\user>powercfg /hibernate on
This command requires administrator privileges and must be executed from an elevated command prompt.

C:\Users\user>powercfg /hibernate off
This command requires administrator privileges and must be executed from an elevated command prompt.

C:\Users\user>_
```

```
C:\Users\user>powercfg /a
```

```
The following sleep states are available on this system:
```

```
Standby (S3)
```

```
Hibernate
```

```
Hybrid Sleep
```

```
Fast Startup
```

```
The following sleep states are not available on this system:
```

```
Standby (S1)
```

```
    The system firmware does not support this standby state.
```

```
Standby (S2)
```

```
    The system firmware does not support this standby state.
```

```
Standby (S0 Low Power Idle)
```

```
    The system firmware does not support this standby state.
```

```
C:\Users\user>
```

C:\ Command Prompt

```
C:\Users\user>powercfg /devicequery s1_supported
USB Root Hub (USB 3.0)
Microsoft Print to PDF
Root Print Queue
Volume Manager
WAN Miniport (PPPOE)
Microsoft Basic Display Driver
TAP-Windows Adapter V9
WAN Miniport (PPTP)
Fax
Microsoft Hyper-V Virtualization Infrastructure Driver
WAN Miniport (IKEv2)
Composite Bus Enumerator
Microsoft Virtual Drive Enumerator
Microsoft Storage Spaces Controller
Microsoft Bluetooth LE Enumerator
Microsoft Kernel Debug Network Adapter
Stereo Mix (Realtek High Definition Audio)
Microsoft Wi-Fi Direct Virtual Adapter
Microsoft Wi-Fi Direct Virtual Adapter #2
Intel(R) Graphics Command Center
USB Root Bus Enumerator
Charge Arbitration Driver
Microphone Array (Realtek High Definition Audio)
ACPI x64-based PC
WAN Miniport (Network Monitor)
WAN Miniport (IP)
Microsoft Basic Render Driver
WAN Miniport (SSTP)
Microsoft Bluetooth Enumerator
Generic PnP Monitor (002)
Bluetooth Device (RFCOMM Protocol TDI)
Bluetooth Device (Personal Area Network)
Intel(R) Graphics Control Panel
OneNote (Desktop)
OneNote for Windows 10
NVIDIA Virtual Audio Device (Wave Extensible) (WDM)
NVVHCI Enumerator
NDIS Virtual Network Adapter Enumerator
Intel(R) Wireless Bluetooth(R)
Microsoft System Management BIOS Driver
Microsoft XPS Document Writer
Plug and Play Software Device Enumerator
Remote Desktop Device Redirector Bus
PDFescape Desktop
WAN Miniport (IPv6)
Speaker/Headphone (Realtek High Definition Audio)
WAN Miniport (L2TP)
```