

# **Information and Network Security**

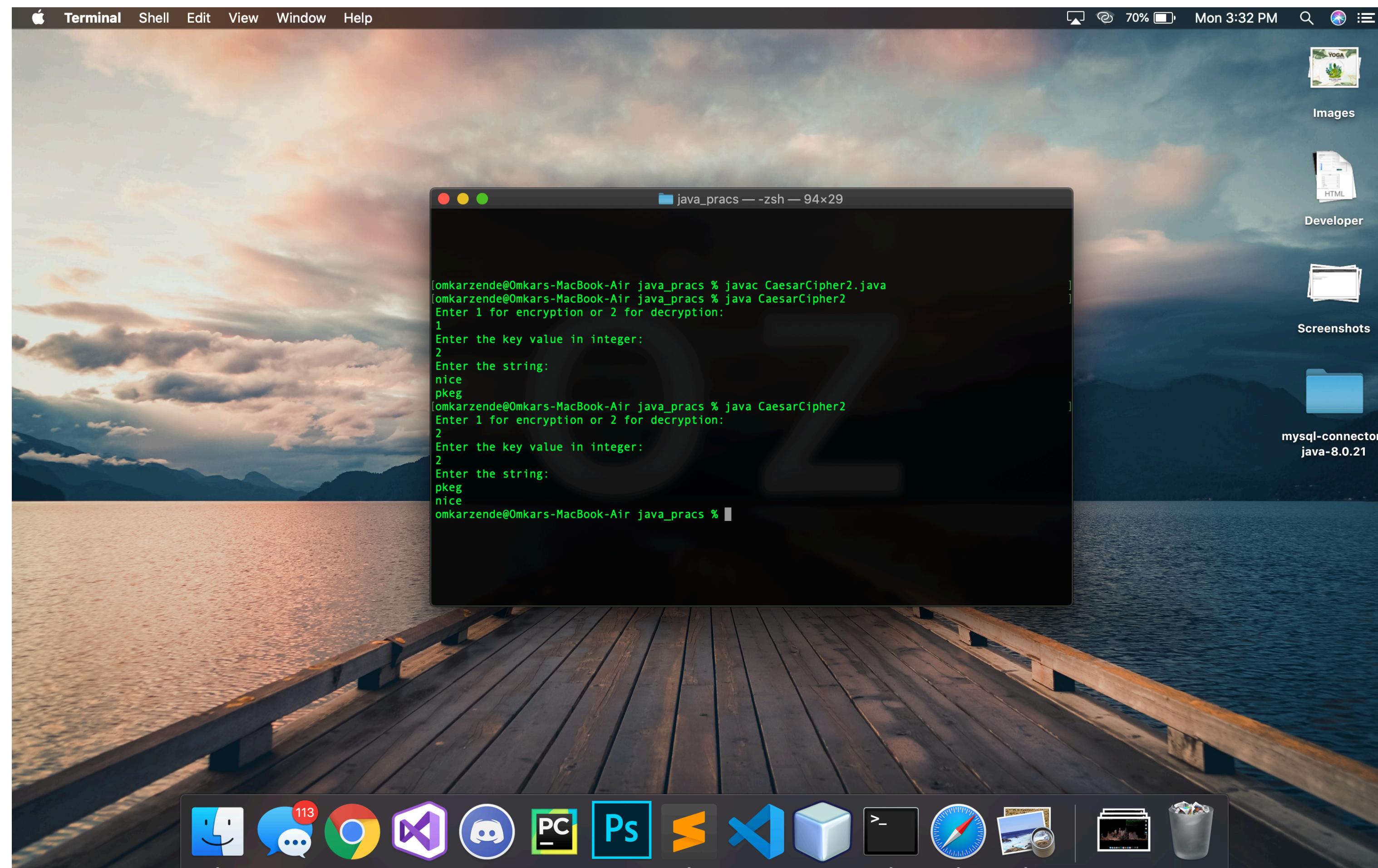
**Name - Omkar Zende  
Roll no. - 1065**

# Practical - 1

# Aim -

- Write programs to implement the following Substitution Cipher Tech

  - Caesar Cipher
  - Monoalphabetic Cipher





# Practical - 2

**Aim -** Write programs to implement the following Substitution Cipher Tech

- Vernam Cipher
- Playfair Cipher





# Practical 3

**Aim -** Write programs to implement the following Transposition Cipher Tech

- Rail Fence Cipher
- Simple Columnar Technique





# Practical - 4

## Aim -

- Write programs to encrypt and decrypt strings using
  - DES Algorithm
  - AES Algorithm



# Practical - 5

**Aim -** Write string a program to implement RSA algorithm to perform encryption / decryption of a given.



# Practical - 6

**Aim** - Write a program to implement the Diffie-Hellman Key Agreement algorithm to generate symmetric keys.



# Practical - 7

**Aim -** Write a program to implement the MD5 algorithm compute the message digest.



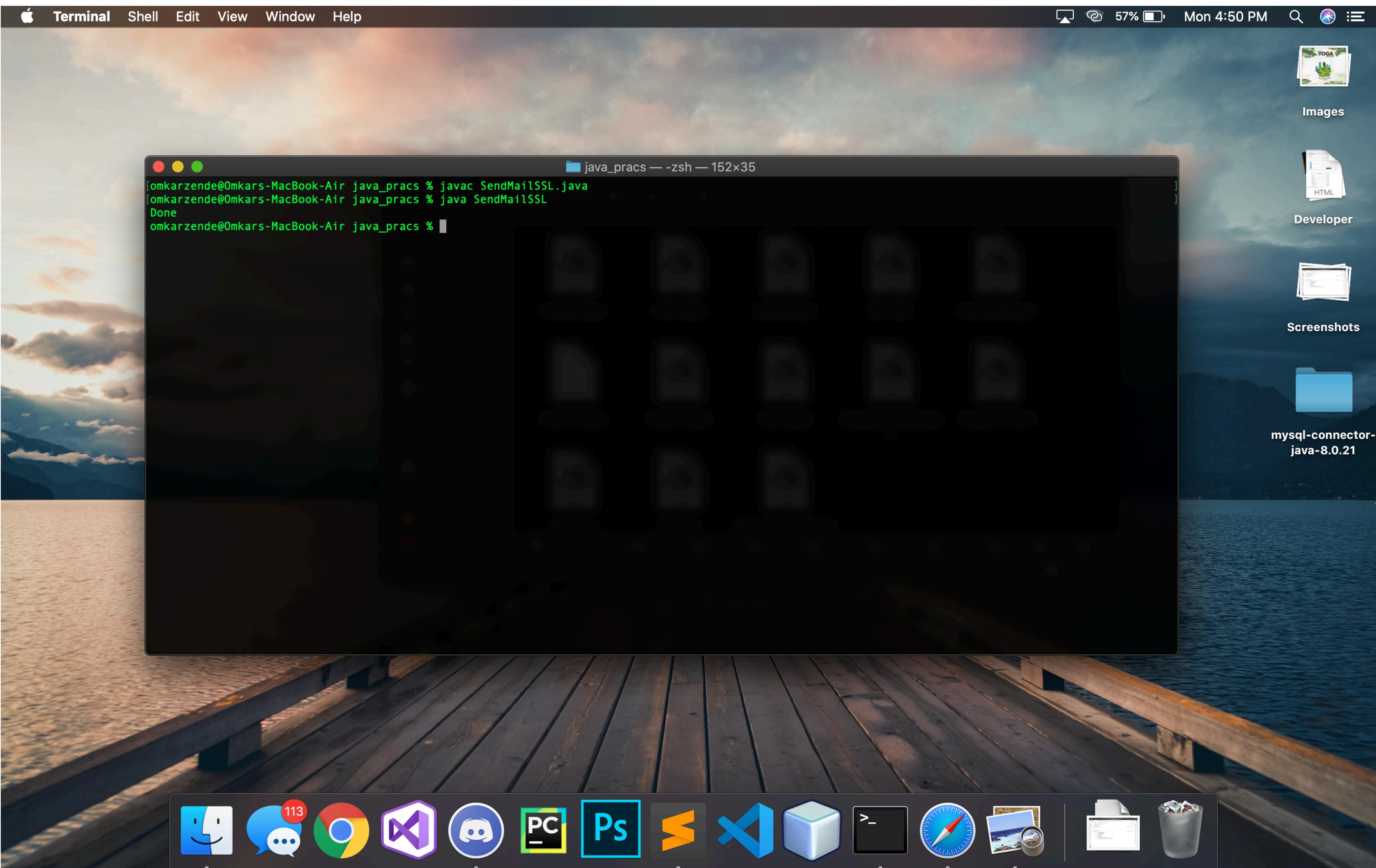
# Practical - 8

Aim - Write a program to calculate HMAC-SHA1 Signature



# Practical - 9

# Aim - Write a program to implement SSL



mail.google.com

Re-posting all INS practical documentation for reference

Testing Subject - astleribeiro@gmail.com - Gmail

INS Practical File Submission

Gmail Search mail

1 of 1,554

4:44 PM (4 minutes ago)

Hi

astleribeiro1912@gmail.com to me

from: astleribeiro1912@gmail.com  
to: astleribeiro@gmail.com  
date: Oct 19, 2020, 4:47 PM  
subject: Testing Subject  
mailed-by: gmail.com  
signed-by: gmail.com  
security: Standard encryption (TLS) [Learn more](#)

Important mainly because you often read messages with this label.

OPEN FILES

DESEncryption.java AESEncryption.java Sample.java Diffie\_Hellman.java JavaMD5Hash.java HmacSha1Signature.java SendMailSSL.java

1 import java.util.Properties;  
2 import javax.mail.Message;  
3 import javax.mail.MessagingException;  
4 import javax.mail.PasswordAuthentication;  
5 import javax.mail.Session;  
6 import javax.mail.Transport;  
7 import javax.mail.internet.InternetAddress;  
8 import javax.mail.internet.MimeMessage;  
9 public class SendMailSSL {  
10 public static void main(String[] args) {  
11 Properties props = new Properties();  
12 props.put("mail.smtp.host", "smtp.gmail.com");  
13 props.put("mail.smtp.socketFactory.port", "465");  
14 props.put("mail.smtp.socketFactory.class",  
15 "javax.net.ssl.SSLSocketFactory");  
16 props.put("mail.smtp.auth", "true");  
17 props.put("mail.smtp.port", "465");  
18 Session session = Session.getDefaultInstance(props,  
19 new javax.mail.Authenticator() {  
20 protected PasswordAuthentication  
21 getPasswordAuthentication() {  
22 return new  
23 PasswordAuthentication("astleribeiro1912@gmail.com", "astle@wifey");  
24 }  
25 };  
26 );  
27 try {  
28 Message message = new MimeMessage(session);  
29 message.setFrom(new InternetAddress("astleribeiro1912@gmail.com"));  
30 message.setRecipients(Message.RecipientType.TO,  
31 InternetAddress.parse("astleribeiro@gmail.com"));  
32 message.setSubject("Testing Subject");  
33 message.setText("Hi");  
34 Transport.send(message);  
35 System.out.println("Done");  
36 } catch (MessagingException e) {  
37 throw new RuntimeException(e);  
38 }  
39 }  
40 }

Line 22, Column 30

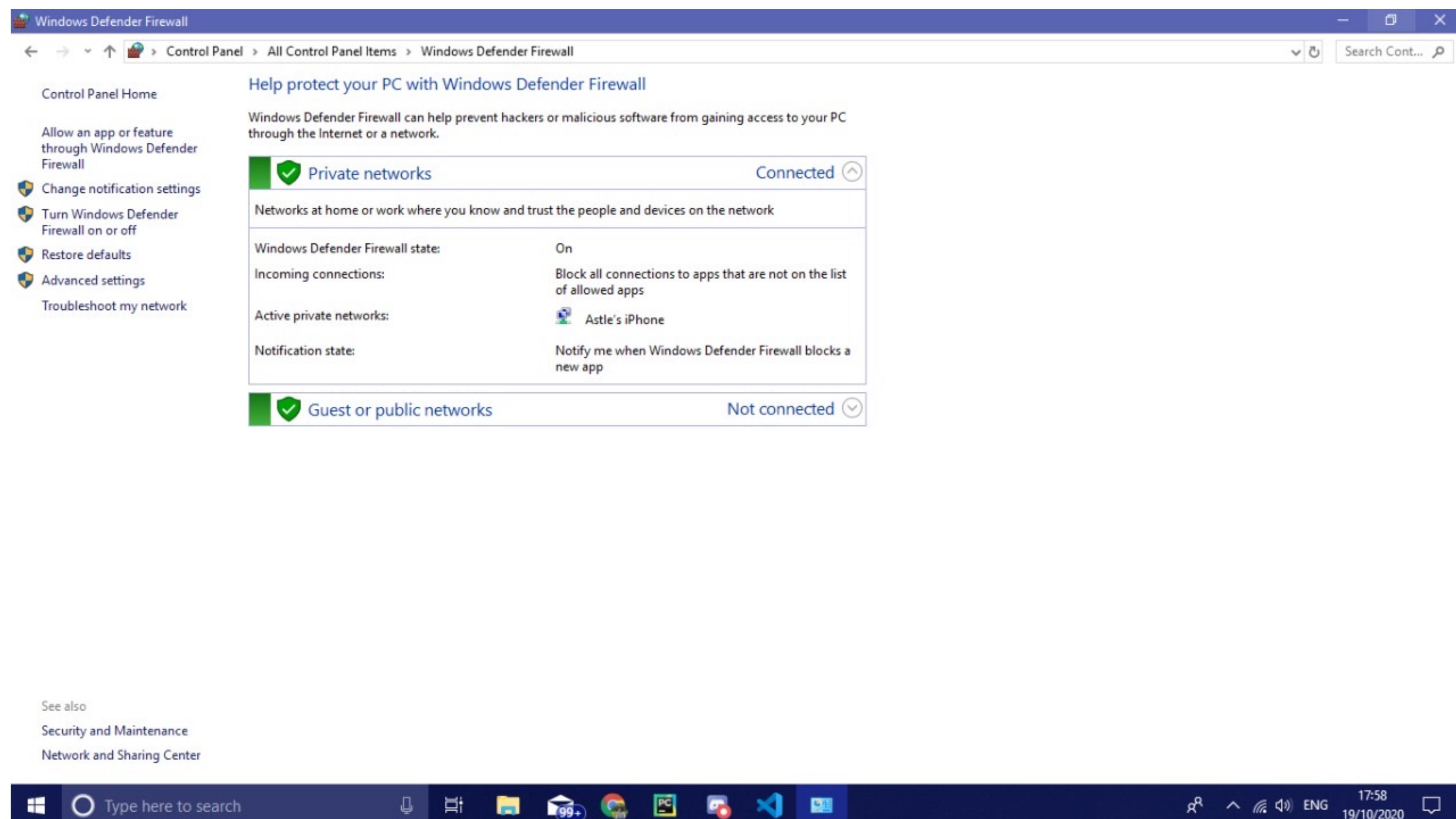
UTF-8 Spaces: 4 Java

# Practical - 10

# Aim -

- # Configure Windows Firewall to block

  - A port
  - A Program
  - A website



# A Port

Windows Defender Firewall with Advanced Security

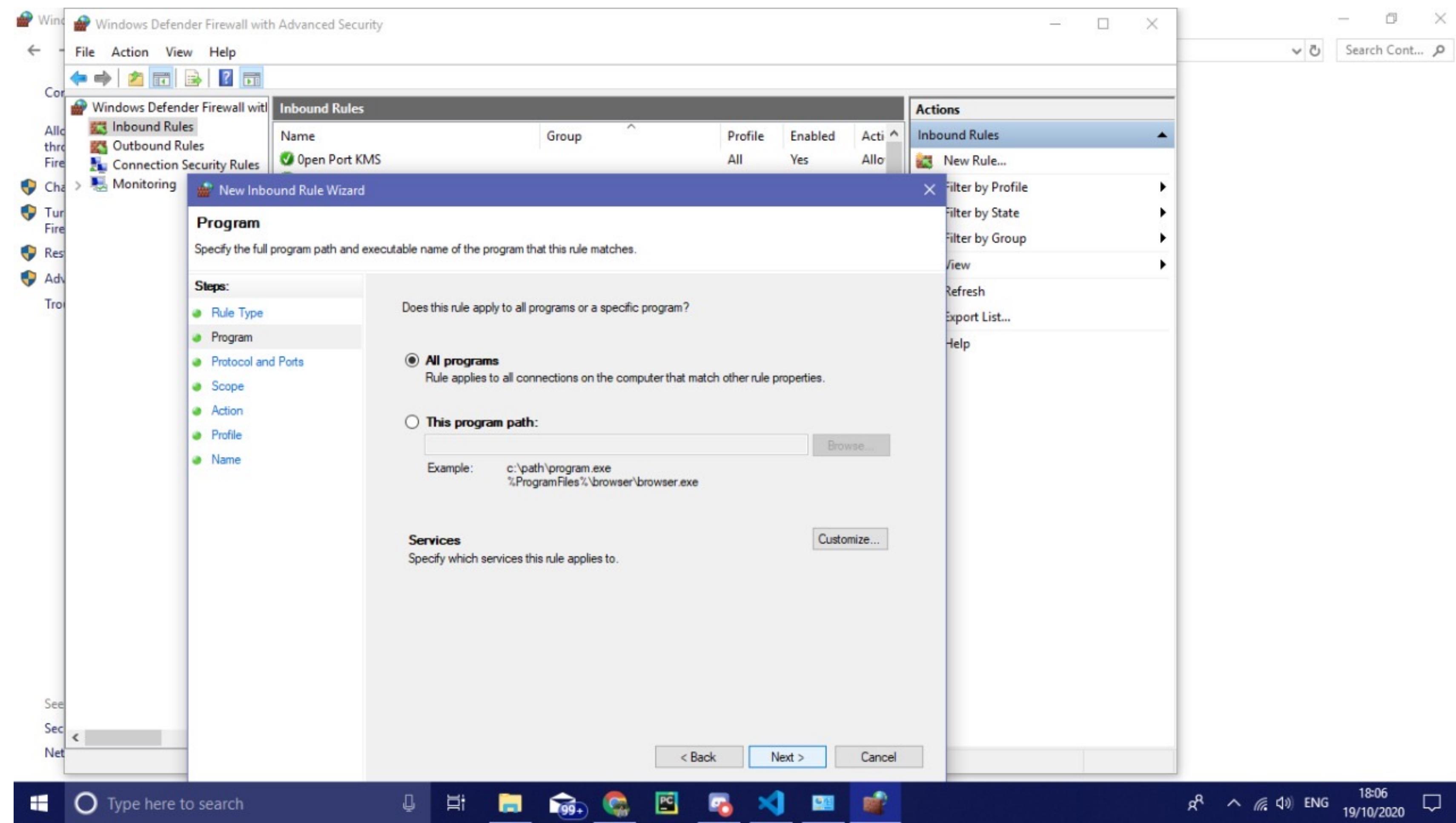
File Action View Help

Inbound Rules

Actions

Name	Group	Profile	Enabled	Action	Override	Program	Local Address	Remote
Open Port KMS	All	Yes	Allow	No	Any	Any	Any	Any
Admin Console Chat	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
Admin Console Chat	Public	Yes	Allow	No	C:\Progr...	Any	Any	Any
Admin Console Chat	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
Admin Console Chat	Public	Yes	Allow	No	C:\Progr...	Any	Any	Any
AnyDesk	Domain	Yes	Allow	No	C:\Progr...	Any	Any	Any
AnyDesk	Domain	Yes	Allow	No	C:\Progr...	Any	Any	Any
AnyDesk	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
AnyDesk	Public	Yes	Allow	No	C:\Progr...	Any	Any	Any
AnyDesk	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
anydesk.exe	Private	Yes	Allow	No	C:\users\...	Any	Any	Any
anydesk.exe	Private	Yes	Allow	No	C:\users\...	Any	Any	Any
Apache HTTP Server	Public	Yes	Allow	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Private	Yes	Allow	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Public	Yes	Allow	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Public	Yes	Allow	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Private	Yes	Allow	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Private	Yes	Block	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Private	Yes	Block	No	C:\xamp...	Any	Any	Any
Apache HTTP Server	Public	Yes	Allow	No	C:\xamp...	Any	Any	Any
BlueStacks Service	All	Yes	Allow	No	C:\Progr...	Any	Any	Any
Bonjour Service	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
Bonjour Service	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
Bonjour Service	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
Bonjour Service	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
check445_eps	Public	Yes	Allow	No	C:\Progr...	Any	Any	Any
check445_eps	Public	Yes	Allow	No	C:\Progr...	Any	Any	Any
check445_eps	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any
check445_eps	Private	Yes	Allow	No	C:\Progr...	Any	Any	Any

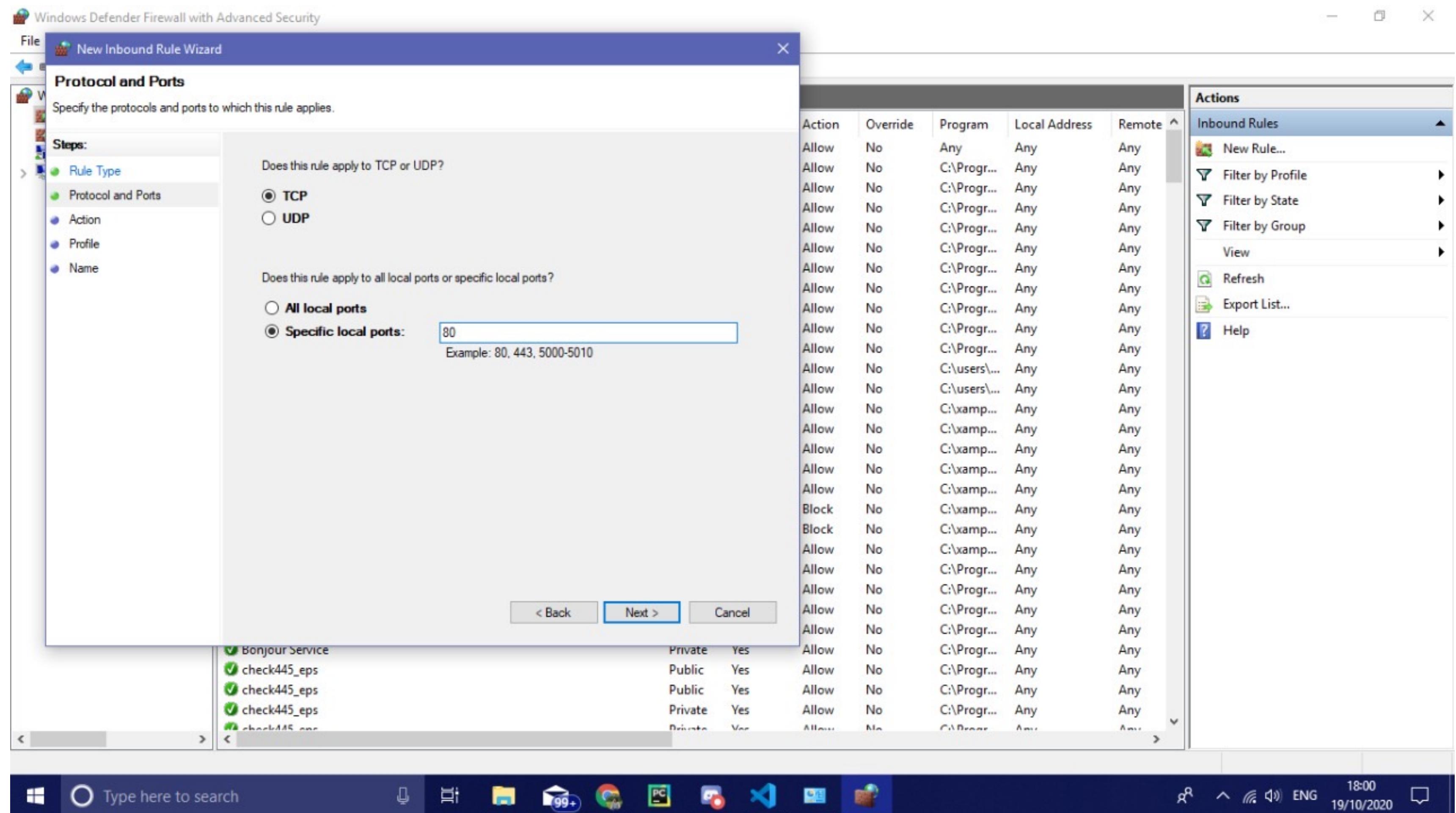
Type here to search 18:00 19/10/2020

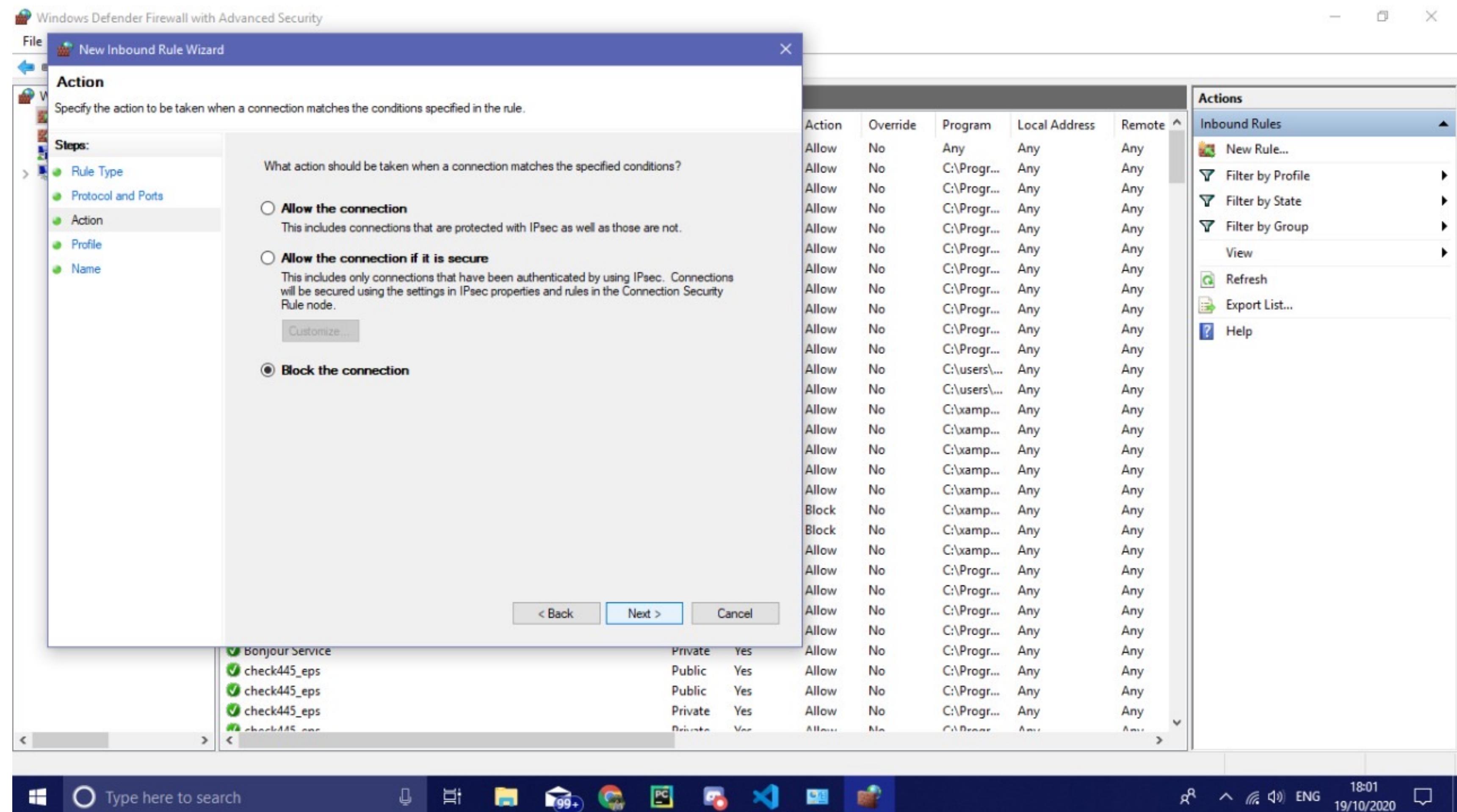


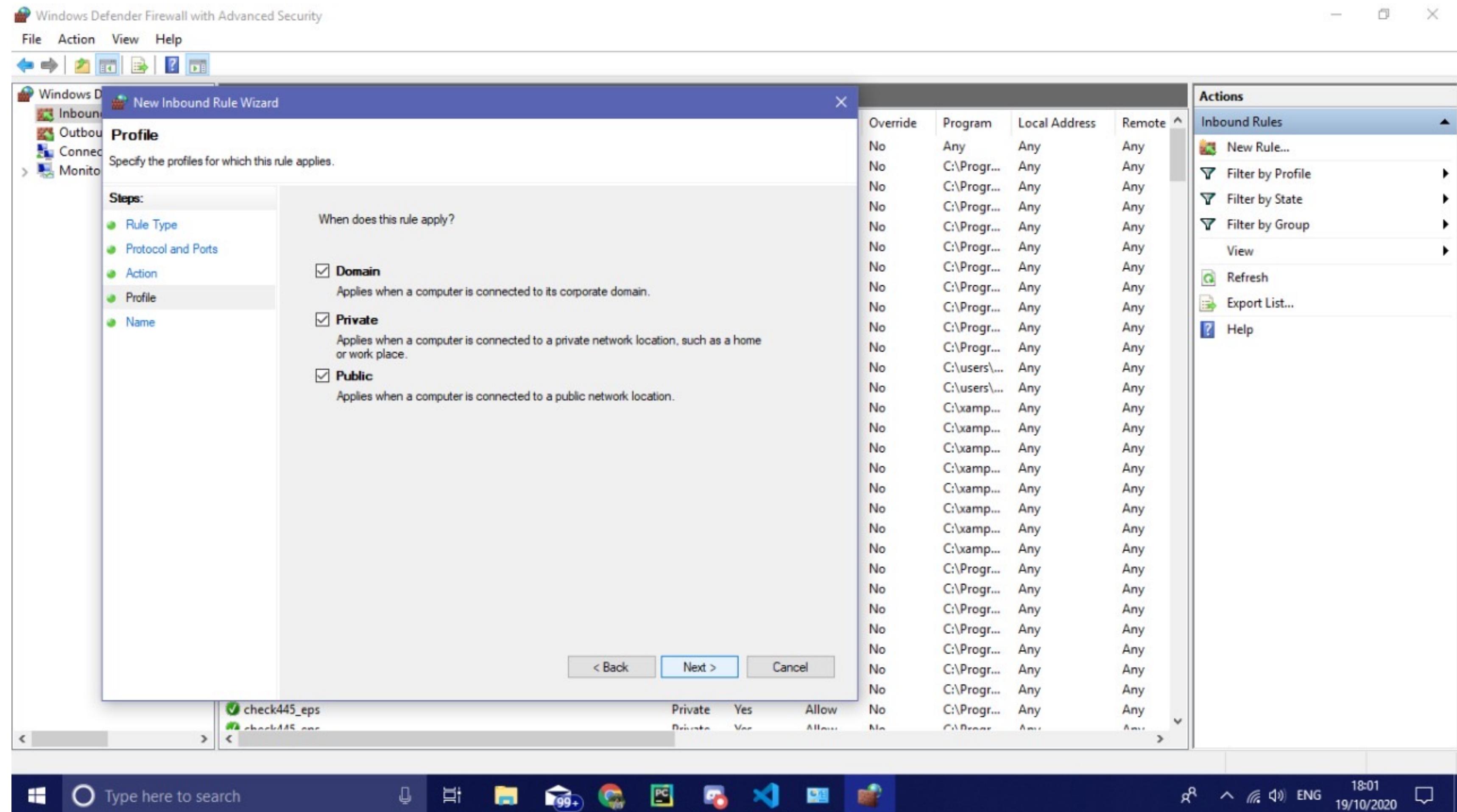
Type here to search



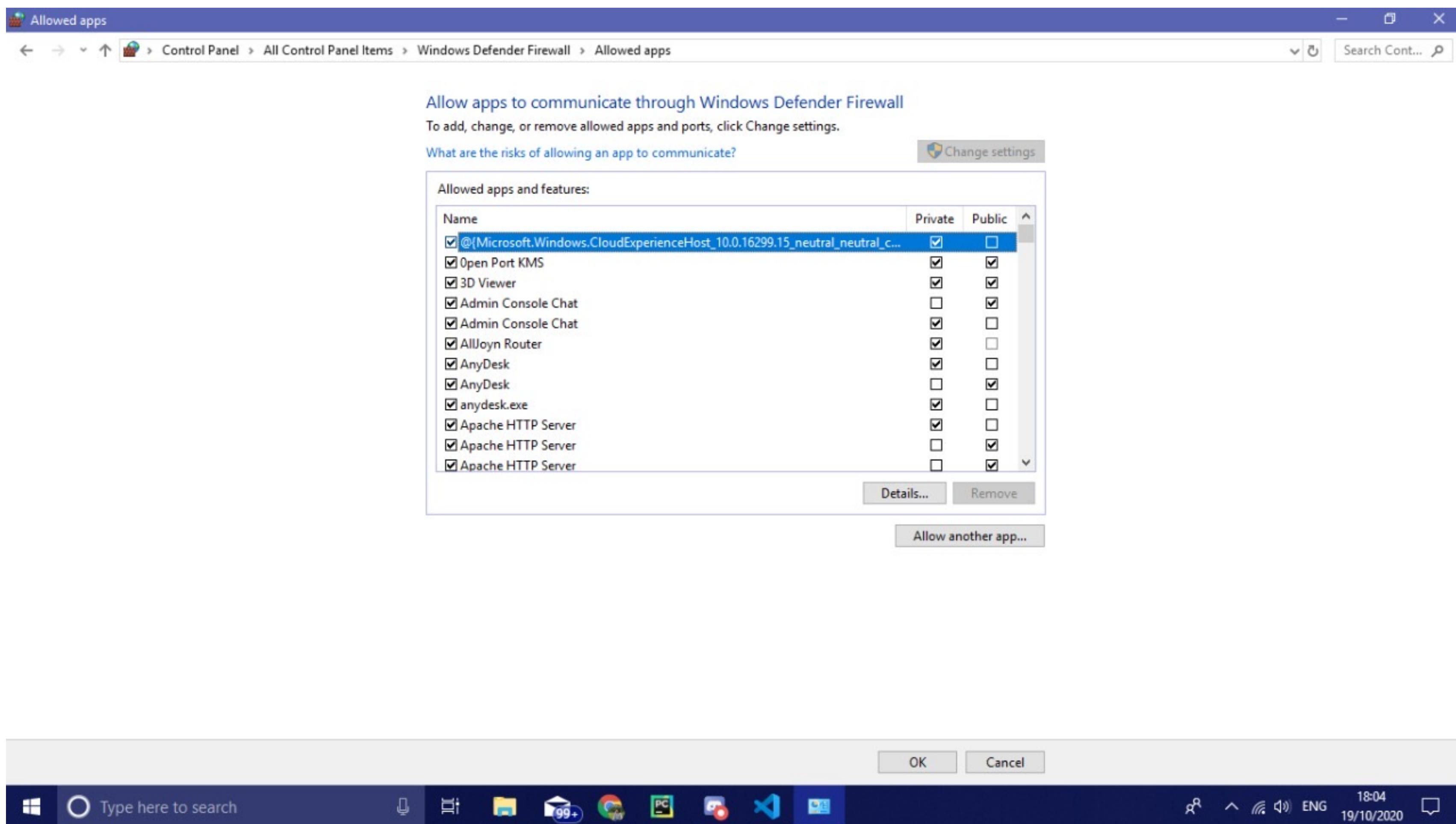
18:06 ENG 19/10/2020



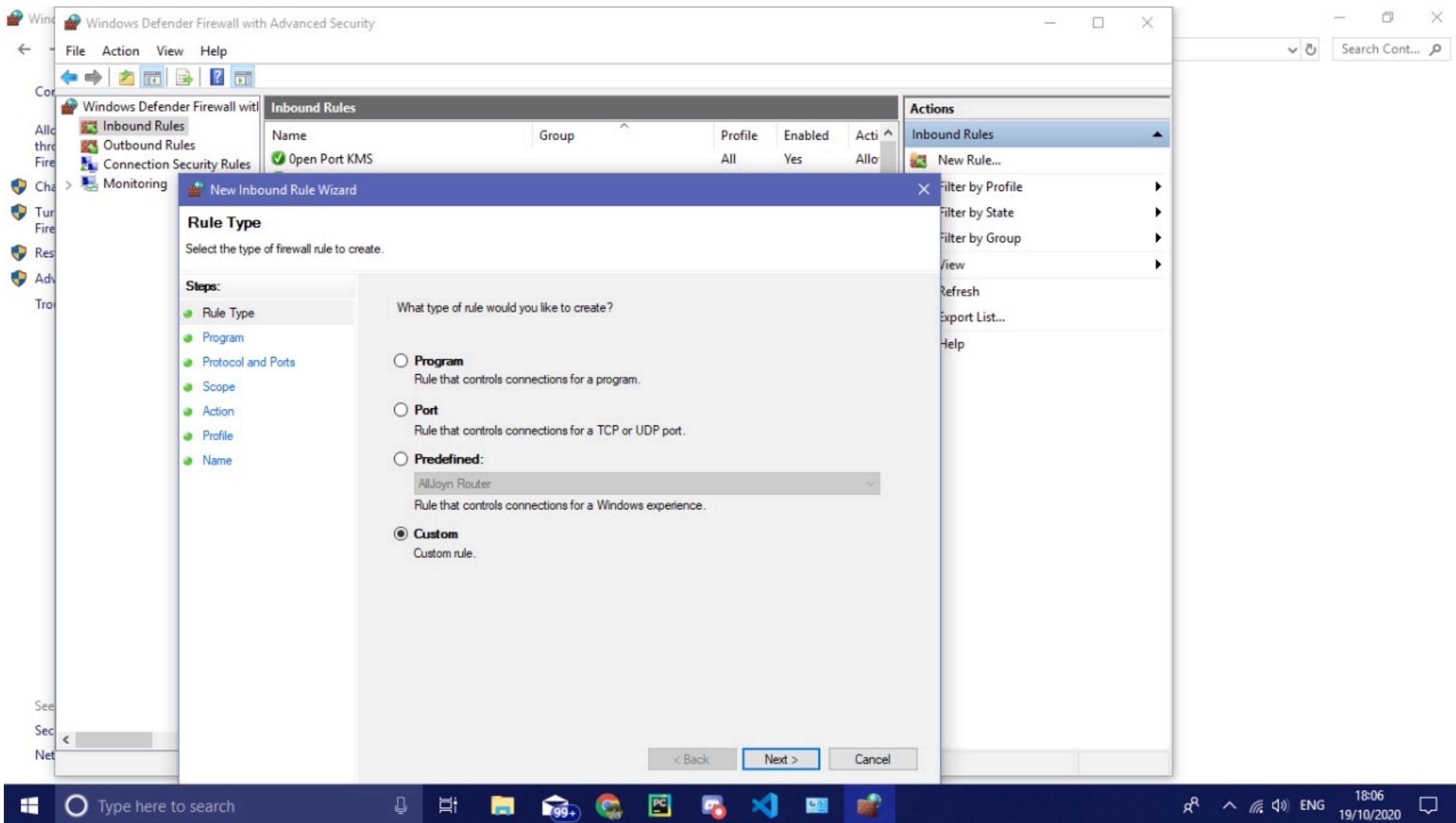


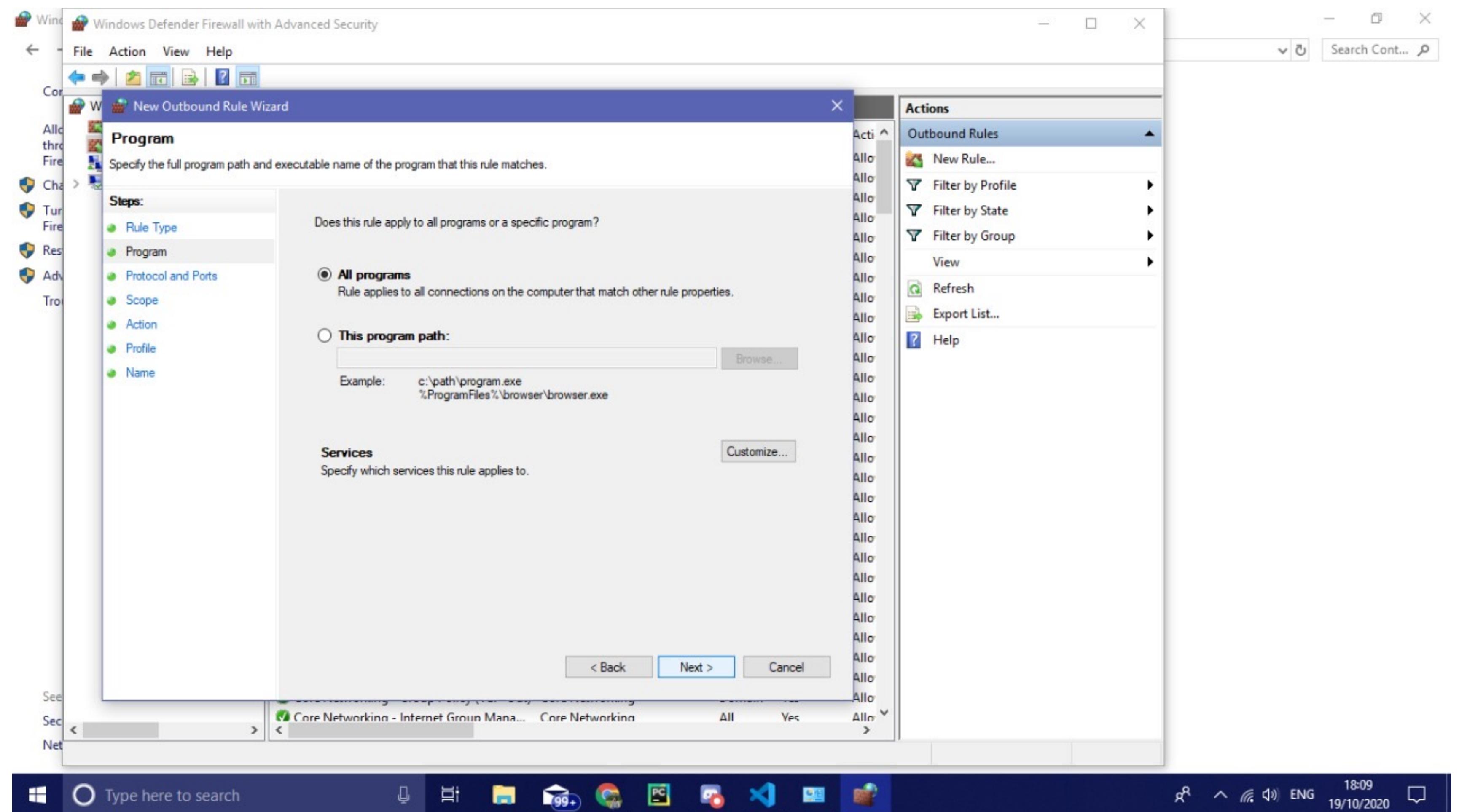


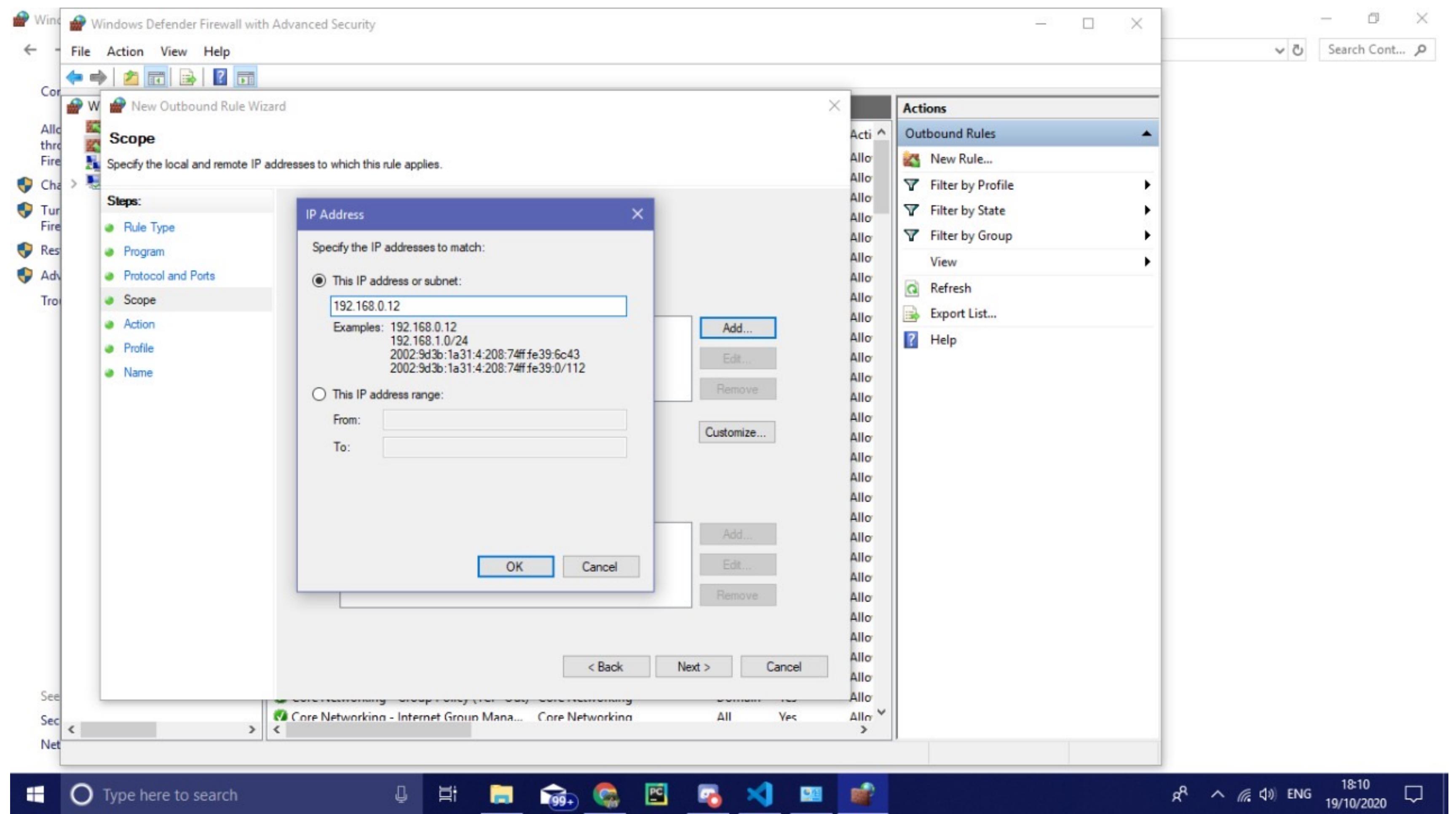
# A Program

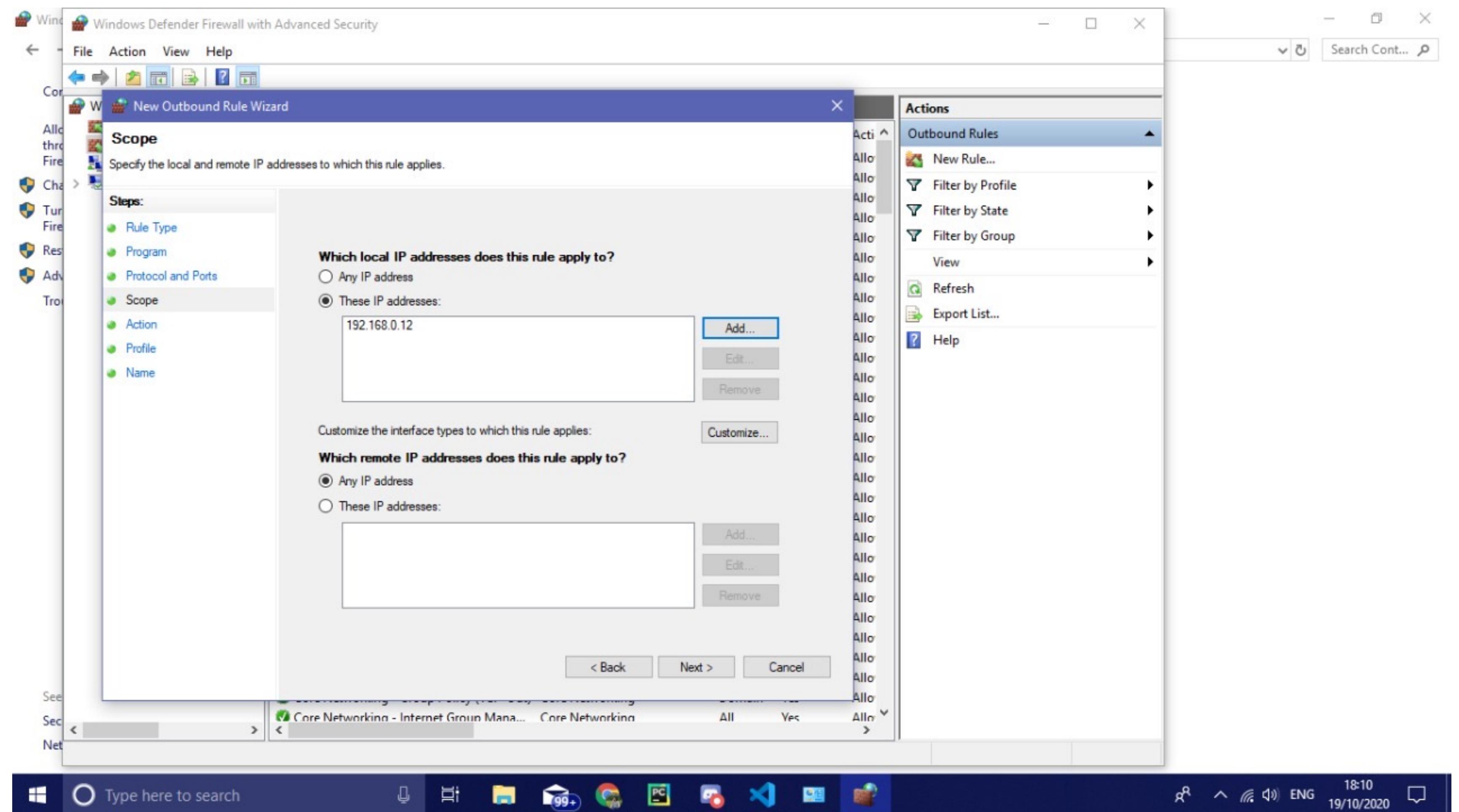


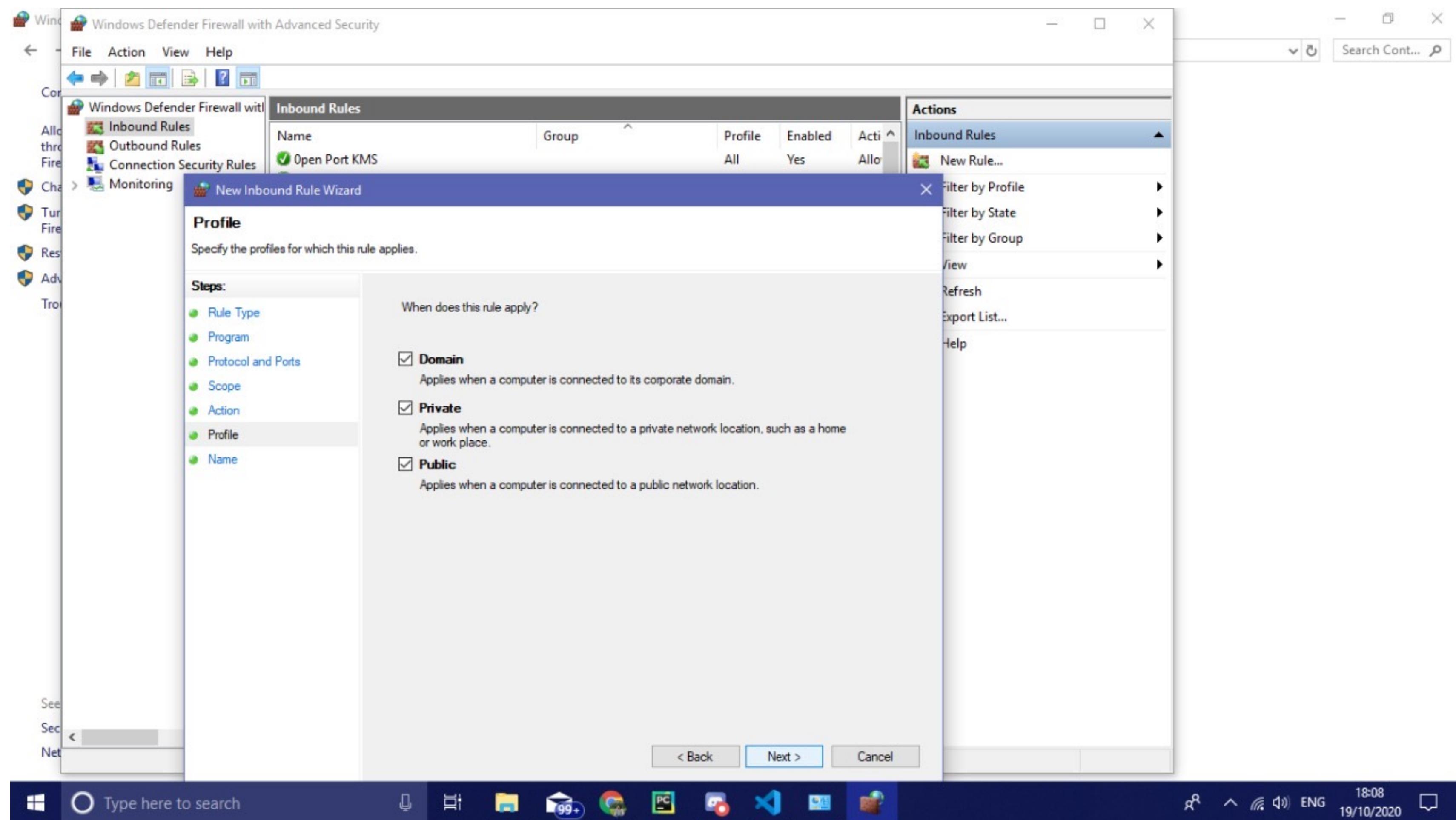
# A Website

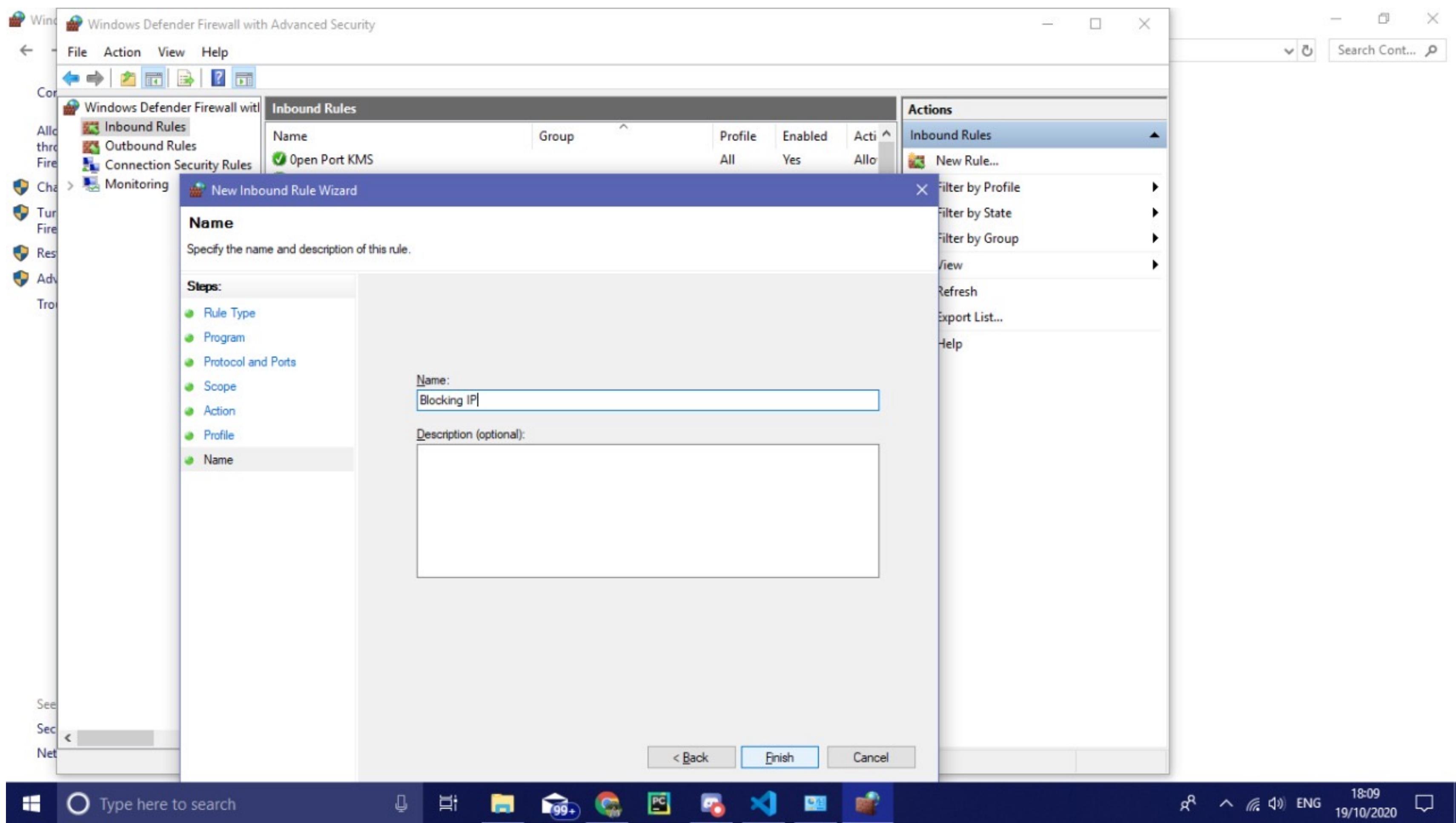












- Similarly for Outbound