Microsoft

Remote Desktop Protocol IO Lab
March 20-22, 2023

RDP IO Lab

Agenda

Microsoft

- Windows Protocol Test Suite
- Test Environment for IO Lab
- Demo

Windows Protocol Test Suite – Cross Platform

PTMService/PTM Cli

Adapter RDP Client Test Suite **Plugin**

Protocol Test Framework

Proto SDK

.NET 6

Windows **macOS** **Linux**
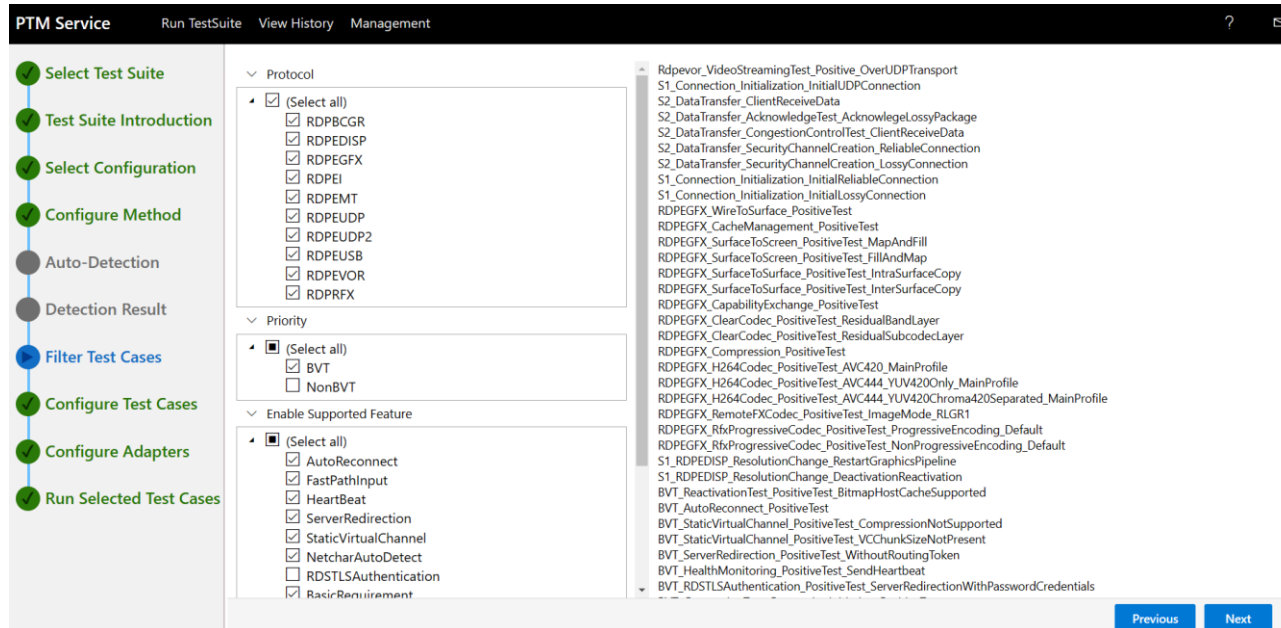
Run RDP Client Test Suite on Multiple Platforms

Minghao Hu edited this page on Jun 13, 2022 · 4 revisions

Contents

- Contents
- Test Environment Architecture
- Set Up System Under Test
- Set Up Driver Computer to Run Test Suite
  - Prerequisite
  - Get RDP Client test suite binaries
  - Run test suite
    - Run test suite by `PTM` on Windows
    - Run test suite by `dotnet test`
    - Run test suite by script
    - Run test suite by `PTMCli`
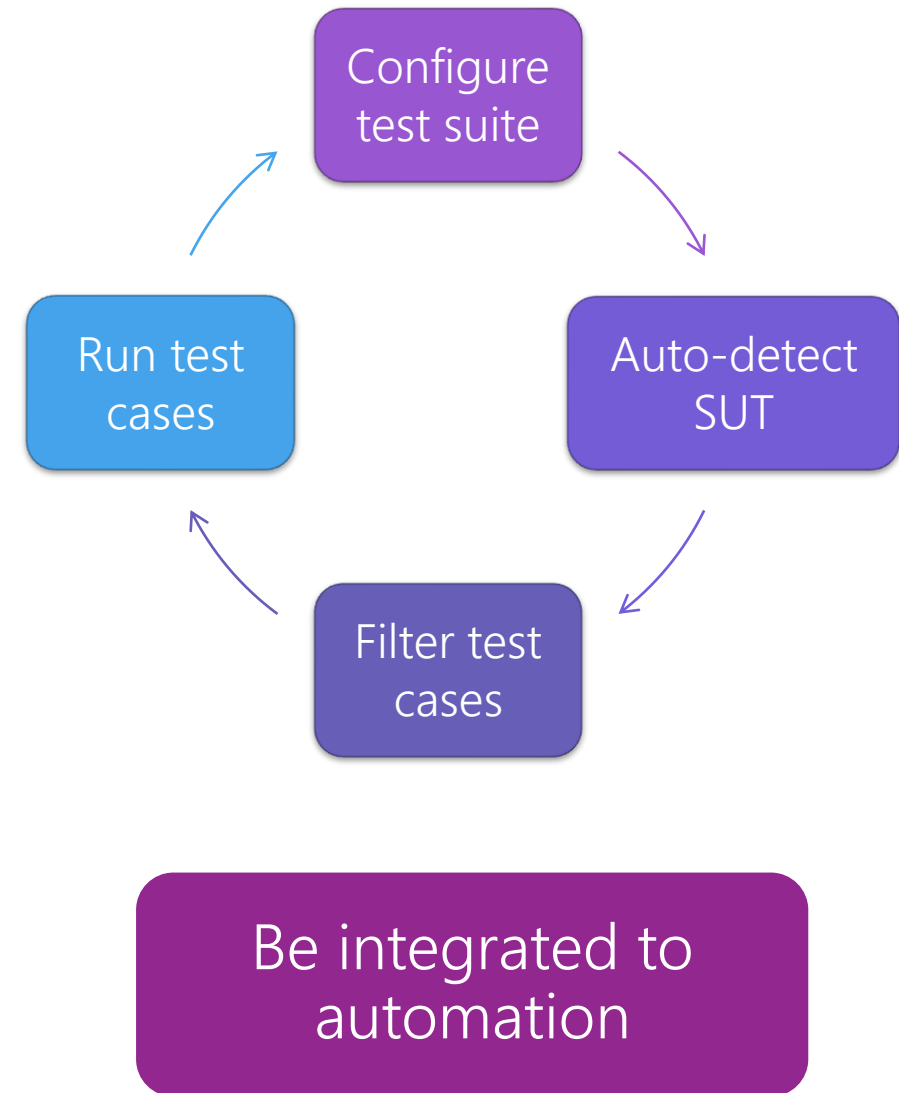   - Run test suite by `docker`
- Appendix
  - Update .pftconfig files

[Run RDP Client Test Suite on Multiple Platforms](#)

Windows Protocol Test Suite – How to Run

PTM Service Run TestSuite   View History   Management

- ✓ Select Test Suite
- ✓ Test Suite Introduction
- ✓ Select Configuration
- ✓ Configure Method
- ○ Auto-Detection
- ○ Detection Result
- ▸ Filter Test Cases
- ✓ Configure Test Cases
- ✓ Configure Adapters
- ✓ Run Selected Test Cases

Protocol
- ☑ (Select all)
  - ☑ RDPBCGR
  - ☑ RDPEDISP
  - ☑ RDPEGFX
  - ☑ RDPEI
  - ☑ RDPEMT
  - ☑ RDPEUDP
  - ☑ RDPEUDP2
  - ☑ RDPEUSB
  - ☑ RDPEVOR
  - ☑ RDPRFX

Priority
- ▪ (Select all)
  - ☑ BVT
  - ☐ NonBVT

Enable Supported Feature
- ▪ (Select all)
  - ☑ AutoReconnect
  - ☑ FastPathInput
  - ☑ HeartBeat
  - ☑ ServerRedirection
  - ☑ StaticVirtualChannel
  - ☑ NetcharAutoDetect
  - ☑ RDSTLSAuthentication
  - ☑ BasicRequirement

Rdpevor_VideoStreamingTest_Positive_OverUDPTransport
S1_Connection_Initialization_InitialUDPConnection
S2_DataTransfer_ClientReceiveData
S2_DataTransfer_AcknowlegeTest_AcknowlegeLossyPackage
S2_DataTransfer_CongestionControlTest_ClientReceiveData
S2_DataTransfer_SecurityChannelCreation_ReliableConnection
S2_DataTransfer_SecurityChannelCreation_LossyConnection
S1_Connection_Initialization_InitialReliableConnection
S1_Connection_Initialization_InitialLossyConnection
RDPEGFX_WireToSurface_PositiveTest
RDPEGFX_CacheManagement_PositiveTest
RDPEGFX_SurfaceToScreen_PositiveTest_MapAndFill
RDPEGFX_SurfaceToScreen_PositiveTest_FillAndMap
RDPEGFX_SurfaceToSurface_PositiveTest_IntraSurfaceCopy
RDPEGFX_SurfaceToSurface_PositiveTest_InterSurfaceCopy
RDPEGFX_CapabilityExchange_PositiveTest
RDPEGFX_ClearCodec_PositiveTest_ResidualBandLayer
RDPEGFX_ClearCodec_PositiveTest_ResidualSubcodeLayer
RDPEGFX_Compression_PositiveTest
RDPEGFX_H264Codec_PositiveTest_AVC420_MainProfile
RDPEGFX_H264Codec_PositiveTest_AVC444_YUV420Only_MainProfile
RDPEGFX_H264Codec_PositiveTest_AVC444_YUV420Chroma420Separated_MainProfile
RDPEGFX_RemoteFXCodec_PositiveTest_ImageMode_RLGR1
RDPEGFX_RfxProgressiveCodec_PositiveTest_ProgressiveEncoding_Default
RDPEGFX_RfxProgressiveCodec_PositiveTest_NonProgressiveEncoding_Default
S1_RDPEDISP_ResolutionChange_RestartGraphicsPipeline
S1_RDPEDISP_ResolutionChange_DeactivationReactivation
BVT_ReactivationTest_PositiveTest_BitmapHostCacheSupported
BVT_AutoReconnect_PositiveTest
BVT_StaticVirtualChannel_PositiveTest_CompressionNotSupported
BVT_StaticVirtualChannel_PositiveTest_VCChunkSizeNotPresent
BVT_ServerRedirection_PositiveTest_WithoutRoutingToken
BVT_HealthMonitoring_PositiveTest_SendHeartbeat
BVT_RDSTLSAuthentication_PositiveTest_ServerRedirectionWithPasswordCredentials

Previous   Next

```
IOLab@FA14-CLI:~/PTMCli$ sudo dotnet PTMCli.dll --help
PTMCli 4.22.7.0
Copyright (C) 2022 Microsoft

  -p, --profile      Required. Specifies the path of the test profile to run.

  -t, --testsuite    Required. Specifies the path of the testsuite to run.

  -s, --selected     (Default: false) When specified, only the selected test cases will be executed.
                     Otherwise, all the test cases in the profile will be executed.

  --filter           Specifies the filter expression of test cases to run.
                     This parameter overrides the test cases in profile.

  --config           Specifies the configuration items which will override the values in profile.
                     Each configuration should be in format {property_name}={property_value}, and multiple items should
                     be separated by whitespace.
                     For example: --config "RDP.ServerPort=3389" "RDP.Security.Protocol=TLS"

  -r, --report       Specifies the result file which will be written to.
                     If not specified, test results will be written to stdout.

  -f, --format       (Default: Plain) Specifies the report format.
                     Valid values are: plain, json, xunit.

  --outcome          (Default: Pass Fail Inconclusive) Specifies the outcome of the test cases to be included in the
                     report file.
                     Value should be separated by comma or space.
                     Valid values are: pass, fail, inconclusive.

  -d, --debug        (Default: false) Enable debugging of PTMCli.

  --help             Display this help screen.

  --version          Display version information.
```

Configure test suite

Auto-detect SUT

Filter test cases

Run test cases

Be integrated to automation

Windows Protocol Test Suite – Open Source

Test Environment for IO Lab

Test Environment - How to access Lab VMs

Azure Cloud VMs

Laptop

RDP
Point to Site VPN
SSH

Driver

RDP Client Test Suite

PTMService/PTMCli

SUT

SUT Control Agent

RDP Client App
(mstsc.exe)

RDP Client Environment
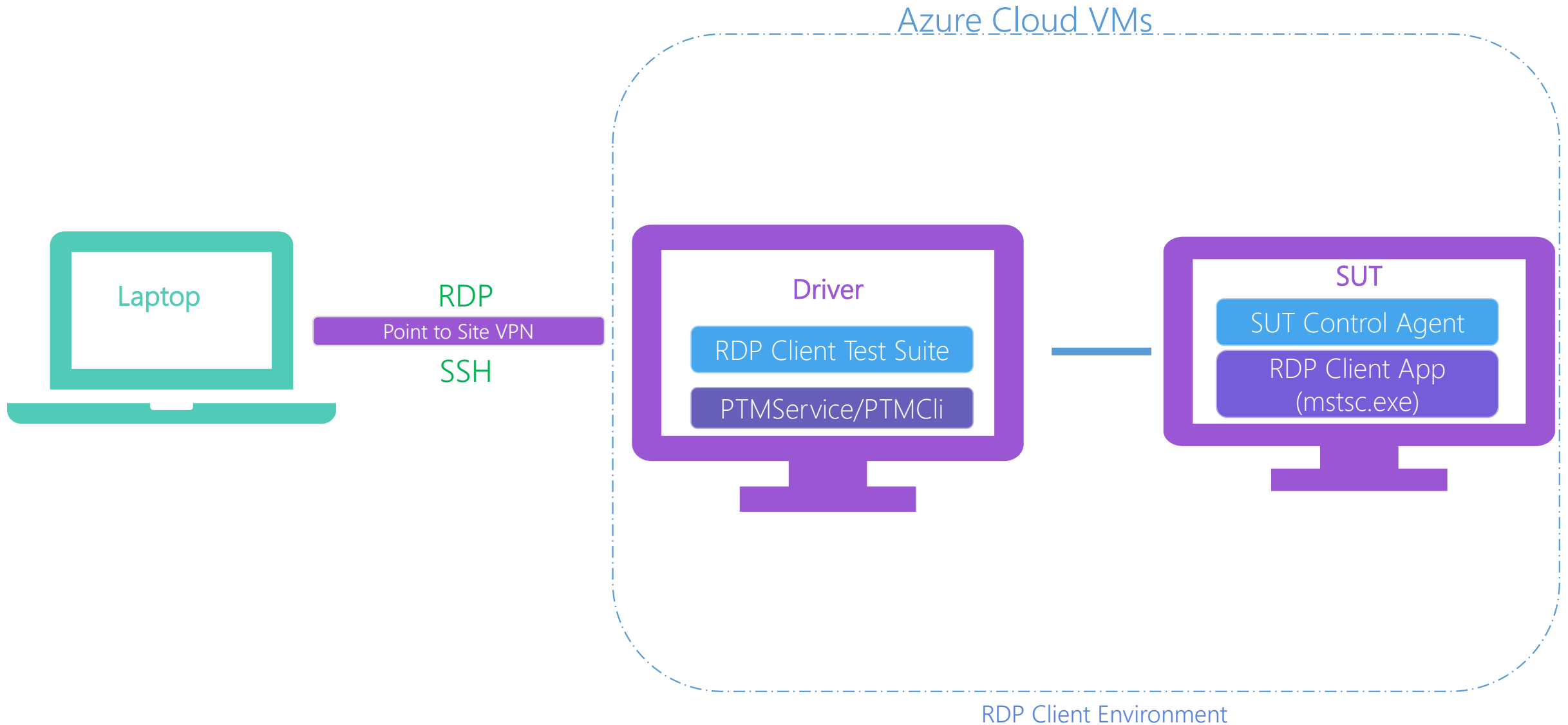
Demo

- How to reserve TestSuite environment

- How to connect to Azure VPN

- How to run TestSuite test cases

Microsoft   SharePoint

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All Items* ⌄

ReserveEnvironment ☆ ⊘

Company ⌄	Purpose ⌄	Other Requirements ⌄	Driver Info ⌄	SUT Info ⌄	User Credential ⌄	Environment Ty... ⌄	Driver OS Type ⌄	+ Add colur
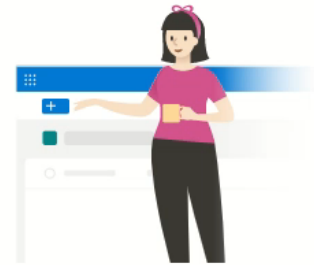
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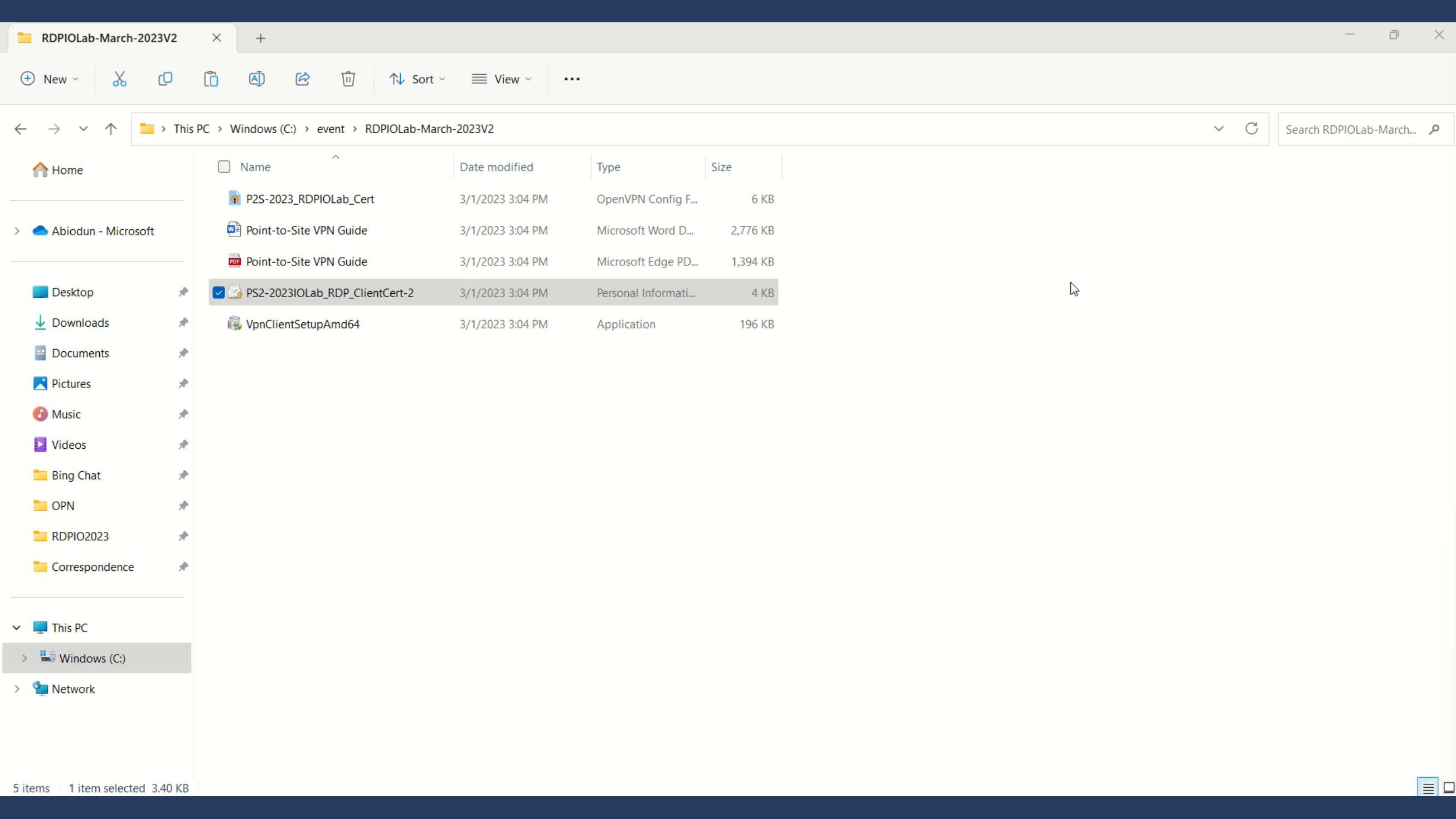
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This PC > Windows (C:) > event > RDPIOLab-March-2023V2

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	Point-to-Site VPN Guide	3/1/2023 3:04 PM	Microsoft Edge PD...	1,394 KB
☑	PS2-2023IOLab_RDP_ClientCert-2	3/1/2023 3:04 PM	Personal Informati...	4 KB
	VpnClientSetupAmd64	3/1/2023 3:04 PM	Application	196 KB

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5 items   1 item selected 3.40 KB
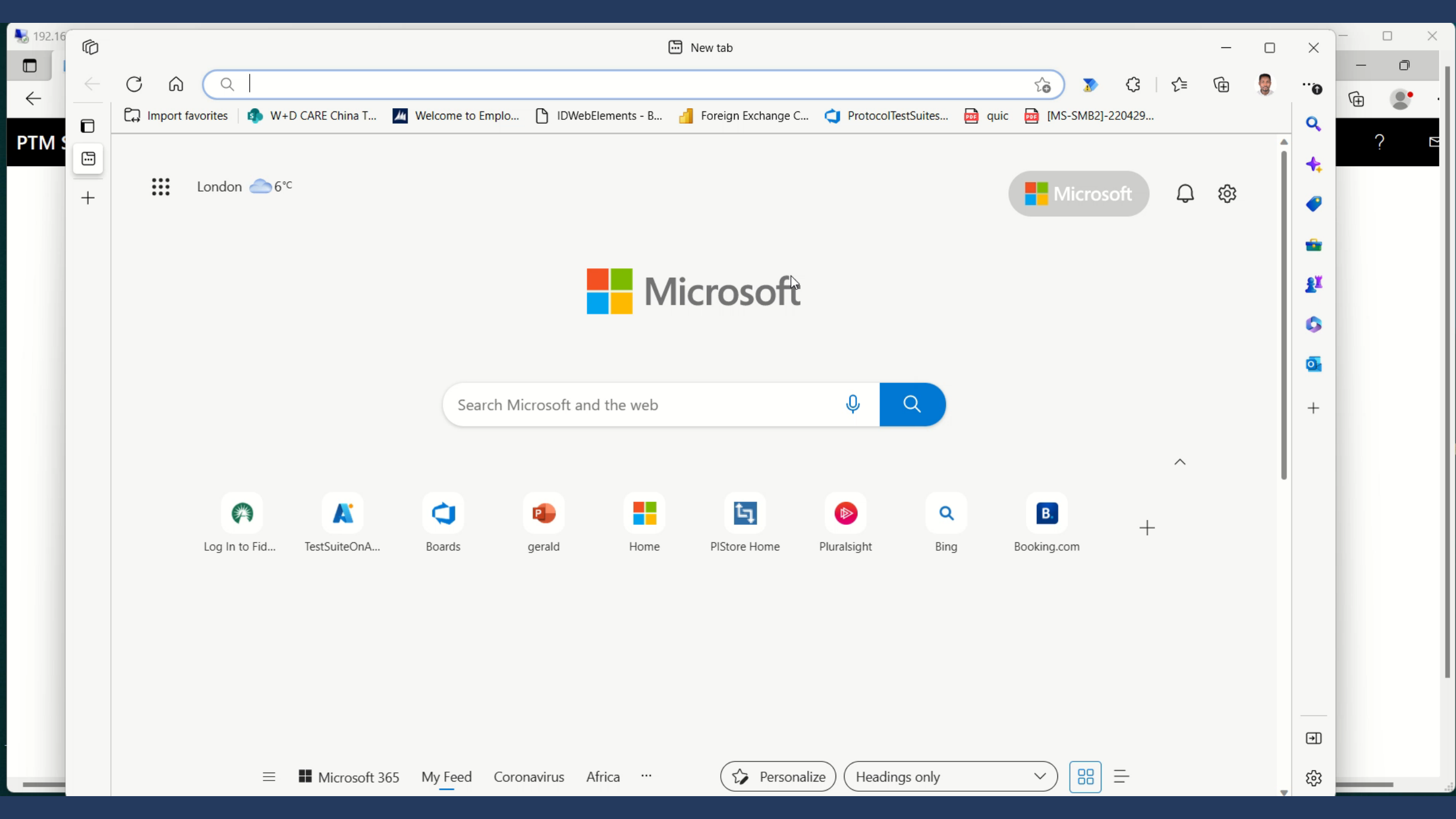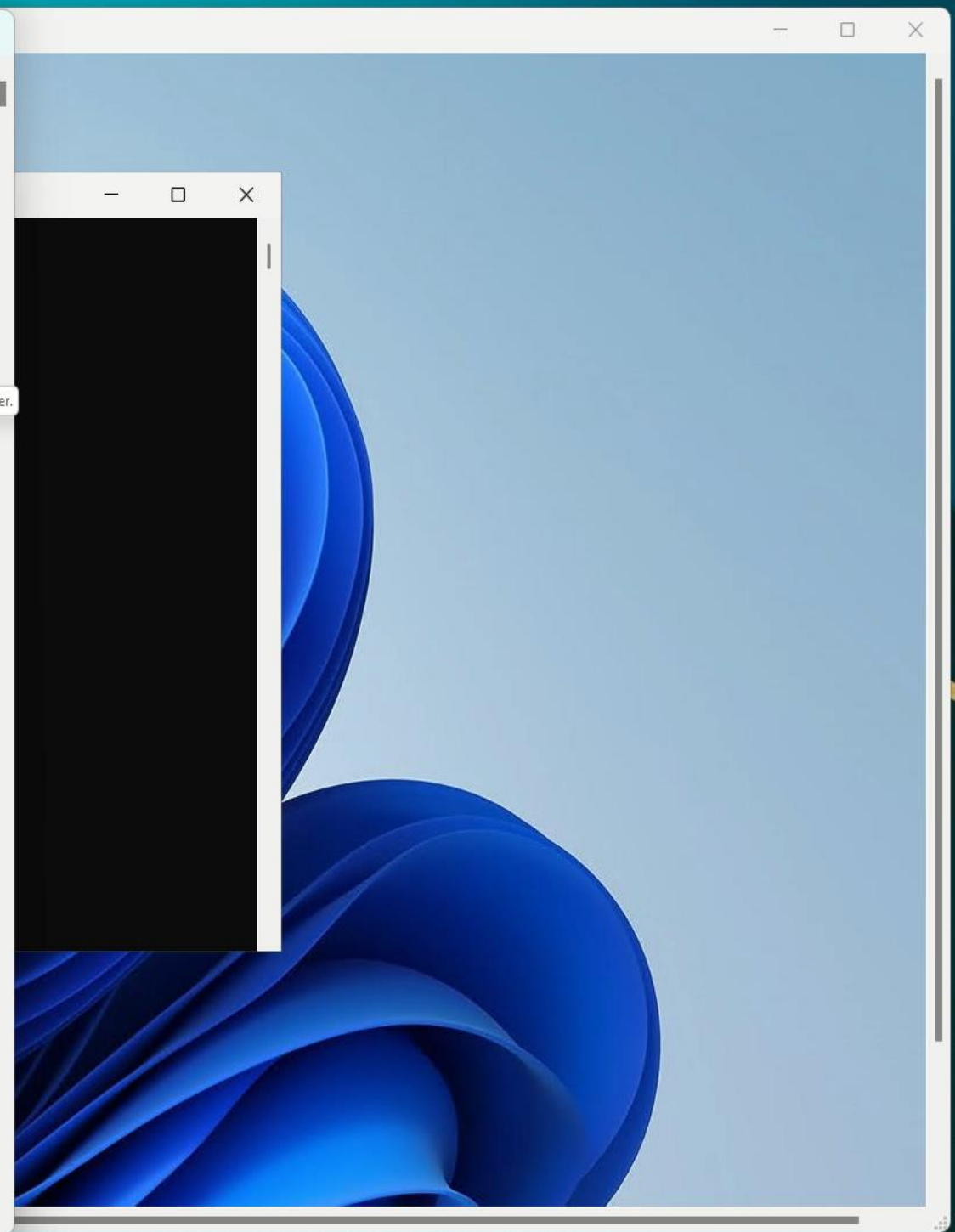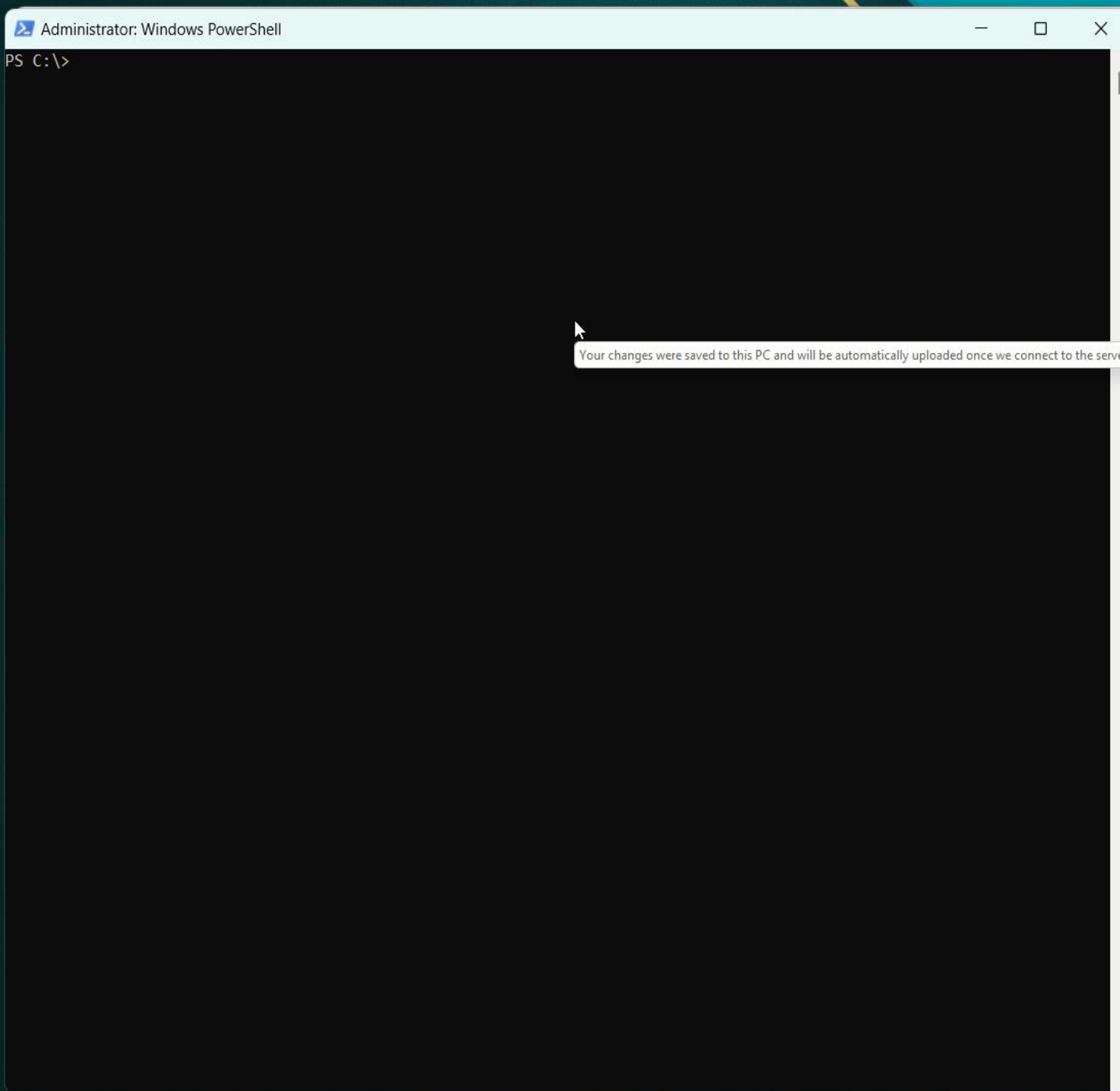
Administrator: Windows PowerShell

PS C:\>

Your changes were saved to this PC and will be automatically uploaded once we connect to the server.

PTMService

Select Administrator: Windows PowerShell

PS C:\PTMCli>

Your changes were saved to this PC and will be automatically uploaded once we connect to the server.

Windows Server 2022 Datacenter Azure Ed
Evaluation copy. Build 25267.rs_prerelease.221209-

12:32 P
3/3/20

PTMService

Select Administrator: Windows PowerShell

```
PS C:\PTMCli>
```

Your changes were saved to this PC and will be automatically uploaded once we connect to the server.

Windows Server 2022 Datacenter Azure Ed
Evaluation copy. Build 25267.rs_prerelease.221209-

12:32 P
3/3/20

Select Administrator: Windows PowerShell

```
PS C:\PTMCli>
```

Your changes were saved to this PC and will be automatically uploaded once we connect to the server.

PTMService

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Microsoft

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GitHub - microsoft/WindowsProtocolTestSuites

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Q&A