

## Cloud Simulation Training Connection Information

Effective 3/1/2022, some of PJM's training will leverage third party cloud technology to support distributed learning activities focusing on simulations. This cloud environment will require additional access from learners to complete training objectives and receive credits. Therefore, PJM requests that learners validate they can connect to the cloud system.

All of the requirements to access this environment fall outside of PJM's control and lies directly between the learner and the third party cloud environment. Therefore, PJM can only provide limited support for our learners should problems arise.

Below is a list of specific requirements to connect to the cloud. Please be sure to consider anything between you and that environment such as firewalls, proxy settings and secure gateways, which are typical in corporate networking environments and managed by corporate IT staff.

PJM intends to open 10 IP addresses, over a specified port range that will link to specific courses. These IP addresses will remain constant for some period of time and be reused for various courses. However, IP address will expire and be replaced on occasion. Therefore, anything done to support a specific course today may or may not work for subsequent courses.

Should a course require cloud resources, specific IP addresses will be provided to learners three days prior to the start of a course. PJM is providing a list of IP addresses here for convenience. However, PJM does not guarantee this list to be complete and each course should be tested by the learner within that three day period prior to the start of a course. Testing connectivity to an IP address can only be completed after a learner is registered for a specific course and receives notification that testing can begin. Please note, not all courses offered by PJM will require this connectivity.

Once an IP address is linked to a course, PJM will do its best to ensure that the IP address does not change for that event.

## Cloud Simulation Connection Requirements for Students

### Windows Users

- Remote Desktop Connection Application (also known as "RDP")
- This software is part of standard Microsoft Window installations.

### Mac Users

- Microsoft Remote Desktop
- Do not use the default Mac RDP client
- This software should be downloaded through the Mac App store
  - Go to the Mac Store and search for "Microsoft Remote Desktop".
  - Download and install the latest version of this software.
  - Reference: <https://docs.microsoft.com/en-us/azure/lab-services/connect-virtual-machine-mac-remote-desktop>

### System Requirements

- Active PJM LMS (VTA Learner) Account
- High-speed Internet connection [minimum 20 MB/s]
- Connectivity to listed IP addresses and out-going Port ranges
  - Port range: 49152 to 65535 (Required for all IP addresses listed below)
  - IP addresses and effective dates:

IP Address*	Effective Starting	Effective Ending
4.156.251.123	7/5/2024	
4.255.80.183	7/5/2024	
4.255.85.20	7/5/2024	
172.212.0.154	7/5/2024	
20.81.99.13	3/14/2022	7/4/2024
20.121.178.69	3/15/2022	7/4/2024
20.81.124.39	3/15/2022	7/4/2024
52.224.136.40	3/15/2022	7/4/2024
20.241.243.57	3/1/2023	7/4/2024
52.224.138.107	4/18/2022	7/4/2024
52.226.210.9	3/1/2023	7/4/2024
20.242.193.147	3/1/2023	7/4/2024
20.42.32.181	3/1/2023	7/4/2024
52.142.18.41	3/1/2023	7/4/2024

\* IP addresses are subject to change without notice, but should not change once linked to a course.

- For connection via a Corporate Network or VPN:
  - Verify connection with your Corporate IT/Tech Support several days in advance of training
- PJM is unable to support technical issues related to network connectivity at the time of a training event; however, registered students will have the ability to test connectivity several days prior to a training event.

### Not Supported

- Mobile devices such as phones, tablets and Netbooks

### Contact

- TrainingSupport@pjm.com