Project MISTS
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Abstract
This project focused on setting up a Dell server in Bookstore 2 to give students access to the software needed to complete IST assignments. We set up four “smaller” computers within one “large” physical computer.

We also coordinated with Penn State ITS to allow students to connect to this server from home. This allows students to access these resources anywhere in the world.

Students can also connect from PSU lab computers at Mont Alto, so even if they do not have their own PC, they can still connect to our server and take advantage of the software.

Purpose
The purpose of this project is to give students access to software applications they need to complete assignments. Traditionally, students would have to install all the software they need available to them. This way, students can spend less time figuring out how to get it set up.

With our server, students can simply connect to it and have all the software they need available to them. This way, students can spend less time figuring out how to install these tools (which is often not included in classroom curricula) and more time learning the material they came here to learn.

Requirements for Success
We wanted to ensure that our project met these requirements to deem our effort a success:

- Software and development languages installed: Java, SQL, Python, PHP, Apache, Visual Studio Code
- Remote access from home
- Each user gets a different session
- Implement strict security measures to protect the integrity of everyone’s work
- Provide detailed documentation for both users and future administrators, so that this project can be used in IST classes for years to come

Diagram Explanation
The diagram above shows where our server fits into PSU MA’s network layout. Our server sits behind PSU’s network, protected by ITS’ firewall policies. The four orange boxes represent the four virtual computers that are inside one physical server. Our project used the MISTS-VM2 virtual PC to host our software. Once inside PSU’s network, students can connect directly to the virtual computer. When outside of PSU’s network (such as at home), students can connect to Penn State’s network with the GlobalProtect VPN software, which then allows them to reach the server, as the VPN software essentially “tunnels” the student’s computer directly to PSU’s network.

Outcome
The project was successful. We have met all the success criteria (outlined in the previous box) and we have all the software working. Documentation is very close to being completed with a few pages still needing to be written. Remote access has been enabled and working. We continue to test and find various issues, but every issue we have found up to this point has been dealt with.

Software Downloads