THE COMPLETE GUIDE TO TRAINING WITH VIRTUAL LABS
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PART ONE

WHAT IS A VIRTUAL TRAINING LAB?
WHAT IS A VIRTUAL TRAINING LAB?

In recent years, Virtual Training Labs have changed the face of technical training by offering a flexible, cost-effective alternative to the physical computer lab.

THE NEED FOR A NEW SOLUTION

Traditionally, technical training has been limited by the confines of the classroom. Whether the training was held onsite or remotely, trainers required a dedicated space, with appropriate equipment, technical support and lengthy setup times.

While this model has lead to impressive learning outcomes, it isn’t easily scalable and is particularly cumbersome when deploying globally.

New training technologies including self-paced eLearning solutions have made inroads and provide alternative training modalities that can be more convenient than traditional computer labs; but in many cases these can fall short of the learner experience and training outcomes of traditional hands-on training.

CLOUD-BASED SOLUTION

Virtual Training Labs provide a new delivery model for technical training that can provide the learning benefits of hands-on training with the convenience and scalability of cloud-based access.

In a Virtual Training Lab, one or more virtual machines are setup in the cloud with the necessary operating system(s) and software for the training. These virtual machines can then be accessed by learners anywhere in the world via a reliable internet connection and a secure URL.

There are many applications for a Virtual Training Lab including:

- Customer and partner training
- Employee training
- Product demos
- Proof-of-concept
- High-security environments

Virtual Training Labs can be used in conjunction with classroom training or on their own to simplify and expand the reach of training.
PART TWO

THE BENEFITS OF A VIRTUAL TRAINING LAB
BUSINESS BENEFITS

Virtual Training Labs simplify the delivery of complex and highly sophisticated technical labs or application training—leading to considerable business benefits.

LOWE R TRAINING COST

Training in traditional computer labs can require a significant investment in equipment, staff and expenses. By using a Virtual Training Lab, companies can realize considerable savings.

Hardware—Purchasing, updating and maintaining traditional computer labs involves significant capital investments in IT infrastructure. Additionally, these physical labs do not offer the flexibility to scale with training needs. Under-utilized labs can result in wasted expense, while the need to quickly expand could lead to significant additional capital expenditure.

Virtual Training Labs decrease dependency on physical training labs, leading to significant savings.

Network Resources—Weak configurations and large CPU requirements can limit the ability to provide onsite technical training for large groups of learners. Additionally, training events can strain networks and divert resources away from core business activities. Using Virtual Training Labs allows companies to train more learners with fewer network resources.

Travel—Geographically dispersed learners can log into a lab from any computer with a reliable internet connection and receive the same lab experience. This leads to significant savings in travel time and expense, and decreases time spent away from the office.

IT Resources—Virtual Training Labs can lead to significant reductions in IT time and resources resulting in lower operating costs. Setting up complex labs in a traditional classroom environment requires a considerable amount of internal resources. Additional time and expense are needed for server upgrades, software installation and lab maintenance.

Virtual Training Labs do not reside on internal servers or computers. The lab provider is responsible for upgrades and maintenance to the environment. Additionally, because the lab is setup in the cloud there is no need to configure individual work stations.

Pro-Tip: Working with a lab provider like MicroTek—who handles lab setup and maintenance—saves you time and money in additional IT and technical resources.
BUSINESS BENEFITS (CONT.)

INCREASED REACH
Whether you need to provide computer training to employees working in multiple locations or partners and customers scattered throughout the world, Virtual Training Labs provide a convenient and cost-effective platform to expand your training reach.

Your learners can receive training wherever it’s needed—from virtually any computer.

SCALABILITY
Unlike physical computer labs, Virtual Training Labs are easily scaled to meet training demand. Expensive computer labs aren’t left under-utilized and training managers can instantly scale to hundreds or thousands of users for large training events—without long-term investment.

TRAIN ON VIRTUALLY ANY SOFTWARE
Because Virtual Training Labs are cloud based, they allow users to train on virtually any subject—regardless of the operating system or computer hardware. Your lab provider should ensure that the cloud-based environment has the necessary processing capabilities to run your lab, and adjust this as needed.

SAFE TRAINING ENVIRONMENT
Because Virtual Training Labs reside in the cloud and are not linked to a physical network, learners can train without risk to existing data or infrastructure. This is especially beneficial for coding environments or training programs that require a high level of security.

FASTER TIME TO MARKET
Using Virtual Training Labs allows for more efficient training deployment. Employees, customers and partners can receive training from their location as needed—leading to a faster time to knowledge and time to market.
LEARNING BENEFITS
The flexible environment of Virtual Training Labs delivers many benefits to both learners and instructors.

INSTRUCTOR CONTROLS
Virtual Training Labs provide enhanced monitoring options that mimic those found in a traditional computer classroom. In the Virtual Training Lab, instructors are able to monitor the progress of the class through “over the shoulder” thumbnail views. Additionally, they are able to drill down into individual learner’s machines to provide assistance or even take control of the environment if needed.

HANDS-ON LEARNING EXPERIENCE
Virtual Training Labs make it easy for learners to practice in a real-world environment—leading to higher knowledge retention rates and faster adoption of skills. While training methods such as lecture and demonstration have relatively low retention rates (between 5 and 20%), those who learn through practice are estimated to retain close to 75% of what they learn1.

LEARNING BY MAKING MISTAKES
Virtual Training Labs with “save state” options provide a unique opportunity for students to learn from errors without risking the environment. Learners are able to move backward and forward in the technical environment to better understand how mistakes can impact a system.

POST-CLASS ACCESS
Traditional technical training has fixed start and end times and limited ability for learners to practice after class. Many Virtual Training Labs can be setup to allow access outside of class for a specified period of time. This extra hands-on experience can improve learning retention and ensure learners are able to put what they have learned into practice.

MICROTEK’S VIRTUAL TRAINING LAB MAKES AFTER CLASS ACCESS EASY AND AFFORDABLE
While many virtual lab providers provide lab access outside of scheduled class time, it can often involve excess charges. With MicroTek Virtual Training Lab, after-class lab access is included in the service. There is no need to closely monitor lab usage or implement student controls and limitations to avoid overages.

A feature both you and your learners will love.

For more information on MicroTek’s Virtual Training Labs, visit www.mclabs.com.

1 National Training Laboratories Learning Pyramid
SUCCESS STORY

A leading global computer and network security company experiences dramatic cost-savings and efficiencies with MicroTek Virtual Training Labs.

CHALLENGE
A major network security company with an expansive global training program was looking to streamline delivery and reduce costs associated with the technical training programs. The company offers a broad range of courses, assessments and certifications on their technology and products with live class offerings throughout the US, Europe and Asia.

SOLUTION
Partnering with MicroTek, the company implemented Virtual Training Lab to simplify their training delivery. Using the Virtual Training Lab solution, the company was able to provide access to their environments through a secure cloud-based system. Software environments are setup in the Virtual Training Lab, and then accessed from anywhere in the world, on any computer using an internet connection. Learners are able to use the Virtual Training Lab environment as a safe sandbox. Participants are able to learn without risk to a live production environment. This is especially useful since they are training on security systems—where mistakes on a live environment could result in security breaches and vulnerabilities.

RESULTS
Since moving their courses to MicroTek’s Virtual Training Lab, the company has experienced:
- Simplified training administration
- Dramatic savings on travel expenses, with the ability to offer more training online
- Minimal firewall issues and less setup time and expense
- Opportunities to grow their training program—creating new revenue streams and increasing profit
- Expanded reach for their training program—leading to increased brand recognition
- Ability to provide a consistent learning experience for both in-class and remote learners.
PART THREE

HOW CAN YOU USE A VIRTUAL TRAINING LAB?
VIRTUAL LABS IN THE CLASSROOM

A Virtual Training Lab can be used anywhere, anytime or anyplace—making it a powerful, flexible option to deliver instructor-led technical training.

Use Virtual Training Labs in conjunction with a live classroom to expand your reach, simplify delivery and provide more control to instructors.

INCLUDE REMOTE LEARNERS
Remote learners can easily access the lab from any computer using a reliable internet connection. Learners have instant access to the same experience and environment as in-class learners.

SIMPLIFY SETUP
With Virtual Training Labs highly complex classroom setup is easy. Each workstation in the classroom can simply access the lab through a secure internet connection.

Additionally, the virtual training environment makes it possible for learners to access multiple virtual machines in order to train on multiple operating systems and hardware configurations.

ACCESS TO COMPLEX SYSTEMS
The cloud-based training environment allows learners to work with complex systems that might not otherwise be feasible in a traditional classroom. For example, it would be difficult to spin up a complex network involving multiple servers, firewalls and workstations with different operating systems in a traditional PC classroom. A Virtual Training Lab makes this possible by allowing learners to access all of the components of a complex networking environment from one computer.

ENHANCED INSTRUCTOR CONTROLS
Using Virtual Training Labs, instructors are able to monitor the progress of the entire class from a central workstation. Instructors are also able to access or take control of individual student’s machines to provide additional help and instruction.

SHOULD YOU OUTSOURCE YOUR CLASSROOM?
If you are using Virtual Training Labs in an in-house classroom environment, you may be wasting valuable real estate and internal resources. Advantages to working with an outside training delivery provider include:

- Flexibility to hold training where and when you need it
- Decreased real estate costs with scalability and no long-term investment
- Environment designed for training
- On-site technical and event support without added staffing expenses

For more information on MicroTek’s training rooms, visit www.mclabs.com.
Virtual Training Labs provide a unique opportunity to go beyond training to implement creative scenarios that might not be possible with a physical computer lab.

The cloud-based environment of Virtual Training Labs allow you to expand your training by providing a safe and easy to use platform.

**HANDS-ON CYBER SECURITY TRAINING**
Virtual Training Labs allow for real-world cyber security simulations—without risk to live environments.

Labs can be set up to include realistic security breaches for hands-on training that mimics the situations security professionals face in the real world.

**CUSTOMER DEMOS AND PROOF OF CONCEPT**
Using Virtual Training Labs, it’s possible to provide customer demos and proof of concept to multiple end users, regardless of their location. Customers are able to experience the benefits of hardware or software without the hassle of a live onsite demo.

**SAFE TESTING AND DEVELOPMENT ENVIRONMENTS**
Virtual Training Labs make it possible to set up multiple environments that are isolated from each other and from production. This allows for testing and development on various systems, without risk to a live environment.

**INDUSTRIAL FACILITIES**
Using Virtual Training Labs, it is possible to provide technical training on industrial machinery that is controlled through a computer interface. Learners can access controls remotely rather than having to be in the live industrial environment.
VIRTUAL LABS FOR HYBRID LEARNING

Virtual Training Labs can be used in conjunction with hybrid learning to provide an equal learning environment for both remote and in-class students.

Hybrid learning is a delivery modality where remote students are added to classroom training. Using two-way audio/video communication tools, the remote learners receive the same learning environment as those physically in the class.

Combining Virtual Training Lab and a hybrid learning environment that is designed for training provides the best of physical, virtual and digital learning environments.

EQUAL LEARNING EXPERIENCE
Adding a hybrid learning environment to your Virtual Training Lab can help create a truly collaborative learning environment with an equal learning experience for the in-class and remote learners.

What sets hybrid learning environments apart from traditional virtual learning is dynamic, two-way audio and video, which allows learners to fully interact with the instructor and their classroom peers as if they were all in the same physical location.

Remote learners are able to hear and see everything in the classroom, as though they were the last row of the class. Not only will your in-class and remote learners be able to interact with the lab content, but also with the instructor and each other—just as though they were physically in the classroom.

EXPAND YOUR CLASSROOM
Because hybrid learning allows remote students to attend courses from remote locations, you are able to train more participants with fewer resources. You save on travel costs and other expenses while still providing an exceptional learning experience.

MICROTEK’S VIRTUAL TRAINING ROOM
Not all hybrid learning environments are created equal. When you work with MicroTek for your Virtual Training Lab and Virtual Training Room, you avoid the need for point solutions, and can be confident that everything will work together. From simplified scheduling to tier-one support both onsite and for remote learners, we ensure that everything runs smoothly so you can focus on your training.

For more information on how hybrid learning can be incorporated into your Virtual Training Lab, visit www.mclabs.com.
VIRTUAL LAB APPLICATIONS

Whether you are training employees, customers or partners, the convenience and flexibility of Virtual Training Labs provide unique opportunities to expand your training options.

6 Uses for a Virtual Training Lab

- **SOFTWARE TRAINING**: Learners can gain practical, hands-on experience with essentially any software application.
- **REMOTE TRAINING**: Provide training throughout the world. The only thing learners need is a computer with reliable internet.
- **SECURITY SIMULATIONS**: Create security simulations in order to safely provide training without risk to your network and systems.
- **COMPLEX ENVIRONMENTS**: Access all components of a complex network involving multiple servers, firewalls and workstations.
- **CUSTOMER TRAINING**: Easily train customers. Simply provide a secure URL for customers to access your training.
- **SECURE SANDBOX**: Provide a safe environment for hands-on experience without risk to your infrastructure.

Read more about how MicroTek has helped our clients provide these types of training using Virtual Training Labs.
PART FOUR

IMPLEMENTING A VIRTUAL TRAINING LAB
CHOOSING A LAB PROVIDER

When it’s time to choose a Virtual Training Lab provider, it’s important to receive the service and support you need to ensure success.

Not all Virtual Training Lab providers are created equal. While most offer similar platform feature sets, you want to ensure proper support pre-, during, and post-event without hidden or a la carte costs. Use the checklist below to ensure your Virtual Training Lab provider meets your most critical requirements.

<table>
<thead>
<tr>
<th>DOES YOUR LAB PROVIDER...</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Use a virtual lab platform designed for training</td>
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<td>Offer a single point of contact for lab setup, scheduling and support</td>
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<td>Utilize a platform that allows for the creation and deployment of labs fully in the cloud</td>
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<td>Provide professional assistance in setting up your lab environment</td>
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<td>Provide a simple tool to reserve lab access</td>
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<td>Offer branding and customization for your lab interface</td>
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<td>Support large, complex environments</td>
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<td>Enable instructors to view students’ machines with over the shoulder views</td>
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<td>Allow instructors to take control of student machines</td>
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<td>Provide pricing discounts based on scale</td>
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<td>Provide intuitive class administration tools for instructors</td>
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<td>Allow students to access labs without installing a plug in</td>
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<td>Offer the ability to test connectivity prior to the course</td>
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<td>Offer hybrid learning environment</td>
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<td>Use multiple data centers to alleviate latency</td>
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<td>Offer a scalable solution</td>
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<td>Offer proof of concept creation</td>
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<td>Provide straight forward pricing with no hidden fees</td>
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<td>Provide lab access outside of scheduled class without added fees</td>
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MICROTEK’S VIRTUAL TRAINING LAB

We provide the classroom, cloud-based environment, technical support and more in a single solution. We manage all aspects of lab creation, imaging, technical administration and scheduling—so you can focus on your training.

SIMPLE ADMINISTRATION
MicroTek provides a simple tool to reserve lab access for your students. Schedules can be managed online through our API integration as well as through our proprietary tracker system.

SUPPORTED LAB SETUP
MicroTek makes it easy to get your virtual lab up and running. Whether you have an existing virtual machine or need to create your environment from scratch, we help make sure everything is setup and ready to go.

END-TO-END SUPPORT
When you work with MicroTek, you can be sure that every detail has been addressed before, during and after your event. You can focus on delivering your training program with the confidence that everything functions properly.

SINGLE POINT OF CONTACT
Our dedicated account management team provides one point of contact for setup, scheduling and administration of your lab.

END-TO-END SOLUTIONS
MicroTek is an end-to-end training delivery provider, so we can also handle your training rooms, instructors or virtual training delivery needs.

ALL-INCLUSIVE PRICING
When you work with MicroTek, you can be confident that the quote you get is the price you’ll pay. We include everything you need for a successful training event, including storage of student labs and after-class lab access.

HYBRID LEARNING
MicroTek makes it easy to provide your learners with the exceptional learning experience of hybrid learning. Combining MicroTek’s Virtual Training Lab and Virtual Training Room provides the best of physical, virtual and digital learning environments.

For more information on how Virtual Training Labs can be incorporated into your training program visit www.mclabs.com or call 877-226-7070 to schedule a demo today.