



**TECHNICAL EDUCATION**

**Instructor Led Training – ILT**

**Courses covering**

- Technology
- Architecture and Topology
- Connectivity
- Installation
- Configuration
- Verification
- Maintenance
- Performance
- Optimization
- Troubleshooting

**Target Audiences**

- BlueArc customers, partners, and field engineers

**Required Knowledge/Skills**

- NAS and SAN
- TCIP/IP Networking
- Network Management
- Microsoft Windows Administration
- UNIX/Linux System Administration

**BlueArc Storage Systems**

**TECHNICAL EDUCATION**

BlueArc Technical Education provides the best way for you to gain a solid understanding of the robust capabilities the BlueArc storage system. In our classes, you will gain the skills to: install, configure, operate, expand, troubleshoot, and maintain BlueArc storage servers and managed devices.

Gaining a thorough understanding of BlueArc storage management concepts and principles is key to planning an effective storage solution. BlueArc Technical Education takes the student from an architectural and technological understanding, through to designing an effective storage topology, and then gives practical experience through hands on labs. Discussion and labs are adapted from real customer scenarios.

The training is invaluable for experienced and novice storage professionals, providing the knowledge to design, implement, and manage your storage your way.

BlueArc’s training covers advanced storage features including data protection, data migration and archival, NDMP backup and recovery, business continuance, virus scanning, storage and filesystem expansion, deduplication, load-balancing, resiliency, performance management, and others.

**ADDED BENEFITS**

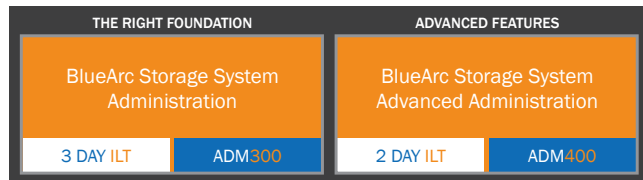
By attending BlueArc courses, students will learn about capabilities they didn’t realize the system has. Whether you are looking to provide improved redundancy for disaster recovery, provide higher targeted application performance, or integrate greater resiliency and flexibility, you will discover features and options that you may not realize you purchased.

Additionally, students will learn how to easily perform many tasks customers would typically pay for a professional service engagement by other storage vendors.

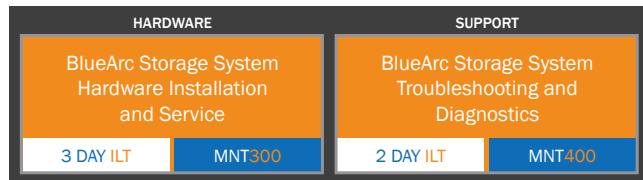
**BLUEARC TECHNICAL EDUCATION PATHS**

BlueArc provides two primary education paths. They include a System Administration path and a Service and Support Path. Students can attend any course, but, attendance of the System Administration course is prerequisite to advanced courses.

**SYSTEM ADMINISTRATION PATH**



**SERVICE AND SUPPORT PATH**





## BLUEARC STORAGE SYSTEM ADMINISTRATION

**ADM300:** This course provides attendees with the skills necessary to perform routine system operation tasks with the BlueArc storage system software and hardware. Students will learn configuration, management, and software maintenance procedures.

**Prerequisites:** This class is designed for individuals who are new to working with BlueArc storage products, yet have a thorough understanding of a number of the supporting technologies. Familiarity with Windows or UNIX operating system administration tasks is a must, with emphasis on network addressing, directory management, file services, and permissions. Knowledge of CIFS, NFS, NIS or LDAP servers, Windows Active Directory, DDNS, NDMP, and related protocols are valuable.

**Course Examination:** This course includes a proficiency examination.

### Topics Covered

#### Concepts and principles

- Introduction to features and system capabilities
- System architecture and functionality
- Storage virtualization in practical application
- Familiarization with system hardware
- System topology, networking, and cabling

#### Initial configuration and storage access

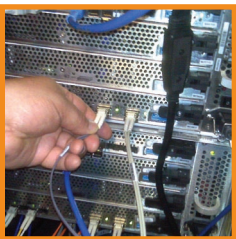
- Set up users
- Configure alerts, SMTP, and SNMP traps
- Discover RAID racks
- Set up system drives and system drive groups
- Configure storage pools
- Set up virtual servers (EVS)
- Configure private and public network access
- Set up link aggregation paths

#### Provide client access to filesystems

- Set up and mount filesystems and thresholds
- Setup virtual volumes, thresholds, and quotas
- Set up file services for CIFS and NFS
- Configure Active Directory services
- Set up NIS and LDAP
- Set up cluster name space
- Set up CIFS shares and NFS exports
- Configure virus scanning and snapshots
- Set up replication and migration policies and schedules

#### Monitoring performance and troubleshooting

- View and understand event log data
- View statistical and graphical information
- Capture and transmit system logs
- Prepare for service call events



## BLUEARC STORAGE SYSTEM HARDWARE INSTALLATION AND SERVICE

**MNT300:** This course provides attendees with the skills to perform hardware installation and maintenance work on BlueArc system hardware.

**Prerequisites:** While this class is designed for individuals who are new to working with BlueArc Storage Systems, you should have attended the Titan Server System Administration class, and have the prerequisites listed for that class. Exceptions may be made for these prerequisites only by prior authorization from BlueArc Technical Education Administration.

Students should have a working knowledge of redundant power supply systems, UPS, Ethernet and Fibre Channel networking, storage arrays, and switches. They should be competent with screwdrivers and be prepared to assemble, connect, and work with the assembled systems.

**Course Examination:** This course includes a proficiency examination.

### Topics Covered

#### Concepts and principles

- Review of features and system capabilities
- General system topology, networking, and cabling
- Hardware compatibility
- System specifications
  - Safety information and precautions
  - Environment, electrical, and location requirements

#### Hardware assembly

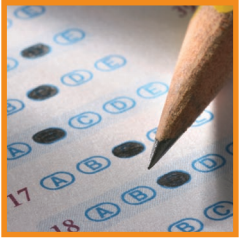
- Racking and hardware installation
- Installing power distribution units, supplying power
- Network cabling and connections
- Power-up sequence
- System validation

#### System configuration

- Initial configuration using the CLI
- Running the Setup wizard (GUI)
- Cluster configuration
- Set up and manage IP addresses
- Set up VLAN tagging and routes
- Configure EVSs
- Configure switches and storage

#### Maintenance procedures

- Understand replacement conditions and requirements
- Replace Titan modules, power supplies, and fans
- Upgrade Titan servers and SMUs
- Perform software upgrades
- Upgrade and replacing storage modules



### BLUEARC STORAGE SYSTEM ADVANCED ADMINISTRATION

**ADM400:** This course is intended for those who will perform advanced administration of their own systems or provide administration or support services for their clients.

**Prerequisites:** Students must have attended the Titan Server System Administration class, and should have 6 months experience administering the Titan server system. Attendees should have a thorough understanding of a number of supporting technologies.

**Demonstrated Proficiency:** Using the information gained through instruction, discussion, and available online and printed resources, students will demonstrate their knowledge by performing a series of labs.

#### Topics Covered

##### Advanced Administration Introduction

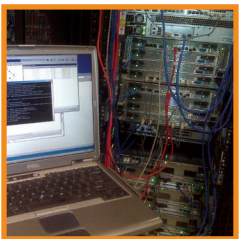
- System review, topology, networking, and cabling
- Work with the CLI command structure
- Titan flash access
- Install and update server firmware and SSloader
- Run SSC sessions using the SMU or client

##### Storage access optimization

- Optimize storage pools for performance
- Working with SCSI queue limits
- Work with span and port commands
- Optimize filesystem block size
- Thin-provision filesystems
- Set up filesystem access time

##### Advanced data protection methods

- Disaster preparation and recovery principles
- Asynchronous replication configuration and management
- Replication recovery modes and methods
- Restart replications
- Use Quick Snapshot restore
- Data Migrator Links CVL-1 and CVL-2
- Migration to external devices
- Migration with de-duplication devices
- Migration to multiple targets



### BLUEARC STORAGE SYSTEM TROUBLESHOOTING AND DIAGNOSTICS

**MNT400:** This course provides attendees with the skills necessary to perform fundamental troubleshooting tasks and to collect data to help with problem resolution for the BlueArc storage system. This course is intended for customers who will perform troubleshooting and diagnostic work on their own systems. This course is also designed for BlueArc strategic business partners and channel partner who required skills growth that allows them to provide L1 and L2 support directly to customers with an improved escalation process directly with BlueArc.

**Prerequisites:** Attendees must have attended the Titan Server System Administration class, and should have a minimum of 6 months experience administering the Titan server system.

**Demonstrated Proficiency:** Using the information gained through instruction, discussion, and available online and printed resources, students will demonstrate their knowledge by performing a series of labs.

#### Topics Covered

##### System troubleshooting basics

- System review, topology, networking, and cabling
- Basic troubleshooting, data collection, and analysis
- Reset checklists, and verify system status
- Set up and verify monitoring utilities
- Collect logs, and assess event information
- Working with the CLI
- Recognize hardware conditions

##### Assessing issues with storage filesystem access

- Assess CIFS and NFS issues
- Assess mixed mode and permissions
- Reset checklists, and verify system status
- Assess issues with snapshots, backup, and NDMP
- Check CNS entries
- Storage firmware upgrade guidelines

##### Assessing networking and configuration issues

- Install and update system software
- Identify performance problems
- Collect network trace data
- Port mirroring
- Check network and performance data

##### Monitoring performance and troubleshooting

- Analyze data for common problems
- System management unit and server logs
- Tips on examining and analyzing logs
- Selecting data for support calls
- Support and escalation procedures

**COURSE AVAILABILITY**

Standard BlueArc technical training is offered on a regular schedule, available for viewing at our website.

Training is held at BlueArc provided or approved training facilities. We can deliver our standard Administration course and some customized courses at customer premises. Installation, Advanced, and Troubleshooting courses are provided at our BlueArc training facilities.

Check our website for course schedule and availability, as well as upcoming special events and offers.  
<http://www.bluearc.com/html/support/tech-education.shtml>.

**PAYMENT OPTIONS**

Technical education is available using either a purchase order or secure web payment options. Please check our website for details or contact your authorized BlueArc representative. Note: Technical Education is often included in the purchase of BlueArc storage systems – be sure to check your purchase order.

**BLUEARC CANCELLATION POLICY**

BlueArc reserves the right to cancel any education event, but, will make every effort to contact you at least 14 days before a scheduled event. (We may cancel a course if less than five attendees are enrolled.)

**CUSTOMER CANCELLATION POLICY**

Customer cancellation requests received more than 30 days prior to the scheduled course date will be not be billed. Cancellation requests received less than 30 days prior to the scheduled course date will be billed in full. The student has the option of rescheduling their participation at any time within the following 12 months.

**REGISTRATION**

To register or request more information, please contact BlueArc. You may order training directly with your account manager or authorized sales representative. You can obtain more information or contact BlueArc Technical Education at:

- <http://www.bluearc.com/html/support/tech-education.shtml>
- email: [teched@bluearc.com](mailto:teched@bluearc.com)
- 408-576-6630

**BlueArc Corporation**  
*Corporate Headquarters*  
50 Rio Robles Drive  
San Jose, CA 95134  
t 408 576 6600  
f 408 576 6601  
[www.bluearc.com](http://www.bluearc.com)

**BlueArc UK Ltd.**  
*European Headquarters*  
Queensgate House  
Cookham Road  
Bracknell RG12 1RB, United Kingdom  
t +44 (0) 1344 408 200  
f +44 (0) 1344 408 202

**BLUEARC**<sup>®</sup>