Introduction to IT Infrastructure Technologies

Skills and expertise to help you increase the business value in the field of IT Infrastructure technologies

Education and Training Services

This course is specially designed for new sales and technology professionals who wish to expand their knowledge and career in the field of IT Infrastructure Technologies.

This two day face-to-face instructor led class is designed to develop IT Infrastructure related technology skills and strategies associated with managing the explosive growth of business data across the enterprise in today's networked economy.

It introduces the basic concepts and terminology associated with technologies like Data Centers, Internet of Thins (IoT), Backup Recovery and Data Security, Data Center Technologies, Cloud Computing, Storage technologies including Block, File and Object Storage , and security in an IT environment.

For complete details on our education and training services program, please visit : https://www.tlcpak.com/educ.html

Audience:

This course is suitable for anyone who requires to attain basic knowledge on IT Infrastructure technologies. This course is ideal for starting your career as IT Infrastructure sales or technology specialists, IT consultants and system integrators. This session is equally beneficial for senior managers and IT human resources who want a technology refresher based on emerging technologies.

Prerequisites:

Participants attending this course should be familiar with basic Information Technology concepts and the role of general IT Infrastructure technologies like servers, storage and security.

Objectives: Skills Gained

On successful completion of this course, students should be able to:

- Understand Data Center technologies.
- Continuous Availability for Local & DR – Change Management.
- 9 Layer of IT Infrastructure Foundation – Knowing the Mistake.
- Why Data Protection is important?
- Understand virtualization and see how key challenges are solved by using virtualization technologies.
- The role of Hypervisor. Standardization to consolidation to virtualization roadmap.
- Understand IoT as the emerging technology.
- Overview of Internet of Things (IoT) and its key features and uses.
- Understand why backup recovery and data security is important from business perspective.
- Data replication technologies and replication types and their applications.
- Data integrity and data consistency.
- Understand the importance of RPO and RTO.
- Consequences of data security breaches.
- Understand Data Center technologies and Nine Layers of IT Infrastructure foundation.
- Data Center Architecture and Design, Energy Consumption and Energy Efficiency, Security and Safety, Management and Monitoring.
- Understanding TCO and TCA with examples
- Exploiting Cloud Computing Technologies.
- Understand Cloud deploy models and services models.
- Cloud Security
- Understand basic model of security architecture.
- List general guidelines for security policies.
- Enterprise security in view.

Detail Information

Course Code : TN175

Course Duration : 2 Day - Face- to-Face Workshop

Course Location : TLC and Customer On-site.

Terms & Conditions :100% payment in advance.

Course Deliverable: Comprehensive Student Guide and Course Certificate

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TLC
Education and Training Services

This two day Face-to-Face workshops shall be delivered by professional with 27 years of career experience who have worked in top 5 international computer vendor organizations.

Unit 1 – Data Center Technologies

- Understand Data Center – Consolidation & Colocation.
- Next Generation Data Center.
- System Availability – Some Facts.
- Continuous Availability for Local & DR – Change Management.
- 9 Layer of IT Infrastructure Foundation – Knowing the Mistake.
- Why Data Protection is important?
- Why enterprises are increasingly more vulnerable to disaster?
- Important consideration from Data Recovery point of view.
- Understanding Recovery Point Objective – RPO and RTO.

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- Data Center Tiers.
- Data Center Architecture and Design.
- Data Center Security and Safety.
- Data Center Infrastructure Management and Monitoring.
- Open System Interconnection – OSI Model.
- Networking Devices – An integral part of Data Center.
- Mandatory components of Data Center.
- Some of the Big Challenges – Data Center.
- IT Infrastructure Management.
- Difference between TCO and TCA.
- IDC's top 10 predictions for the data center.

Unit 2 – Virtualization Technologies

- Typical standalone server configuration.
- Management key objectives & Challenges.
- Virtualization Defined.
- Understand different forms of Virtualization.
- Traditional IT Infrastructure.
- What is Virtualization and the role of hypervisor.
- Virtualization and overall benefits.
- CPU, Memory, Storage and Network virtualization.
- Advantages of virtualization.
- Impact of Server Virtualization – Consolidation Example.
- Virtualization – Hypervisor, the core technology.
- Desktop virtualization.
- Storage Capacity Utilization – Expanding more for less.
- Why there is a need for Storage Virtualization.
- Key features & benefits offered by Storage Virtualization.
- Flexibility through Storage Virtualization.

Unit 3 – Storage in View – Block, File and Object Storage Technologies

- Storage types and subsystems
- IT Trends and storage dilemma
- Business requirements
- Pressure on the IT management
- Information infrastructure model
- Information explosion – The growth
- Reduce cost, minimize risk and improve services
- Backup and restore solutions Planning about new storage purchase
- Understanding SAN & the role of SNIA – Standards & Compliances.
- Why SAN and SAN highlights and utility.
- Components and benefits of SAN.
- SAN – A high speed data transfer between hosts.
- Protocols supported by SAN – FC SAN and IP SAN.
- Understand igroup and LUN.
- Logical Unit Number specifics.
- Information you require to create a LUN.
- Understanding Block Level Storage & its applications.
- Major SAN players.
- Understand file sharing environment and NAS.
- Describe File Based Storage and NAS Advantages.
- Understand NAS Protocols – NFS, CIFS, HTP.
- Server and NAS connectivity.
- NAS communications and security.
- iSCSI – What is it? and Basic iSCSI storage configuration.
- Understanding TCP/IP Offload Engine (TOE).
- NAS Implementation.
- Understand NAS I/O and NAS benefits.
- SAN NAS comparison chart.
- SAN NAS comparison chart.
- Understand Snapshot technology.
- Understanding Network Data Management Protocol and its functionality.
- Difference between Unstructured and Structured data types.
- What is an Object and Metadata?

For additional information please write to us at: info@tlcpak.com

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The workshop facilitator of this workshop has contributed and co-author of 10 IBM Redbooks and have delivered technology workshop bot both local international customers since 1995.

Unit 3 –Storage in View – Block, File and Object Storage Technologies

- What is Object Storage?
- Understand Object Storage Concepts.
- About Object Store Contents.
- Abstraction of Storage.
- Object Storage components.
- Key characteristics of Object Storage.
- Object Storage – Data Containers & Attributes.
- Components of Object Storage.
- Understanding REST.
- Features and Benefits of Object Storage.
- Nine reasons Object Level Storage adoption has increased.
- Object Storage – Usage scenario with respect to Applications.
- Global Use Cases.
- Object Storage as a Scalable Cloud Storage Service.
- Global Object Storage vendors and their positioning.

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Unit 4 - Backup Recovery and Data Security

- Why backups are important?
- Why recovery of the data is critical?
- Types of general purpose user applications.
- Data replication technologies and replication types.
- Network bandwidth consideration and latency.
- Data integrity and data consistency.
- Online backup consistency and problems.
- Understanding Encryption – Symmetric & Asymmetric.
- Why encryption is essential.
- Consequences of data security breaches.
- Fabric-based encryption for data-at-rest.
- Self Encrypting Hard Disk Drives and Tape Drives.
- Data Encryption supported on Storage Subsystems – Example.

Unit 5 - Cloud Computing Defined

- Cloud Computing Defined.
- Defining Service Oriented Architecture (SOA) and Web Services.
- Describe Representational State Transfer (REST) Architecture.
- Technologies that Enable Cloud Computing.
  - Virtualization, Hypervisor, Provisioning, Orchestration, Security, and Lifecycle Management.
- Understand three Cloud Service Models & their details.
- Describe Cloud four Deployment Models with Several Variations and their details.
- Clients are moving workloads to cloud.
- Application Readiness with respect to Cloud.
- Cloud solution to common IT problems & challenges.
- Common terms & phrases related to cloud solutions.
- Cloud Architecture and a view on Cloud Computing Reference Architecture.
- Cloud migration from architecture through implementation.
- Vendors are helping their clients achieve compelling business outcomes.
- Cloud local and international market players.
- Cloud boundaries getting blurred and complex.

Unit 6 - Exploiting Internet of Things (IoT)

- What is Internet of Thing – IoT and Major components of IoT.
- Understand how IOT Works and Example of an IoT system.
- What are Sensor Based Data Acquisition Systems?
- Internet of Things – Hardware & Software.
- Basic Architecture of Internet of Things.
- IoT – Embedded Operating System and Supported Platforms.
- Top 5 wireless technologies for IoT & 5G networks.
- IoT is the current wave of the Internet.
- M2M Vs IoT – A Smart Comparison
- IoT disadvantages that you should know.
- IoT Market – Sizing the opportunity.
- Emerging Standards supporting IoT.
- Standard IoT Devices & Simple view of the Internet of Things.
- IoT Device Management.
- Internet of Things - Common Uses and IoT Applications.
- Why most IoT projects are unsuccessful.

Unit 7 – Information Security Awareness

- Our world – and how we interact with it – is changing.
- The Evolution of Data increases storage security threats.
- The Evolution of Storage technologies and future.
- What is Information Security and Dependability.
- Business Drivers for Data Security and Risks attached to Poor Security.
- Top 11 ways poor cyber security can harm you.
- Key Cybersecurity initiatives business should consider.
- Security Vs. Safety in a view.
- Threats definitions – Just a refresher.
- Malware Detection and Security – Defense in depth.
- Avoid Social Engineering and Malicious Software.
- Other Hacker tricks to avoid.
- Understand Fraud and Pulling fraud out of the shadows.
- Top Security Concerns for Cloud-Based Storage Services.
- Keep your Storage Security policy simple.
- 5 Questions you should ask your Cloud Services Provider
- Top 5 Cloud Storage Security Challenges.
- Generalized Security Framework.
- Traditional Approach to Security.
- Enterprise Security in a View.