

# **A2Z Computex**

**A Research Institute of IT and Management**

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- . Web Solutions**
- . IT Training and Projects**
- . Software Solutions**
- . Network Solutions**
- . Database Solutions**
- . IT Outsourcing & Services**



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## **Our Services**

1. Web SEO
2. Web Design
3. Web Hosting
4. Domain Name Registration
5. CMS Web Development
6. Logo Designing
7. Hire Developers/Network Engineers/Programmers
8. Graphic Designing
9. SSL Implementation
10. Manage Google AdSense
11. Brochure Designing
12. IT Manpower Consultancy
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About Our Company

Benefits of A2Z Computex

## Welcome to A2Z Computex!!

A2Z Computex is a Professional Web Development and IT Training Company in India. A2Z Computex offers Complete Web Solution, Web Designing, Web Hosting, Content Management System - CMS, Graphic Designing SEO and IT Trainings.

A2Z Computex is a 100% export oriented unit providing cutting edge software solutions to its US based clients since 2010. Our main focus area is Product Development and Project based application/web development/IT Trainings.

A2Z Computex vision is to establish long term strategic business partnerships with its US based Clients, by engaging them into mutually beneficial IT projects and solutions.

With its strong business partnerships with US based technology and services companies with more than 10 years of functional and domain knowledge expertise in IT industry, A2Z Computex. Has established a commanding position in providing innovative products and technology solutions to IT industry in India.

Over last few years we have developed an impressive list of high profile clientele in India.

The goal of A2Z Computex is to work with our client to understand their unique business needs, cultivate new ideas and implement solutions which will directly and indirectly impact their bottom line. Our success will be measured by the quality of the long-term relationships that we cultivate with our clients; our Energetic development approach provides quality project deliverables with lowest cost.

At A2Z Computex, we understand that the quality of your web site can have a direct and significant effect on the success of your online business. From graphic design to copywriting, every component of web development needs to be considered and implemented with care and skill. With our team of web specialists, we can help you build an outstanding and effective web site that will move your business forward.

The Indian IT sector is growing at a very fast pace and is expected to earn a revenue of US \$87 billion by 2008. In 2006, it has earned revenue of about US \$ 40 billion with a growth rate of 30%. IT sector is expected to generate 2.3 million jobs by 2010, according to NASSCOM (National Association of Software and Service Companies).

With this rapid expansion of IT sector and coming up of major players and new technologies like SAP, the need of human resource development has increased.

According to the recent review by Harvard Business Review, there is a direct link between training investment of the companies and the market capitalization. Those companies with higher training investment had higher market capitalization. It clearly indicates that the companies which have successfully implemented training programs have been able to deliver customer goals with effective results. It shows that good training results in enhancement of individual performance, which in turn, helps the organization in achieving its business goals.

Backed by a team of professionals who have successfully trained and placed students.

A2Z Computex offers a wide spectrum of technical courses and application courses designed to suit every skill level, as well as the ability to consult directly with organizations to tailor made learning plans for any number of employees. Our products and services have a wide appeal and are applicable those in varied positions including network administrators, Database administrators, systems administrators, test engineers, software developers, Web developers, help desk staff, IT managers, and business professionals.

## Great Goals

### 1 Vision

“SA Vidya Ya Vimuktaye” To Provide “Good Education that liberates “

### 2 Mission

Create Globally Competent IT Professionals

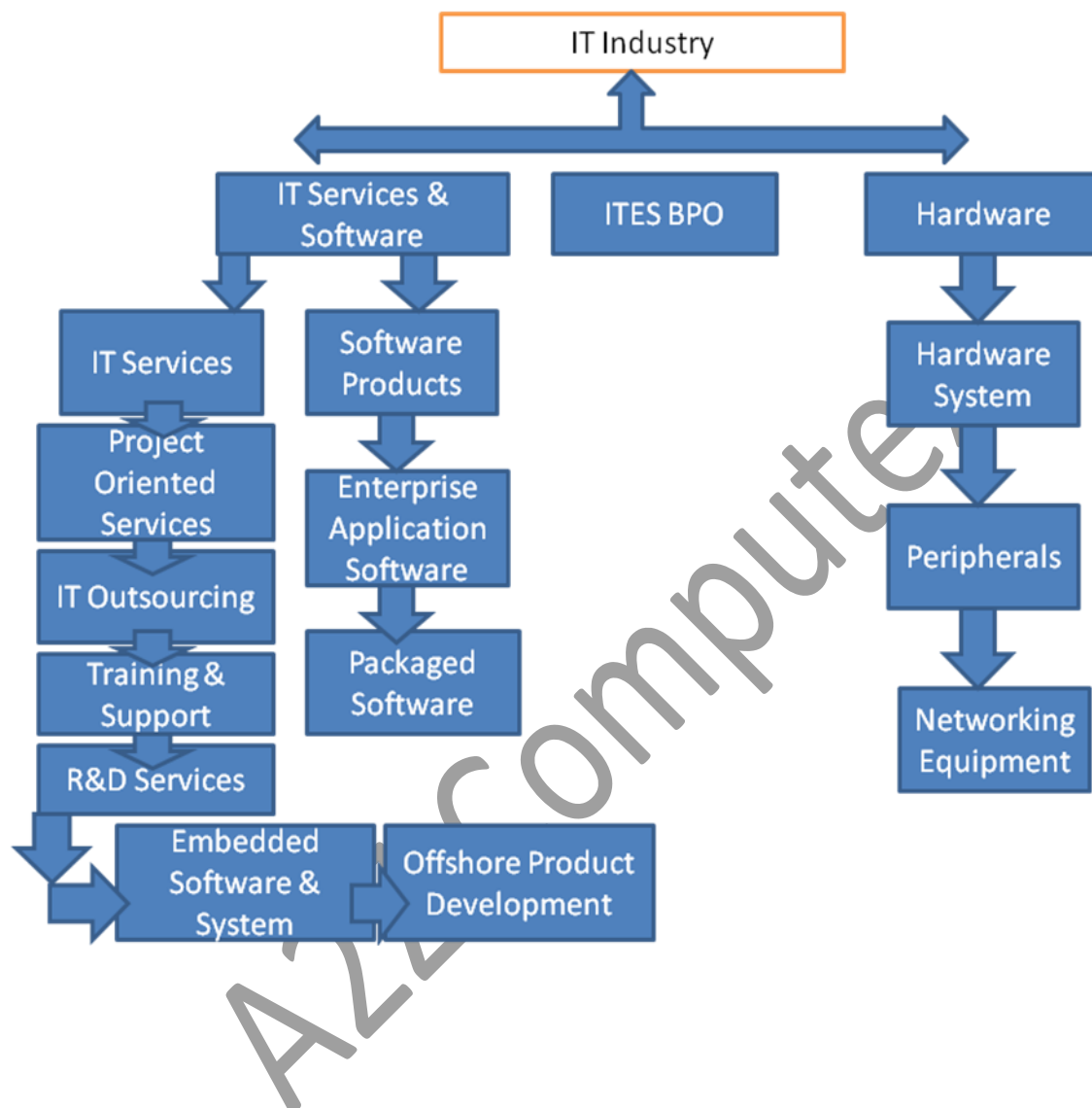
### 3 Values

We Believe In; Leadership, Creativity, Transparency, Integrity, Trust and Equanimity

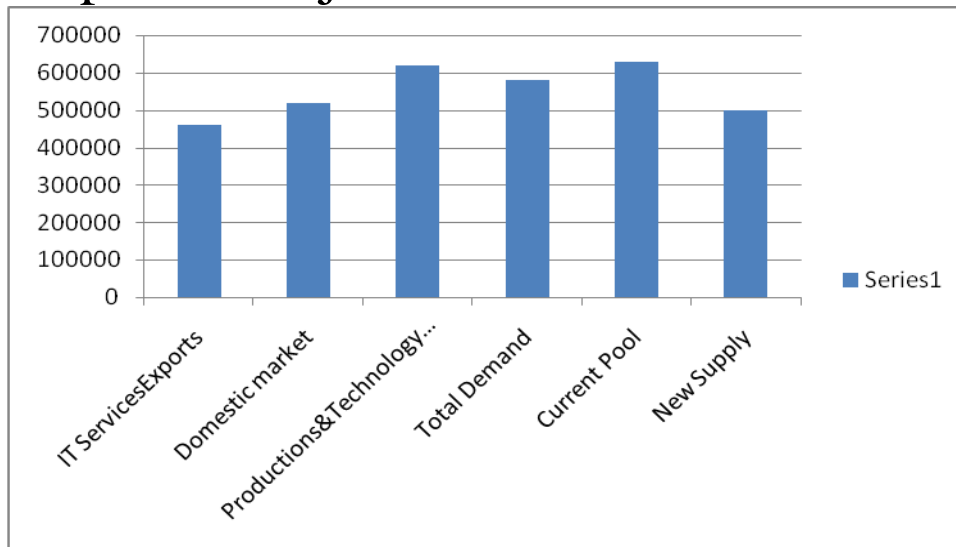
### 4 Credos

When I Hear , I forget When I Question And Discuss I Begin To Understand when I go on to do I acquire knowledge And Skill When I teach Another I master When I learn to Be equanimous I am able to grow to my full potential

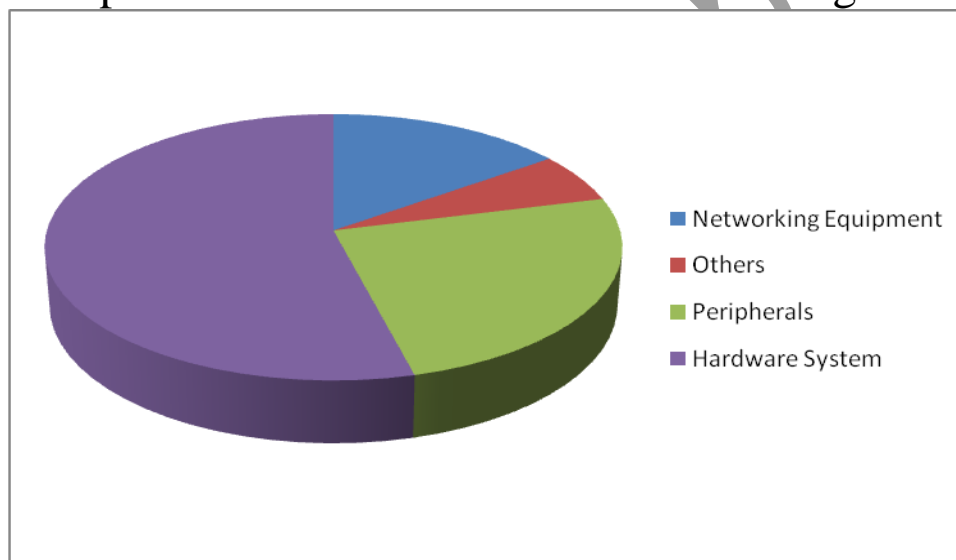
# Indian IT Segmentation



## Manpower Projections for the Indian IT Industry



## Composition of the Domestic Hardware Segment-2009-10



# Smarten Up With Smart Lab Plus

## A2Z Computex Unique Training Methodology Includes

- 1 Industrial Visit  
Regular Visits To Companies to enhance Practical knowledge
- 2 English speaking  
Individual attention to each student to develop English language skills (both reading and writing)
- 3 Personality development  
It makes communication and interpersonal skills strong and effective personality development courses also help in resume building and interview preparation
- 4 yoga  
Simple asanas are performed everyday before lectures to help reduce stress and maximize retention
- 5 60% practical's  
Increase hardware familiarity
- 6 smart rain  
Increase result through a unique teaching methodology
- 7 CBT (Computer Based training)  
Watch and understand step by step procedure on the computer topics are taught in English and hindi with written instructions
- 8 Comprehensive Quiz  
After Completion of Each Topic a related quiz is conducted the student grasp then topic easily and it helps them realize there competency

## Smart rain

Some of the training techniques used to sharpen the students focus

### **Ebbinghaus curve of forgetting:**

The training methodology adopted by A2Z Computex is best on the research carried out by eminent scientist and researchers. In 1885 researcher carried out by Hermann ebbinghaus showed that if people are exposed to an idea one time in 30 days they retain less than 10 % of the contain. Albert Mehrabian in 1960 carried out a research in which he found that if people where exposed to an idea times with interval reinforcement at the end of 30 days they retained more 90% of the contain.

At A2Z Computex we present the theory/concept and then review it at regular interval which range from 10 minutes, 1 hour, 1 day, 3 day, 1 week to 3 week. The interval reinforcement is carried out in variety of ways quiz session presentation by students brain storming this ensure that the student retain the concept even after 1 month the session.



## Training techniques applied at A2Z Computex

<b>Practical's</b>	<b>Projects</b>
<b>Presentations</b>	<b>Interviews</b>
<b>Lecturers</b>	<b>News Articles</b>
<b>Brainstorming</b>	<b>Quiz</b>
<b>Whiteboards</b>	<b>Question and Answers</b>
<b>Charts</b>	<b>Reports</b>
<b>Video splitters</b>	<b>Review</b>
<b>Debates</b>	<b>Role-Playing</b>
<b>Demonstrations</b>	<b>Story-Telling</b>
<b>Field Trips</b>	<b>Simulations</b>

## Web Development & Web Design

### Module 1: HTML

#### Duration (12 hours)

- Fundamentals of Site Design – creating a flow chart
- Introduction to HTML Tags & HTML Syntax
- Browser Comparisons (Netscape, IE, Opera)
- Formatting an HTML Document and Text Formatting
- Applying Text Attributes
- Creating Lists – Numerical, Alpha, and square boxes
- Creating Hyperlinks – three types, absolute, relative and bookmark.
- Embedding Graphics and Alternate commands
- Comparing HTML Development Tools (Front Page, Adobe Page mill, Allaire Home site, Hot Dog, Hot Metal, Dreamweaver)
- Creating Simple Tables – borders, shading.
- Creating Complex Tables – colors, images, hyperlinks
- Using Tables as a Layout Tool – framework for a page
- Creating Forms – Guestbook, Customer Response Forms

- Capturing Information from Forms
- About CGI Scripts – how they works.
- Transferring Files via FTP, Cute-FTP, WS-FTP
- Understanding Site Activity Reports
- The Developer's Toolkit – links to help sources on the net
- Building Frames – pro's and con's
- Building Invisible Frames (MSIE only)
- More about Graphics and Their Attributes
- Tips on Designing Graphics for Fast Load Times
- Creating and Embedding Animated Graphics – Using GIF Animator
- Creating Image Maps – Using CuteMap or CoffeecupMap
- What is Shockwave and Flash. Where to use and not use them.
- Online Resources for Graphics and Animated Graphics
- Search Engines and their Functionality
- Meta Tags and their Function
- Building Sites for Better Search Results
- Overview of the past day, create 5 a simple page web
- Cascading Style Sheets – different examples and usages
- Incorporating JavaScript into your website
- Embedding Audio, & Video
- What is XML in a nutshell?
- What are Cookies and how do they work? How to clean them up.
- Advanced Online Resources i.e. shopping carts; secure transaction capability; Third party credit card clearing etc.

## **Module 2: CSS**

### **Duration (12 hours)**

#### **CSS review and basics**

- CSS syntax
- CSS selectors
- Classes and ID's
- CSS1 vs CSS2 vs CSS3
- The cascade
- Inheritance
- Specificity
- Validating your CSS

#### **Some basic CSS properties**

- The box model
- Block vs inline elements
- Div's and spans
- Border properties

- Width, height and max, min
- The auto property

## **Creative artwork and CSS**

- Using images in CSS
- Applying texture
- Graduated fills
- Round corners
- Transparency and semi-transparency
- Stretchy boxes
- Creative typography

## **Layout principals with CSS**

- Document flow
- Absolute positioning
- Relative positioning
- Static positioning
- Floating elements

## **Building layout with CSS**

- A centered container
- 2 column layout
- 3 column layout
- Faux columns

## **CSS based navigation**

- Mark up structures for navigation
- Styling links with pseudo classes
- Building a horizontal navigation bar
- Building a vertical navigation bar
- CSS drop down navigation systems

## **Creating a CSS styled form**

- Form mark up
- Associating labels with inputs
- Grouping form elements together
- Form based selectors
- Changing properties of form elements
- Formatting text in forms
- Formatting inputs
- Formatting form areas

- Changing the appearance of buttons
- Laying out forms

## **Styling a data table**

- Basic table mark up
- Adding row and column headers
- Simplifying table structure
- Styling row and column headings
- Adding borders
- Formatting text in tables
- Laying out and positioning tables

## **Creating a print page**

- Switching to a different media for print
- Showing and hiding elements
- Altering layout for print
- Changing font and font size for print
- Showing or hiding link information
- Previewing and testing print styles

## **Working with other media types**

- Switching to a different media
- Delivery to other devices
- Dynamically switching style sheets
- Accessibility considerations
- Graceful transformation

## **Common CSS problems and Hacks!**

- Browser support issues
- Writing CCS rules for specific browsers
- Has "layout" for IE
- Peek-a-boo bug and Holly hack
- IE box model problem and Tan Hack
- Float clearing issues and :after
- 3 pixel jog
- Validating your CSS
- Common validation errors

## **Module 3: JavaScript**

### **Duration (12 hours)**

- Introduction to JavaScript
- JavaScript's Humble Beginning
- JavaScript and ECMA
- New Features of JavaScript 1.5
- Internet Explorer vs. Netscape Navigator
- Introducing the DOM
- Recognize Methods, Properties, and Event Handlers
- Script Placement
- External Script Libraries
- Viewing Errors in Browsers
- Variables, Expressions, and Evaluations
- Operators
- Simple Conversions
- JavaScript Conditions and Loops
- The if/if...else Control Structure
- else...if
- The Switch Statement
- Boolean Operators: NOT/AND/OR and Bitwise
- NOT
- AND
- OR
- Loops
- for Loops
- Breaking Out of the Loop
- Skipping an Iteration
- while Loops
- do-while Loops
- Strings and Functions
- Strings
- Manipulating Strings
- String Concatenation
- Changing String Case
- Substring Searches
- Substring Extraction
- Functions
- Creating Your Own Functions
- Function Parameters
- Returning Data from Functions
- Variable Scope
- Introduction to Arrays
- Simple Arrays

- Arrays as Structures
- Parallel Arrays
- Multidimensional Arrays
- Using the Array Object
- Length
- Concat
- Join
- Form Interaction
- Working with Form Objects
- Form Basics
- Form.method Property
- Form.action Property
- Form.Elements[]
- Text Objects
- Button Objects
- Check Box Objects
- Radio Objects
- Select and File Objects
- File Input Object
- Validation and the onSubmit Event
- Built-In Objects
- String Object
- Prototype Properties and Methods
- charAt()
- charCodeAt()
- fromCharCode ()
- String.match(RegExp)
- String.replace(RegExp, string)
- String.split("delimiter", [limit in  
t]) or (RegExp)
- Date() Object
- Working with Other Dates
- Math Objects.
- The Number Object
- The Boolean Object
- The Math Object
- Math Object Methods and Properties

## **Module 4: jQuery**

### **Duration (6 hours)**

- Introduction to jQuery
- Understanding the importance of jQuery
- Download installing and using jQuery
- jQuery basic concepts
- jQuery advanced concepts
- Using jQuery to get content asynchronously
- Using jQuery to submit form
- Using jQuery with PHP
- jQuery to add animations in web application
- Introduction to jQuery plugins
- List of most used jQuery plugins
- Examples of jQuery form plugin
- How to create real-life application using jQuery

## **Module 5: Ajax**

### **Duration (6 hours)**

- Ajax Introduction
- Cross-Browser XMLHttpRequest Object
- XMLHttpRequest Properties
- XMLHttpRequest Methods
- Communicating with the Server
- Processing Text Responses
- Processing XML Responses
- Attributes Named id and of Type ID
- Defining a Callback Handler Function
- Handling Multiple XMLHttpRequest Objects

## **Module 6: MooTools**

*Duration (6 hours)*

- Introduction to MooTools
- Understanding the importance of MooTools
- Download installing and using MooTools
- MooTools basic concepts

- MooTools advanced concepts
- Using MooTools to submit form
- Using MooTools with PHP
- MooTools to add animations in web application
- Introduction to MooTools plugins
- List of most used MooTools plugins
- Examples of MooTools form plugin
- How to create real-life application using MooTools

## Module 7: **PHP & MySQL**

*Duration (32 hours)*

- PHP Basics
  - How PHP Works
  - The php.ini File
  - Basic PHP Syntax
    - PHP Tags
    - PHP Statements and Whitespace
    - Comments
    - PHP Functions
    - Hello World!
  - PHP Tags
  - PHP Statements and Whitespace
  - Comments
  - PHP Functions
  - Hello World!
  - Variables
    - Variable Types
    - Variable Names (Identifiers)
    - Type Strength
    - Hello Variables!
    - Variable Scope
    - Superglobals
    - Constants
    - Variable-Testing and Manipulation Functions
  - Variable Types
  - Variable Names (Identifiers)
  - Type Strength
  - Hello Variables!
  - Variable Scope
  - Superglobals
  - Constants
  - Variable-Testing and Manipulation Functions
  - PHP Operators
  - Creating Dynamic Pages
    - Single Quotes vs. Double Quotes
    - Howdy World!



- Single Quotes vs. Double Quotes
  - Howdy World!
  - Conclusion
- Flow Control
  - Conditional Processing
    - If Conditions
  - If Conditions
  - Loops
    - while
    - do...while
    - for
    - break and continue
  - while
  - do...while
  - for
  - break and continue
  - Conclusion
- Arrays
  - Enumerated Arrays
    - Initializing Arrays
    - Appending to an Array
    - Reading from Arrays
    - Looping through Arrays
  - Initializing Arrays
  - Appending to an Array
  - Reading from Arrays
  - Looping through Arrays
  - Associative Arrays
    - Initializing Associative Arrays
    - Reading from Associative Arrays
    - Looping through Associative Arrays
    - Superglobal Arrays
  - Initializing Associative Arrays
  - Reading from Associative Arrays
  - Looping through Associative Arrays
  - Superglobal Arrays
  - Two-dimensional Arrays
    - Reading from Two-dimensional Arrays
    - Looping through Two-dimensional Arrays
  - Reading from Two-dimensional Arrays
  - Looping through Two-dimensional Arrays
  - Array Manipulation Functions
  - Conclusion
- PHP and HTML Forms
  - HTML Forms
    - How HTML Forms Work
    - A Sample HTML Form
    - Form Variables
  - How HTML Forms Work
  - A Sample HTML Form
  - Form Variables
  - Conclusion
- String Manipulation

- Formatting Strings
  - Concatenation
  - String Manipulation Functions
  - Examples of String Functions
- Concatenation
- String Manipulation Functions
- Examples of String Functions
- Magic Quotes
  - magic\_quotes\_gpc
  - magic\_quotes\_runtime
  - Recommendation on Magic Quotes
  - Conclusion
- magic\_quotes\_gpc
- magic\_quotes\_runtime
- Recommendation on Magic Quotes
- Conclusion
- Reusing Code and Writing Functions
  - Including Files
    - require
    - require\_once
    - auto\_prepend\_file and auto\_append\_file
  - require
  - require\_once
  - auto\_prepend\_file and auto\_append\_file
  - User Functions
    - Defining and Calling Functions
    - Default Values
    - Variable Scope
    - By Reference vs. By Value
  - Defining and Calling Functions
  - Default Values
  - Variable Scope
  - By Reference vs. By Value
  - Form Processing
    - Code Organization
  - Code Organization
  - Conclusion
- Simple SELECTs
  - Introduction to the Northwind Database
  - Some Basics
    - Comments
    - Whitespace and Semi-colons
    - Case Sensitivity
  - Comments
  - Whitespace and Semi-colons
  - Case Sensitivity
  - SELECTing All Columns in All Rows
  - SELECTing Specific Columns
  - Sorting Records
    - Sorting By a Single Column
    - Sorting By Multiple Columns
    - Sorting By Column Position
    - Ascending and Descending Sorts

- Sorting By a Single Column
- Sorting By Multiple Columns
- Sorting By Column Position
- Ascending and Descending Sorts
- The WHERE Clause and Operator Symbols
  - Checking for Equality
  - Checking for Inequality
  - Checking for Greater or Less Than
  - Checking for NULL
  - WHERE and ORDER BY
- Checking for Equality
- Checking for Inequality
- Checking for Greater or Less Than
- Checking for NULL
- WHERE and ORDER BY
- The WHERE Clause and Operator Words
  - The BETWEEN Operator
  - The IN Operator
  - The LIKE Operator
  - The NOT Operator
- The BETWEEN Operator
- The IN Operator
- The LIKE Operator
- The NOT Operator
- Checking Multiple Conditions
  - AND
  - OR
  - Order of Evaluation
- AND
- OR
- Order of Evaluation
- Conclusion
- Subqueries, Joins and Unions
  - Subqueries
  - Joins
    - Table Aliases
    - Multi-table Joins
  - Table Aliases
  - Multi-table Joins
  - Outer Joins
  - Unions
    - UNION ALL
    - UNION Rules
  - UNION ALL
  - UNION Rules
  - Conclusion
- Inserting, Updating and Deleting Records
  - INSERT
  - UPDATE
  - DELETE
  - Conclusion
- Managing Data
  - Querying a Database

- mysqli() Overview
  - mysqli Methods and Properties
  - Inserting and Updating Records
  - mysqli Prepared Statements
- mysqli() Overview
- mysqli Methods and Properties
- Inserting and Updating Records
- mysqli Prepared Statements
- PEAR:DB
  - Advantages and Disadvantages of PEAR DB
    - Why use a database abstraction layer?
    - When not to use a database abstraction layer?
  - Why use a database abstraction layer?
  - When not to use a database abstraction layer?
  - Using PEAR DB
- Authentication with PHP and SQL
  - A Database-less Login Form
  - Conclusion
- Regular Expressions
  - Perl-compatible Regular Expression Functions
    - preg\_match()
    - preg\_replace()
    - Regular Expression Tester
  - preg\_match()
  - preg\_replace()
  - Regular Expression Tester
  - Regular Expression Syntax
    - Start and End ( ^ \$ )
    - Number of Occurrences ( ? + \* { } )
    - Common Characters ( . \d \D \w \W \s \S )
    - Grouping ( [ ] )
    - Negation ( ^ )
    - Subpatterns ( ( ) )
    - Alternatives ( | )
    - Escape Character ( \ )
  - Start and End ( ^ \$ )
  - Number of Occurrences ( ? + \* { } )
  - Common Characters ( . \d \D \w \W \s \S )
  - Grouping ( [ ] )
  - Negation ( ^ )
  - Subpatterns ( ( ) )
  - Alternatives ( | )
  - Escape Character ( \ )
  - Form Validation Functions with Regular Expressions
  - Conclusion
- Session Control and Cookies
  - Sessions
    - Configuring Sessions
    - Session Functions
  - Configuring Sessions
  - Session Functions
  - Cookies
  - Conclusion

- Sending Email with PHP
  - mail()
    - Shortcomings of mail()
  - Shortcomings of mail()
  - PHPMailer
  - Conclusion
- File System Management
  - Opening a File
    - fopen()
  - fopen()
  - Reading from a File
    - fgets()
  - fgets()
  - Writing to a File
    - fwrite()
  - fwrite()
  - File Locking
    - flock()
  - flock()
  - Uploading Files via an HTML Form
  - Getting File Information
  - More File Functions
  - Directory Functions
    - Getting a Directory Listing
  - Getting a Directory Listing

## **Module 8: Wordpress**

*Duration (12 hours)*

- A brief history of WordPress
- WordPress as a blogging tool
- WordPress as a Content Management System (CMS)
- WordPress as a Social Network (e.g. BuddyPress)
- WordPress & Ecommerce
- Other uses for WordPress
- New features of WordPress 3.0
- Configuring your WordPress website
- The WordPress dashboard
- Updating Your WordPress profile (includes changing your password)
- User accounts & managing WordPress users
- Permission levels and logins
- Configuring your general, discussion, permalink, privacy, reading, writing and miscellaneous settings
- Using the WordPress content management system (CMS)
- Blogging with WordPress
- Creating Content: Posts & Pages

- Writing and managing WordPress posts
- Writing and managing WordPress pages
- Setting up and managing WordPress comments
- Creating and managing WordPress links
- Creating and managing WordPress tags & tag clouds
- WordPress categories and how to use them
- Managing files
- Managing the WordPress media library
- The wonderful world of WordPress plugins
- How WordPress plugins work, and how to evaluate new plugins
- Free and paid for WordPress themes - where to find the best
- Installing and activating WordPress themes
- Working with WordPress widgets
- Search Engine Optimisation (SEO): how to ensure your WordPress website is search engine friendly
- Refining your content to be search engine friendly
- Using Google analytics to track your users and traffic
- Adding Facebook and Twitter links and buttons

## **Module 9: Joomla**

**Duration (16 hours)**

- **Global Configuration**
  - Site settings
  - Content
    - Linked Titles
    - Read More Link
    - Item Rating/Voting
    - Author Names
    - Created Date and Time
    - Modified Date and Time
    - Hits
    - Icons
    - Table of Contents
    - Content Item Navigation
  - Server
  - Default Metadata
  - Mail
  - Caching
  - Statistics
  - SEO
  - wysiwyg editors

- **Advanced Media manager**
  - Creating image directories/folders
  - Uploading and deleting images
  - Modifying images/resizing
  
- **Module Positions and site layout**
  
- **Template Manager**
  - Installing templates
  - Setting the default template
  - Using multiple templates
  
- **Trash manager - permanently deleting menu and content items**
  
- **User administration**
  - creating users
  - editing users
  - setting access levels
  - blocking users
  - deleting users
  
- **Components**
  - Configuring and installing components
  - Sef (search engine friendly) component administration
  - JCE Text Editor configuration.
  - Rsform and philaform (form components)
  - Mass mail
  - Web links
  - Banner manager
  - Guestbook

- **Site Modules**
  - Installing Modules
  - Module Order
  - Custom Modules
  - Component modules
  - Access Level
  - Parameters
  
- **Site Mambots**
  - Installing Mambots
  - Parameters
  
- **Menus**
  - Creating new menus
  - Creating menu items
  - Configuring menu items
  - User only menus
  - Menus does and dont's
  
- **Site Content**
  - Creating, and editing content items/pages
  - Static Content Pages
  - Publishing and unpublishing content/pages
  - Setting access levels for content/pages
  - Inserting images into pages
  - Content/page parameters
  - Meta tag and meta keyword information
  - Adding menu links
  - Frontpage manager
  - Newslflash items
  - Inserting a Google maps



## Module 10: **Drupal**

*Duration (16 hours)*

- Drupal Basics
  - How Drupal began
  - What is Acquia Drupal
    - Subscriptions, Acquia Search, Hosting, DrupalGardens.
  - What technologies Drupal uses
    - Linux or Windows
    - Apache or IIS
    - PHP+MySQL
  - What is Drupal
    - Community
    - Content Management System
    - Content Management Framework
    - Web Application Framework
  - Drupal Workflow
    - Bootstrap, hooks, callbacks, output
  - Drupal terminology
    - Modules (Core and Contributed), Nodes, Blocks, Regions.
- Getting started
  - Installing Drupal
    - Setting up the admin account
    - Original setup options
  - The Admin Interface (Overview)
    - Content Management
    - Site Building
    - Site Configuration
    - User Management
    - Reports
    - Help
  - Out of the Box Modules (Overview)
    - Core Required
      - Block
      - System
      - Node
      - Filter
      - User
    - Core Optional-enabled
      - Color
      - Comment
      - Database Logging
      - Help
      - Menu
      - Taxonomy

- Update Status
  - Core Optional-disabled
    - Aggregator
    - Blog
    - Blog API
    - Book
    - Contact
    - Content Translation
    - Forum
    - Locale
    - OpenID
    - Path
    - PHP Filter
    - Ping
    - Poll
    - Profile
    - Search
    - Statistics
    - Syslog
    - Throttle
    - Tracker
    - Trigger
    - Upload
- User Contributed Modules
  - What They Are
  - Where They Are
  - What They Do
  - Downloading and Enabling
- User Management (In-Depth)
  - Roles
  - Permissions
- Layouts in Drupal
  - Blocks and Regions
  - Default Blocks
  - Custom Blocks
- File Systems
  - Storing user uploaded materials
- Understanding content-Types and Entering Content into Drupal
  - The PAGE and the STORY
  - Input Filters
  - Adding menu entries to content
  - Path Module
  - Contributed Module: PathAuto
  - Controlling the Front Page
  - Creating New Content-Types
- Advanced Content in Drupal With Contributed Module: CCK

- Adding Fields to Content-Types
  - Text Fields
  - Numeric Fields
  - Contributed Module: Link Fields
  - Contributed Module: Image Fields
  - Contributed Module: Media Fields
  - Contributed Module: Field Groups
  - Contributed Module: Node Reference
- Using the 'Display Fields' Settings
  - Teaser / Body Displays
  - Labels
  - Display Formats
- Advanced Displays With Contributed Module: VIEWS
  - Overview of VIEWS
    - Default Views Settings
    - Displays [Page, Block, RSS]
  - Creating a VIEW With the VIEWS User Interface
    - Basic Settings
    - Fields vs Node
    - Filters
    - Arguments
    - Relationships
- WYSIWYG editors in Drupal
- Conclusion

## **Module 11: Moodle a LMS**

*Duration (14 hours)*

- **Course creation and layout modification**
- **Adding resources**
- **File management**
- **Activity modules - Forum, Choice, Chat, Glossary, Quiz, Wiki, Assignment**
- **Creating a question bank**
- Download and use modules
- Theme customization
- Use of SCORM Module
- Archival, importing and sharing resources
- Site layout options
- Site / Course back up

- Global privacy and access settings
- Using in built options to modify the site appearance
- Customizing the interface terminology
- Settings and options that impact on the experience of participants in courses
- Creating and managing user accounts with manual and email authentication
- The roles system
- Monitoring user activity

## *Module 12: **Zen cart***

*Duration (9 hours)*

- Zencart Installation & Upgrades
- Zen Cart Migration
- Zen Cart Customization and Administration
- How to use payment module
- Create products categories
- Custom Zencart Design
- Zencart Design Integration
- Zencart Payment System Integration
- Zencart Module Installation and Customization
- Zencart website maintenance
- Zencart SEO
- Zencart website design
- Zencart website development
- Custom Zencart e-commerce website design

## **Module 13: osCommerce**

*Duration (9 hours)*

- OsCommerce Installation
- Menus, Categories
- Store
- Cart
- Modules, Components & Plugins
- Admin and Site Extensions
- Global Configuration
- Customizing the OsCommerce Template
- User positions & Modules
- Creating Custom OsCommerce Template
- Adding Styles to OsCommerce Template

## **Module 14: OpenCart**

*Duration (9 hours)*

- OpenCart Installation & Upgrades
- OpenCart Migration
- OpenCart Customization and Administration
- How to use payment module
- Create products categories
- Custom OpenCart Design
- OpenCart Design Integration
- OpenCart Payment System Integration
- OpenCart Module Installation and Customization
- OpenCart website maintenance
- OpenCart SEO
- OpenCart website design
- OpenCart website development
- Custom OpenCart e-commerce website design

## Module 15: **Magento**

*Duration (9 hours)*

### **Key Magento Principles:**

MVC Code Architecture, EAV Database Structure, Module Based Customization and Magento Connect

### **Magento Product / Category Administration:**

Attribute Sets, The Product Types (Simple, Configurable etc), Cross Sell, Up Sell, Related Products and SEO Techniques

### **Magento Order / Customer Administration:**

Orders, Invoices, Shipments, Credit Memos and Customer Details and Passwords

### **Basic Magento Configuration Options:**

Payment Methods, Shipping Methods and General Configuration

**Key Magento Principles:** A holistic overview of the Magento system and its core principles, philosophy and background.

**Magento Product / Category Administration:** Setting up the categories and products that make up your store and updating this catalogue. In depth coverage of the extra features of the Magento products system. This will be the largest element of the course.

**Magento Order / Customer Administration:** How to manage orders, customers, invoices, shipments and credits within the Magento administration system.

**Basic Magento Configuration Options:** A brief overview of how the Magento configuration works and a look at some of the more commonly used configuration options.

## Module 16: **VirtueMart**

*Duration (6 hours)*

- VirtueMart Home
- VirtueMart description and download
- VirtueMart Installation
- VirtueMart Configuration
- Creating Category In VirtueMart
- Adding New Products To VirtueMart
- Displaying VirtueMart In The Frontend
- Updating VirtueMart
- Coupons In VirtueMart
- Product Discount in VirtueMart

- VirtueMart Module
- VirtueMart Featured Product Module
- Hide/Display Featured Products in VirtueMart
- VirtueMart Search Module and Plugin
- VirtueMart Product Category Module
- VirtueMart Product Scroller Module
- VirtueMart Cart Module
- VirtueMart Latest Product Module
- VirtueMart Top Ten Module
- Connecting VirtueMart to PayPal (Sandbox)
- Connecting VirtueMart To PayPal

## ***Module 17: CodeIgniter***

***Duration (21 hours)***

- CodeIgniter URLs
- Controllers
- Reserved Names
- Views
- Models
- Helpers
- Plugins
- Using CodeIgniter Libraries
- Creating Your Own Libraries
- Creating Core Classes
- Hooks - Extending the Core
- Auto-loading Resources
- Common Functions
- Scaffolding
- URI Routing
- Error Handling
- Caching
- Profiling Your Application
- Managing Applications
- Alternative PHP Syntax
- Config Class
- Database Class
- Email Class
- Encryption Class
- File Uploading Class

- Form Validation Class
- FTP Class
- HTML Table Class
- Image Manipulation Class
- Input and Security Class
- Loader Class
- Language Class
- Output Class
- Pagination Class
- Session Class
- Unit Testing Class
- URI Class
- Array Helper
- Compatibility Helper
- Cookie Helper
- Date Helper
- Directory Helper
- Download Helper
- Email Helper
- File Helper
- Form Helper
- HTML Helper
- Language Helper
- Number Helper
- Path Helper
- Security Helper
- String Helper
- Text Helper
- URL Helper

## *Module 18: **CakePHP***

*Duration (19 hours)*

- **Introduction to CakePHP**
- **Understanding the MVC Pattern**

Models, Controllers, View, How it works?

- **Configuration cakePHP**



Setting up cakephp with apache environment eg: enable mod\_rewrite, configuring Cake to work with database, running cake for the first time.

- **Cake Convention**

Naming convention for models, controllers, views and database tables

- **Models**

Creating up model for a database table, retrieving data, saving and updating data, deleting data, user defined functions in models, data validation

- **Controllers**

Creating controllers, controller function, interacting with model, interacting with views, controller variables & parameters, redirection, getting post data

- **Views**

Working and configuring layouts, creating custom layouts, elements and helpers

- **Cake Session**

Storing data in cake session, reading a session data, delete data from session

- **Helpers**

JavaScript, Ajax

- **Caching**

Working with cache, activating cache, enable cache within controller, marking content that is not to be cached, clearing cache

## **Module 19: Smarty**

*Duration (9 hours)*

- Smarty Overview
- Installing and configuring Smarty Pear Module
- Setting up a Template
- Passing Data to the Template

- Smarty for Template Designers
- Smarty for Programmers
- Smarty in N-Tier Architecture
- Smarty Plugins
- Software Using Smarty - CMS
- Smarty Implementation
- Smarty Examples

## **Module 20: Adobe Photoshop**

### **Duration (22 hours)**

#### **Chapter 1: What Photoshop can do?**

1. Introducing Adobe Photoshop CS 2
2. Moving a Selection from One Image into Another
3. Correcting Colors
4. Fixing Details with the Clone Stamp Tool
5. Using Adjustment Layers
6. Sharpening the Focus
7. Creating a Dramatic Sky & Cropping the Image
8. Text Effects

#### **Chapter 2: The Bridge**

1. Introducing the Adobe Bridge
2. Using the Lightbox & Thumbnail View
3. Using the Filmstrip View
4. Viewing Thumbnail Metadata & Labeling
5. Showing Off New Features
6. Managing Your Images
7. File Naming Inside the Bridge
8. Workspaces, Location Tracking & Slide Shows

#### **Chapter 3: Setting up 'Shop**

1. Setting Preferences
2. Choosing Color Settings
3. Choosing Creative Suite Color Settings
4. Customizing Keyboard Shortcuts
5. Organizing Palettes & Saving Workspaces

#### **Chapter 4: Navigation and Resolution**

1. Zooming an Image
2. Scrolling & Panning
3. Changing Resolution & Image Size
4. Up sampling an Image
5. Down sampling an Image
6. Using the Navigator Palette
7. Customizing Your View

## **Chapter 5: Rotate and Crop**

1. Introducing the Crop Tool
2. Cropping with the Crop Tool
3. Cropping with the Marquee Tool
4. Automating Crop & Straighten
5. Straightening with the Measure Tool
6. Cropping with Perspective

## **Chapter 6: Basic Color Correction**

1. Introducing Variations
2. Adjusting Color with Variations
3. Correcting Color with Variations
4. Using the Fade Command
5. Modifying Colors with Hue/Saturation
6. Specifying Colors in Hue/Saturation
7. Selecting Color Ranges in Hue/Saturation

## **Chapter 7: Red Eye Removal and Recolor**

1. Correcting Red Eye
2. Using the Red Eye Tool
3. Recoloring with the Brush Tool
4. Using the Color Replacement Tool

## **Chapter 8: Painting with the Edit Tools**

1. Introducing the Dodge Tool
2. Introducing the Burn Tool
3. Introducing the Sponge & Focus Tools
4. Using the Dodge Tool
5. Using the Burn Tool
6. Working with the Sponge Tool
7. Pushing Pixels with the Smudge Tool

## **Chapter 9: Clone, Heal, and Patch**

1. Introducing the Clone Stamp Tool
2. Compositing with the Clone Stamp Tool
3. Using the Spot Healing Brush Tool
4. The Healing Brush & the Options Bar
5. Healing & Fading
6. Creating Textures & Patterns
7. Using the Patch Tool

## **Chapter 10: Using the Selection Tools**

1. Introducing the Selection Tools
2. Using the Magic Wand Tool
3. Exploring Magic Wand Options

4. Using the Grow & Similar Commands
5. Selecting with the Polygonal Lasso Tool
6. Selecting with the Marquee Tool
7. Saving & Loading a Selection Outline
8. Making a Composite
9. Adding a Drop Shadow
10. Cleaning Up a Selection Edge

### **Chapter 11: Selecting with Color Range**

1. Selecting Translucency
2. Darkening with the Multiply Blend Mode
3. Defining a Color Range
4. Selecting Image Highlights
5. Compositing Highlights into an Image

### **Chapter 12: Making the Most of History**

1. Modifying an Image Using Variations
2. Using Undo
3. Using the History Brush
4. Understanding History States
5. Fixing Saved Files
6. Choosing History Options
7. Saving Snapshots

### **Chapter 13: Introducing Layers**

1. Customizing the Layers Palette
2. Creating a Layer Via Copy
3. Using the Spherize Command & the Eraser Tool
4. Moving Layers in the Canvas
5. Blending Layers
6. Creating a Clipping Mask
7. Changing the Layer Order
8. Using the Fade Command
9. Using a Levels Adjustment Layer
10. Activating a Layer & Making a Composite
11. Resizing the Canvas
12. Feathering a Selection to Create a Vignette

### **Chapter 14: Groups and Comps**

1. Introducing Layer Groups & Comps
2. Applying Gaussian Blur & Deleting Layers
3. Merging Layers
4. Creating a Hue/Saturation Adjustment Layer
5. Working with Layer Groups
6. Creating a Repeating Pattern
7. Modifying a Layer Comp

## 8. Creating a New Layer Comp

### **Chapter 15: Opacity and Blend Modes**

1. Introducing Opacity & Blend Modes
2. Adjusting Layer Opacity
3. Adjusting the Fill Value
4. Understanding Last Document State
5. Introducing Blend Modes
6. Using the Normal & Dissolve Blend Modes
7. Using the Darkening Blend Modes
8. Changing Blend Modes with Keyboard Shortcuts
9. Using the Lightening Blend Modes
10. Using Overlay through Hard Mix Blend Modes
11. Using Difference through Luminosity Blend Modes
12. Applying Motion Blur to a Text Layer
13. Updating Layer Comps

### **Chapter 16: Advanced Blending**

1. Introducing Advanced Blending
2. Creating a Lens Flare
3. Merging Layers with Screen Mode
4. Preserving Keyboard Shortcuts for Mac Dock
5. Previewing Free Transform
6. Merging Blend Modes
7. Adding a Logo Element
8. Grouping & Naming Layers
9. Creating Knockouts
10. Using the Luminance Blend Mode
11. Colorizing a Layer
12. Creating a Knockout from a Layer

### **Chapter 17: Layer Styles**

1. Introducing Layer Styles
2. Colorizing an Individual Group Using Blend Modes
3. Selecting Layers with Keyboard Shortcuts
4. Applying a Drop Shadow to a Layer
5. Creating a Directional Inner Glow Using Inner Shadow
6. Adjusting Layer Colors
7. Duplicating Layer Effects
8. Working with the Layers Palette
9. Transparency Masking & Painting with Layer Styles
10. Enabling Layer Masks & Effects
11. Adjusting Opacity & Fill inside Layers
12. Saving & Applying a New Layer Style

### **Chapter 18: Masks and Channels**

1. Selecting an Image with the Magic Wand Tool
  2. Using the Channels Palette & Mixing Channels
  3. Choosing a Blend Mode Best Suited for a Mask
  4. Using the Variations Tool to Improve a Mask
  5. Fixing the Edge of a Mask Using Inner Glow
  6. Selecting a Color Channel Best Suited for a Mask
  7. Adjusting Levels in a Color Channel
  8. Using the Dodge & Burn Tools to Make a Mask
  9. Inverting & Combining Channels for Mask Edges
  10. Changing the Color of the Rebuilt Overlay
  11. Fixing Masks with the Brush Tool
  12. Compositing a Masked Image into Another Background
  13. Matching the Color Temperature of Images
- Lesson 14: Fixing Mask Edges with Inner Shadow

## **Chapter 19: Transform and Warp**

1. Introducing Transformations
2. Masking with the Levels Command
3. Using Free Transform
4. Duplicating Transformations
5. Transforming Selections
6. Masking with the Calculations Command
7. Warping an Image
8. Modifying an Image with a Layer Mask

## **Chapter 20: Creating and Editing Type**

1. Working with the Pen Tool
2. Introducing Text
3. Editing Text
4. Creating Point & Area Text
5. Modifying Existing Text
6. Modifying Multiple Text Layers at Once
7. Using Advanced Formatting Options

## **Chapter 21: Special Type Effects**

1. Checking Spelling in a Type Layer
2. Warping & Transforming Text
3. Working with Text on a Path
4. Applying Effects to Text on a Path
5. Placing Text inside a Path
6. Using Advanced Text Formatting
7. Adjusting Leading
8. Adjusting Kerning

## **Chapter 22: Vector-based Shapes**

1. Resolving Font Issues

2. The Advantages of Vector-Based Shapes
3. Introducing the Vitruvian Man & Shapes
4. Introducing the Shape Tools & Fill
5. Applying a Stroke Layer Effect
6. Using the Exclude Overlapping Command
7. Modifying a Shape Using the Arrow Tools
8. Intersect, Subtract, Add & Combine Path Components
9. Working with the Polygon Tool
10. Deleting Paths & Drawing a Gradient Arrow
11. Working with Custom Shapes
12. Creating a Custom Shape

### **23. Printing and Output**

1. Using the Print with Preview Command
2. Exploring Output Options
3. Managing Color
4. Using the Printer Dialog Box
5. Using the Contact Sheet II Command
6. Creating a Picture Package
7. Creating a Web Photo Gallery

### **Chapter 24: Actions**

1. Introducing Actions
2. Creating a Custom Action
3. Modifying an Action
4. Playing an Action
5. Loading & Saving Actions
6. Deleting & Adding Steps in an Action
7. Applying a Gradient Map
8. Correcting Anti-Aliasing
9. Adding a Drop Shadow
10. Testing an Action
11. Final Comments & Credits

# Networking & Server Configuration

What is (Wireless / Computer) Networking?

In the world of computers, networking is the practice of linking two or more computing devices together for the purpose of sharing data. Networks are built with a mix of computer hardware and computer software

## **Module 1: A+**

### **Duration (15 hours)**

Lesson 1: Personal Computer Components

Topics:

- Personal Computer Components
- System Unit Components
- Storage Devices
- Personal Computer Connection Methods

Lesson 2: Operating System Fundamentals

Topics:

- Personal Computer Operating Systems
- Windows User Interface Components
- Windows File System Management
- Windows System Management Tools

Lesson 3: PC Technician Professional Best Practices

Topics:

- Tools of the Trade
- Electrical Safety
- Environmental Safety and Materials Handling
- Perform Preventative Maintenance
- Diagnostics and Troubleshooting
- Professionalism and Communication

Lesson 4: Installing and Configuring Peripheral Components

Topics:

- Install and Configure Display Devices
- Install and Configure Input Devices
- Install and Configure Adapter Cards
- Install and Configure Multimedia Devices

Lesson 5: Installing and Configuring System Components

Topics:

- Install and Configure Storage Devices
- Install and Configure Power Supplies
- Install and Configure Memory
- Install and Configure CPUs
- Install and Configure System Boards

Lesson 6: Maintaining and Troubleshooting Peripheral Components

Topics:



- Troubleshoot Display Devices
- Maintain and Troubleshoot Input Devices
- Troubleshoot Adapter Cards
- Troubleshoot Multimedia Devices

#### Lesson 7: Troubleshooting System Components

##### Topics:

- Troubleshoot Storage Devices
- Troubleshoot Power Supplies
- Troubleshoot Memory
- Troubleshoot CPUs
- Troubleshoot System Boards

#### Lesson 8: Installing and Configuring Operating Systems

##### Topics:

- Install Microsoft Windows
- Upgrade Windows
- Add Devices to Windows
- Optimize Windows

#### Lesson 9: Maintaining and Troubleshooting Microsoft Windows

##### Topics:

- Operating System Utilities
- Maintain Microsoft Windows
- Troubleshoot Microsoft Windows
- Recover Microsoft Windows

#### Lesson 10: Network Technologies

##### Topics:

- Network Concepts
- Network Communications
- Network Connectivity
- Internet Technologies

#### Lesson 11: Installing and Managing Network Connections

##### Topics:

- Create Network Connections
- Install and Configure Web Browsers
- Maintain and Troubleshoot Network Connections

#### Lesson 12: Supporting Laptops and Portable Computing Devices

##### Topics:

- Laptop and Portable Computing Device Components
- Install and Configure Laptops and Portable Computing Devices
- Maintain and Troubleshoot Laptops and Portable Computing Devices

#### Lesson 13: Supporting Printers and Scanners

##### Topics:

- Printer and Scanner Technologies
- Printer and Scanner Components
- Printer and Scanner Processes

- Install and Configure Printers and Scanners
- Maintain and Troubleshoot Printers and Scanners

#### Lesson 14: Personal Computer Security Concepts

##### Topics:

- Security Fundamentals
- Security Protection Measures
- Data and Physical Security
- Wireless Security
- Social Engineering

#### Lesson 15: Supporting Personal Computer Security

##### Topics:

- Install and Configure Security Measures
- Maintain and Troubleshoot Security Measures

## **Module 2: N+**

### *Duration (15 hours)*

#### **Network Theory**

Networking Terminology  
 Network Building Blocks  
 Standard Network Models  
 Network Topologies  
 Network Categories

#### **Network Communications Methods**

Transmission Methods  
 Media Access Methods  
 Signaling Methods

#### **Network Data Delivery**

Data Addressing and Delivery  
 Network Connection Mechanisms  
 Reliable Delivery Techniques

#### **Network Media and Hardware**

Bounded Network Media  
 Unbounded Network Media  
 Noise Control  
 Network Connectivity Devices

#### **Network Implementations**

The OSI Model  
 Client Network Resource Access  
 Ethernet Networks  
 Token Ring Networks  
 Fiber Distributed Data Interface (FDDI) Networks  
 Wireless Technologies and Standards

## **Networking with TCP/IP**

- Families of Protocols
- The TCP/IP Protocol
- Default IP Addresses
- Custom IP Addresses
- The TCP/IP Protocol Suite

## **TCP/IP Services**

- IP Address Assignment Methods
- Host Name Resolution
- NetBIOS Name Resolution
- TCP/IP Utilities
- TCP/IP Upper-layer Services
- TCP/IP Interoperability Services

## **Other Network Protocols**

- The NetBEUI Protocol
- The IPX/SPX Protocol
- The AppleTalk Protocol
- The IP Version 6 (IPv6) Protocol

## **Local Area Network (LAN) Infrastructure**

- Bridges and Switches
- IP Routing Topology
- Static IP Routing
- Dynamic IP Routing
- Controlling Data Movement with Filters and VLANs

## **Wide Area Network (WAN) Infrastructure**

- WAN Switching Technologies
- WAN Transmission Technologies
- WAN Connectivity Methods
- Voice Over Data Systems

## **Network Security**

- Network Threats
- Virus Protection
- Local Security
- Network Authentication Methods
- Data Encryption
- Internet Security

## **Remote Networking**

- Remote Network Architectures
- Terminal Services Implementations
- Remote Access Networking Implementations
- Virtual Private Networking (VPN)

## **Disaster Recovery**

- Planning for Disaster Recovery
- Data Backup
- Fault Tolerance Methods

### **Network Data Storage**

Enterprise Data Storage Techniques  
Clustering  
Network Attached Storage (NAS)  
Storage Area Network (SAN) Implementations

### **Network Operating Systems**

Microsoft Operating Systems  
Novell NetWare  
UNIX and Linux Operating Systems  
Macintosh Networking

### **Network Troubleshooting**

Troubleshooting Models  
TCP/IP Troubleshooting Utilities  
Hardware Troubleshooting Too

## ***Module 3: MCSE***

**Duration (165 hours)**

## **MCSE Course Windows 2003**

### **MOC2151 - Microsoft Windows 2000/2003 Network and Operating System Essentials**

This course is to provide individuals who are new to Microsoft Windows 2000/2003 with the knowledge necessary to understand and identify the tasks involved in supporting Windows 2000/2003 networks. This is an introductory course designed to provide an overview of networking concepts and how they are implemented in Windows 2000/2003.

#### **Overview**

Module 1: Introduction to Windows 2000/2003 and Networking

- Windows 2000/2003 Operating Systems
- Introduction to Networks
- Windows 2000/2003 Implementation of Networking
- Review

Module 2: Administration of a Windows 2000/2003 Network

- Windows 2000/2003 Help
- Administrative Tasks
- Administrative Tools
- Review

Module 3: Securing a Windows 2000/2003 Network

- User Accounts
- User Rights
- Permissions
- Review

Module 4: Examining the Network

- Scope of Networks

- Basic Connectivity Components
- Network Topologies
- Network Technologies
- Expanding the Network
- Review

#### Module 5: Examining Network Protocols

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- Introduction to Protocols
- Protocols and Data Transmissions
- Common Protocols
- Other Communication Protocols
- Remote Access Protocols
- Review

#### Module 6: Examining TCP/IP

- Introduction to TCP/IP
- TCP/IP Protocol Suite
- Name Resolution
- Examining the Data Transfer Process
- Routing Data
- Review

#### Module 7: Examining IP Addressing

- Classful IP Addressing
- Subnetting a Network
- Planning IP Addressing
- Assigning TCP/IP Addresses
- Review

#### Module 8: Optimizing IP Address Allocation

- Classless Inter-Domain Routing (CIDR)
- Binary Subnet Masks
- IP Address Allocation Using CIDR
- Review

#### Module 9: Examining Web Services

- Identifying Internet Concepts
- Using Client Technologies
- Connecting to the Internet
- Identifying Web

### **MOC2152 - Implementing Windows Professional and Server**

This course provides students with the knowledge and skills necessary to install and configure Microsoft Windows 2000/XP on stand-alone and client computers that are part of a workgroup or domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows 2000/2003 Server to create file, print, Web, and Terminal servers.

#### Overview

#### Module 1: Installing or Upgrading to Windows 2000

- Preparing for Installation
- Installing Windows 2000/XP from a Compact Disc
- Installing Windows 2000 Advanced Server from a Compact Disc

- Upgrading to Windows 2000/XP
- Upgrading to Windows 2000 Advanced Server
- Identifying Setup Errors
- Review

#### Module 2: Configuring the Windows 2000/2003 Environment

- Configuring and Managing Hardware
- Configuring Display Options
- Configuring System Settings
- Configuring the Desktop Environment
- Configuring Internet Options for Client Computers
- Review

#### Module 3: Connecting Windows 2000/2003-based Clients to Networks

- Windows 2000/2003 Connectivity
- Connecting to a Microsoft Network
- Connecting to a Novell Netware Network
- Review

#### Module 4: Creating and Managing User Accounts

- Introduction to User Accounts
- Guidelines for New User Accounts
- Creating Local User Accounts
- Creating and Configuring Domain User Accounts
- Managing User Data by Creating Home Folders
- Setting Properties for Domain User Accounts
- Customizing User Settings with User Profiles
- Best Practices
- Review

#### Module 5: Managing Access to Resources by Using Groups

- Introduction to Windows 2000/2003 Groups

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- Groups in Workgroups and Domains
- Implementing Groups in a Workgroup
- Implementing Groups in a Domain
- Best Practices
- Review

#### Module 6: Managing Data by Using NTFS

- Introduction to NTFS Permissions
- How Windows 2000/2003 Applies NTFS Permissions
- Using NTFS Permissions
- Using Special NTFS Permissions
- Compressing Data on an NTFS Partition
- Compressing Disk Quotas on NTFS Partitions
- Securing Data by Using EFS
- Review

#### Module 7: Providing Network Access to File Resources

- Introduction to Shared Folders
- Creating Shared Folders
- Using Administrative Shared Folders
- Publishing a Shared Folder in Active Directory

- Configuring Shared Folders by Using Dfs
- Review

#### Module 8: Monitoring and Optimizing Performance in Windows 2000/2003

- Monitoring Event Logs
- Using Task Manager to Monitor System Resources
- Using System Monitor to Monitor System Performance
- Optimizing Performance
- Review

#### Module 9: Implementing Security in Windows 2000/2003

- Configuring Desktops and Services by Using Security Policies
- Auditing Access to System Resources
- Review

#### Module 10: Configuring Printing

- Introduction to Windows 2000/2003 Printing
- Adding a Printer
- Configuring a Network Printer
- Internet Printing
- Review

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#### Module 11: Configuring Windows 2000/2003 for Mobile Computing

- Configuring Hardware for Mobile Computing
- Configuring Power Management Options for Mobile Computing
- Making Files Available for Offline Use
- Connecting to Network and Computers
- Identifying Solutions to Mobile Computing Problems
- Review

#### Module 12: Configuring and Managing Disks

- Windows 2000/2003 Disk Types
- Creating Volumes on a Dynamic Disk
- Performing Common Disk Management Tasks
- Best Practices
- Review

#### Module 13: Implementing Disaster Protection

- Introduction to Disaster Protection
- Configuring an Uninterruptible Power Supply
- Implementing Fault Tolerance by Using RAID
- Backing up and Restoring Data
- Using Disaster Recovery Tools
- Review

#### Module 14: Installing and Configuring Terminal Services

- Introduction to Terminal Services
- Planning the Installation
- Installing Terminal Services
- Configuring Terminal Services
- Establishing a Terminal Session
- Configuring Session Settings
- Installing Applications on a Terminal Server
- Review

## Module 15: Implementing Windows 2000/2003 Clients

- Deploying Windows 2000/2003
- Performing a Manual Network Installation
- Customizing Installations and Upgrades by Using Switches
- Installing Windows 2000/2003 Using the Setup Manager Wizard
- Using Disk Duplication
- Installing Windows 2000/2003 Using RIS
- Troubleshooting Windows 2000/2003 Setup
- Review

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## Module 16: Implementing Windows 2000/2003-based Servers

- Common Implementation Features
- Implementing a File Server
- Implementing a Print Server
- Implementing an Application Server
- Implementing a Web Server
- Routine Administration Tasks
- Review

**Note:** Course MOC2151 and MOC2152 in combination prepares the student to write the following core exam:

70-210 -Installing, Configuring and Adminstrating Microsoft Windows 2000 Professional

70-215 -Installing, Configuring, and Administering Microsoft Windows 2000/2003 Server

## **Windows 2000/2003**

This course is for support professionals who are new to Microsoft Windows 2000/2003 and will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows 2000/2003 Server products.

### Overview

#### Module 1: Introduction to the Microsoft Windows 2000/2003 Networking Infrastructure

- Overview of the Windows 2000/2003 Network Infrastructure
- Introduction to Intranets
- Identifying Remote Access Methods
- Communicating with Remote Offices
- Providing Internet Access
- Introduction to Extranets
- Review Questions

#### Module 2: Automating IP Address Assignment by Using DHCP

- Overview of DHCP
- Installing the DHCP Service
- Authorizing the DHCP Service
- Creating and Configuring a Scope
- Customizing DHCP Functionality
- Configuring DHCP in a Routed Network
- Supporting DHCP



- Review Questions

### Module 3: Implementing Name Resolution by Using DNS

- Basics of the Domain Name System (DNS)
- Overview of the DNS Query Process
- Installing the DNS Server Service
- Configuring Name Resolution for Client Computers
- Creating Zones
- Configuring Zones
- Configuring DNS for Internal Use
- Integrating DNS and DHCP
- Maintaining and Troubleshooting DNS Servers
- Review Questions

### Module 4: Implementing Name Resolution by Using WINS

- Connecting to NetBIOS-Based Networks
- WINS Overview
- Configuring WINS Servers and Clients

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- Configuring Support for Non-WINS Clients
- Enabling WINS Database Replication
- Maintaining the WINS Server Database
- Review Questions

### Module 5: Configuring Network Security by Using Public Key Infrastructure

- Introduction to Public Key Infrastructure (PKI)
- Deploying Certificate Services
- Using Certificates
- Managing Certificates
- Configuring Active Directory for Certificates
- Troubleshooting Certificate Services
- Review Questions

### Module 6: Configuring Network Security by Using IPSec

- Introduction to IPSec
- Implementing IPSec
- Configuring TCP/IP for Server Security
- Troubleshooting Network Protocol Security
- Review Questions

### Module 7: Configuring Remote Access

- Examining Remote Access in Windows 2000/2003
- Configuring Inbound Connections
- Configuring Outbound Connections
- Configuring Multilink Connections
- Configuring Authentication Protocols
- Configuring Encryption Protocols
- Configuring Routing and Remote Access for DHCP Integration
- Review Questions

### Module 8: Supporting Remote Access to a Network

- Examining Remote Access Policies
- Examining Remote Access Policy Evaluation
- Creating a Remote Access Policy

- Troubleshooting Remote Access
- Review Questions

#### Module 9: Extending Remote Access Capabilities by Using IAS

- Introduction to IAS
- Installing and Configuring IAS
- Review Questions

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#### Module 10: Configuring a Windows 2000/2003-based Server as a Router

- Overview of Routers and Routing Tables
- Configuring Network Connections
- Enabling Routing by Using Routing and Remote Access
- Configuring Static Routes
- Configuring a Routing Interface
- Implementing Demand-Dial Routing
- Configuring the Routing Information Protocol
- Review Questions

#### Module 11: Configuring Internet Access for a Network

- Options for Connecting a Network to the Internet
- Configuring Internet Access by Using a Router
- Configuring Internet Access by Using NAT
- Review Questions

#### Module 12: Configuring a Web Server

- Overview of IIS
- Preparing for an IIS Installation
- Installing IIS
- Configuring a Web Site
- Administering IIS
- Troubleshooting IIS
- Review Questions

#### Module 13: Deploying Windows 2000/XP by Using RIS

- RIS Overview
- Installing and Configuring RIS
- Configuring Remote Installation Options
- Deploying Images by Using RIS
- Creating an RIPrep Image
- Comparing CD-based images and RIPrep images
- Identifying Solutions to RIS Problems
- Review Questions

#### Module 14: Managing a Windows 2000/2003 Network

- Windows 2000/2003 Administrative Strategies
- Performing Administrative Tasks Remotely by Using Terminal Service
- SNMP Operation
- Implementing the Windows 2000/2003 SNMP Service
- Review Questions

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#### Module 15: Troubleshooting Windows 2000/2003 Network Services

- Troubleshooting Network Problems
- Identifying the Symptoms and Causes of Network Problems

- Resolving TCP/IP Problems
- Resolving Name Resolution Problems
- Troubleshooting Network Services
- Monitoring the Network
- Installing Network Monitor
- The Network Monitor Interface

- Review Questions

Module 16: Configuring Network Connectivity Between Operating Systems

- Configuring Access to Netware Resources
- Providing Macintosh Users Access to Windows 2000/2003 Resources
- Connecting to SNA Hosts by Using Host Integration Server 2000
- Connecting to UNIX Resources
- Review Questions

**Note:** - Course MOC2153 prepares students to write elective exam: 70-216 - Implementing and Administering a Microsoft Windows 2000/2003 Network Infrastructure.

## **MOC2154 - Implementing and Administering Windows 2000/2003 Directory Services**

This course is designed to provide students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows 2000/2003 Active Directory services. The course also focuses on implementing Group Policy and performing the Group Policy-related tasks that are required to centrally manage users and computers.

Overview

Module 1: Introduction to Active Directory in Windows 2000/2003

- Introduction to Active Directory
- Active Directory Logical Structure
- Active Directory Physical Structure
- Methods for Administering a Windows 2000/2003 Network
- Review Questions

Module 2: Implementing DNS to Support Active Directory

- Introduction to the Role of DNS in Active Directory
- DNS and Active Directory
- DNS Name Resolution in Active Directory
- Active Directory Integrated Zones
- Installing and Configuring DNS to Support Active Directory
- Best Practices
- Review Questions

Module 3: Creating a Windows 2000/2003 Domain

- Introduction to Creating a Windows 2000/2003 Domain
- Installing Active Directory
- The Active Directory Installation Process
- Examining the Default Structure of Active Directory
- Performing Post Active Directory installation tasks
- Implementing an Organizational Unit Structure
- Troubleshooting the Installation of Active Directory
- Removing Active Directory

- Best Practices
  - Review Questions
- Module 4: Setting Up and Administering Users and Groups

- Introduction to User Accounts and Groups
- User Logon Names
- Creating Multiple User Accounts
- Administering User Accounts
- Using Groups in Active Directory
- Strategies for Using Groups in a Domain

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- Troubleshooting Domain User accounts and Groups
- Best Practices
- Review Questions

#### Module 5: Publishing Resources in Active Directory

- Introduction to Publishing Resources
- Setting Up and Administering Published Printers
- Implementing Printer Locations
- Setting Up and Administering Public Shared Folders
- Comparing Published Objects with Shared Resources
- Troubleshooting Published Resources
- Best Practices
- Review Questions

#### Module 6: Delegating Administrative Control

- Object Security in Active Directory
- Controlling Access of Active Directory Objects
- Delegating Administrative Control of Active Directory Objects
- Customizing MMC Consoles
- Setting up Taskpads
- Best Practices
- Review Questions

#### Module 7: Implementing Group Policy

- Introduction to Group Policy
- Group Policy Structure
- Working with Group Policy Objects
- How Group Policy Settings are applied in Active Directory
- Modifying Group Policy Inheritance
- Delegating Administrative control of Group Policy
- Monitoring and Troubleshooting Group Policy
- Best Practices
- Review Questions

#### Module 8: Using Group Policy to Manage User Environments

- Introduction to Managing User Environments
- Introduction to Administrative Templates
- Using Administrative Templates in Group Policy
- Assigning Scripts with Group Policy
- Using Group Policy to Redirect Folders

- Using Group Policy to Secure the User Environment
- Troubleshooting User Environment Management
- Best Practices
- Review Questions

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#### Module 9: Using Group Policy to Manage Software

- Introduction to Managing Software Deployment
- Windows Installer
- Deploying Software
- Configuring Software Deployment
- Maintaining Deployed Software
- Removing Deployed Software
- Troubleshooting Software Deployment
- Best Practices
- Review Questions

#### Module 10: Creating and Managing Trees and Forests

- Introduction to Trees and Forests
- Creating Trees and Forests
- Trust Relationships in Trees and Forests
- The Global Catalog
- Strategies for Using Groups in Trees and Forests
- Troubleshooting Creating and Managing Trees and Forests
- Best Practices
- Review Questions

#### Module 11: Managing Active Directory Replication

- Introduction to Active Directory Replication
- Replication Components and Processes
- Replication Topology
- Using Sites to Optimize Active Directory Replication
- Implementing Sites to Manage Active Directory Replication
- Monitoring Replication Traffic
- Adjusting Replication
- Troubleshooting Active Directory Replication
- Best Practices
- Review Questions

#### Module 12: Managing Operations Masters

- Introduction to Operations Masters
- Operations Master Roles
- Managing Operations Master Roles
- Managing Operations Master Failures
- Best Practices
- Review Questions

#### Module 13: Maintaining the Active Directory Database

- Introduction to Maintaining the Active Directory Database
- The Process of Modifying Data in Active Directory

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- The Garbage Collection Process
- Backing Up Active Directory

- Restoring Active Directory
  - Moving the Active Directory Database
  - Defragmenting the Active Directory Database
  - Best Practices
  - Review Questions
- Module 14: Implementing an Active Directory Infrastructure
- Implementing an Active Directory Infrastructure

## **MOC1561 - Designing a Microsoft Windows 2000/2003 Directory Services Infrastructure**

This course provides students with the knowledge and skills necessary to design a Microsoft Windows 2000/2003 directory services infrastructure in an enterprise network. Strategies are presented to assist the student in identifying the information technology needs of an organization, and then designing an Active Directory structure that meets those needs.

### **Overview**

Module 1: An Overview of Microsoft Windows 2000/2003 Active Directory Directory Services

- Role of Active Directory in an Enterprise
- Conducting an Organizational Analysis
- Architectural Elements of Active Directory
- Review Questions

Module 2: Designing an Active Directory Naming Strategy

- Identifying Business Needs
- DNS and Active Directory
- Review Questions

Module 3: Designing Active Directory to Delegate Administrative Authority

- Identifying Business Needs
- Characterizing the IT Organization
- Developing a Strategy for Administrative Design
- Developing a Strategy for Delegation
- Review Questions

Module 4: Designing a Schema Policy

- Identifying Business Needs
- Schema Fundamentals
- Implications of Modifying the Schema
- Planning for Schema Modification
- Review Questions

Module 5: Designing Active Directory to Support Group Policy

- Identifying Business Needs
- Applying Group Policy in Active Directory
- Review Questions

Module 6: Designing an Active Directory Domain

- Identifying Business Needs

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- Designing the Initial Active Directory Domain
- Planning for Security Groups
- Discussion: Designing Security Groups

- Planning for OUs
- Review Questions

#### Module 7: Designing a Multiple Domain Structure

- Identifying Business Needs
- Accessing Resources Between Domains
- Review Questions

#### Module 8: Designing an Active Directory Site Topology

- Using Sites in Active Directory
- Factors Affecting Replication
- Assessing the Need for Active Directory Sites
- Using Site Links in a Network
- Planning the Inter-Site Replication Topology
- Planning for Server Placement in Sites
- Review Questions

#### Module 9: Designing an Active Directory Infrastructure

- Conducting an Organizational Analysis
- Designing an Active Directory Structure
- Creating a Functional Specification
- Review Questions

**Note:** Course MOC1561 prepares students to write exam:

70-219\* - Designing and Implementing Data Warehouse with Microsoft SQL Server 7.0

### **MOC2150 - Designing a Secure Microsoft Windows 2000/2003 Network**

This course provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows 2000/2003 technologies.

#### Overview

#### Module 1: Assessing Security Risks

- Overview
- Identifying Risks to Data
- Identifying Risks to Services
- Identifying Potential Threats
- Introducing Common Security Standards
- Planning Network Security
- Review

#### Module 2: Introducing Windows 2000/2003 Security

- Overview
- Introducing Security Features in Active Directory
- Authenticating User Accounts
- Securing Access to Resources
- Introducing Encryption Technologies
- Encrypting Stored and Transmitted Data
- Introducing Public Key Infrastructure Technology
- Review

#### Module 3: Planning Administrative Access

- Overview
- Determining the Appropriate Administrative Model

- Designing Administrative Group Strategies
- Planning Local Administrative Access
- Planning Remote Administrative Access
- Review

#### Module 4: Planning User Accounts

- Overview
- Designing Account Policies and Group Policy
- Planning Account Creation and Location
- Planning Delegation of Authority
- Auditing User Account Actions
- Review

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#### Module 5: Securing Windows 2000/2003-based Computers

- Overview
- Planning Physical Security for Windows 2000/2003-based Computers
- Evaluating Security Requirements
- Designing Security Configuration Templates
- Evaluating Security Configuration
- Deploying Security Configuration Templates
- Review

#### Module 6: Securing File and Print Resources

- Overview
- Examining Windows 2000/2003 File System Security
- Protecting Resources Using DACLs
- Encrypting Data Using EFS
- Auditing Resources Access
- Securing Backup and Restore Procedures
- Protecting Data From Viruses
- Review

#### Module 7: Securing Communication Channels

- Overview
- Assessing Network Data Visibility Risks
- Designing Application-Layer Security
- Designing IP-Layer Security
- Deploying Network Traffic Encryption
- Review

#### Module 8: Providing Secure Access to Non-Microsoft Clients

- Overview
- Providing Secure Network Access to UNIX Clients
- Providing Secure Network Access to NetWare Clients
- Providing Secure Access to Macintosh Clients
- Securing Network Services in a Heterogeneous Network
- Monitoring for Security Breaches
- Review

#### Module 9: Providing Secure Access to Remote Users

- Overview
- Identifying the Risks of Providing Remote Access
- Designing Security for Dial-Up Connections



- Designing Security for VPN Connections
- Centralizing Remote Access Security Settings
- Review

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#### Module 10: Providing Secure Access to Remote Offices

- Overview
- Defining Private and Public Networks
- Securing Connections Using Routers
- Securing VPN Connections Between Remote Offices
- Identifying Security Requirements
- Review

#### Module 11: Providing Secure Network Access to Internet Users

- Overview
- Identifying Potential Risks From the Internet
- Using Firewalls to Protect Network Resources
- Using Screened Subnets to Protect Network Resources
- Securing Public Access to a Screened Subnet
- Review

#### Module 12: Providing Secure Internet Access to Network Users

- Overview
- Protecting Internal Network Resources
- Planning Internet Usage Policies
- Managing Internet Access Through Proxy Server Configuration
- Managing Internet Access Through Client-Side Configuration
- Review

#### Module 13: Extending the Network to Partner Organizations

- Overview
- Providing Access to Partner Organizations
- Securing Applications Used by Partners
- Securing Connections Used by Remote Partners
- Structuring Active Directory to Manage Partner Accounts
- Authenticating Partners from Trusted Domains
- Review

#### Module 14: Designing a Public Key Infrastructure

- Overview
- Introducing a Public Key Infrastructure
- Using Certificates
- Examining the Certificate Life Cycle
- Choosing a Certification Authority
- Planning a Certification Authority Hierarchy
- Mapping Certificates to User Accounts
- Managing CA Maintenance Strategies
- Review

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#### Module 15: Developing a Security Plan

- Overview
- Designing a Security Plan
- Defining Security Requirements

- Maintaining the Security Plan
- Review

70-220\* - Designing Security for a Microsoft Windows 2000/2003 Network

## **MOC1562 - Designing a Microsoft Windows 2000/2003 Networking Services Infrastructure**

This course provides students with the information and skills needed to create a networking services infrastructure design that supports the required network applications. Each module provides a solution based on the needs of the organization. Some Microsoft Windows 2000/2003 network solutions require a single technology, such as DHCP, to provide Internet Protocol (IP) address configuration support. In other situations, several technology options exist, such as Open Shortest Path First (OSPF), Routing Information Protocol (RIP), and Internet Group Management Protocol (IGMP), to design an IP routing scheme.

### Module 1: Microsoft Windows 2000/2003 Networking Services Infrastructure Overview

- Overview
- Introduction to Networking Services Design
- Microsoft Windows 2000/2003 Networking Services
- Translating Organizational Goals into a Design
- Review

### Module 2: TCP/IP as a Solution for Networking

- Overview
- Introducing TCP/IP
- Designing a Functional TCP/IP Solution
- Securing a TCP/IP Solution
- Enhancing a TCP/IP Design for Availability
- Optimizing a TCP/IP Design for Performance
- Review

### Module 3: DHCP as a Solution for IP Configuration

- Overview
- Introducing DHCP
- Designing a Functional DHCP Solution
- Securing a DHCP Solution
- Enhancing a DHCP Design for Availability
- Enhancing a DHCP Design for Performance
- Review

### Module 4: DNS as a Solution for Name Resolution

- Overview
- Introducing DNS
- Designing a Functional DNS Solution
- Discussion: Designing DNS Solutions

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- Securing DNS
- Enhancing a DNS Design for Availability
- Optimizing a DNS Design for Performance
- Discussion: Enhancing DNS Solutions

- Review

#### Module 5: WINS as a Solution for NetBIOS Name Resolution

- Overview
- Introducing WINS
- Designing a Functional WINS Solution
- Securing a WINS Solution
- Enhancing a WINS Design for Availability
- Optimizing a WINS Design for Performance
- Review

#### Module 6: NAT as a Solution for Internet Connectivity

- Overview
- Introducing NAT
- Designing a Functional NAT Solution
- Securing a NAT Solution
- Enhancing a NAT Design for Availability and Performance
- Discussion: Enhancing a NAT Solution
- Review

#### Module 7: Microsoft Proxy Server 2.0 as a Solution for Internet Connectivity

- Overview
- Introducing Proxy Server
- Designing a Functional Proxy Server Solution
- Securing a Proxy Server Solution
- Enhancing a Proxy Server Design for Availability
- Optimizing a Proxy Server Design for Performance
- Review

#### Module 8: Routing as a Solution for Private Network Connectivity

- Overview
- Introducing Routing
- Designing a Functional Routing Solution
- Discussion: Designing Routing Solutions
- Securing Private Network Connections
- Enhancing a Routing Design for Availability and Performance
- Discussion: Enhancing Routing Solutions
- Review

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#### Module 9: Remote User Connectivity

- Overview
- Introducing Routing and Remote Access
- Designing a Functional Remote Access Solution
- Securing a Remote Access Solution
- Enhancing a Remote Access Design for Availability
- Optimizing a Remote Access Design for Performance
- Review

#### Module 10: RADIUS as a Solution for Remote Access

- Overview
- Introducing RADIUS
- Designing a Functional RADIUS Solution
- Securing a RADIUS Solution

- Enhancing a RADIUS Design for Availability
- Optimizing a RADIUS Design for Performance
- Discussion: Enhancing the RADIUS Solution
- Review

#### Module 11: Windows 2000/2003 Network Services Management

- Overview
- Defining Management Strategies
- Identifying Management Processes
- Generating Information on the Status of the Services
- Demonstration: Scripting
- Analyzing the Collected Data
- Selecting Response Strategies
- Review

#### Module 12: Strategies for Combining Networking Services

- Overview
- Benefits of Combining Services
- Constraints of Combining Services
- Securing a Design by Combining Services
- Discussion: Combining Networking Services
- Enhancing Availability by Combining Services
- Optimizing Performance by Combining Services
- Discussion: Enhancing Combined Services Solutions
- Review

#### Module 13: Networking Service Designs

- Overview
- Evaluating the Existing Configuration
- Identifying the Essential Design Decisions

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- Providing Security
- Enhancing the Availability and Performance
- Review

**Note:** Course MOC1562 prepares students to write core exam:

70-221\* - Designing a Microsoft Windows 2000/2003 Network Infrastructure

**Note:** Exams marked with \* may be used as elective or core exams. However, one exam will not count as both a required core and an elective in the MCSE credential.

## Module 4: CCNA

### *Duration (32 hours)*

- Introduction to networking
- Network Types
- Network Topologies
- Networking media

- MAC vs. IP addresses
- Cabling
- LAB-*making cables*
- Network Technologies
- Network Devices
- Testing connectivity
- OSI Model
- TCP/IP Model
- Data Encapsulation
- Introduction To Addressing
- IP Addressing-Classfull
- Classless Addressing
- CIDR
- Subnetting with VLSM
- TCP/IP Application & Transport layers
- Introduction to Routers
- Routers Components & Models
- Routers Startup
- Routers Command line Interface
- Routers Basic configuration Commands
- Backing up & Restoring the "Cisco IOS" & "Configuration File"
- Adding Host Names to the "Host tables"
- LAB-basic configuration
- DHCP "Dynamic Host Configuration Protocol"
- LAB- *DHCP*
- Learning About Other Devices (CDP)
- Telnet
- Password Recovery
- IP Routing
- Static Routing
- Default Routing
- Introduction to Dynamic Routing
- Routing Protocol Basics
- RIP "Routing Information Protocol"
- LAB-*RIP*
- IGRP "Interior Gateway Routing Protocol"
- LAB-*IGRP*
- EIGRP
- LAB-*EIGRP*
- OSPF
- LAB-*OSPF*
- Perimeter , Firewall, and Internal Routes
- Access Control Lists-Standard
- LAB-*Standard ACL*
- Access Control Lists-Extended
- Access Control Lists-Named
- LAB-*ACL*
- NAT (Network Address Translation)

- Introduction to wireless technology
- Cisco Unified wireless solution
- Configuring our wireless Internetwork
- Introduction to IPv6
- IPv6 addressing and expressions
- How IPv6 works on the Internetwork
- IPv6 Routing Protocols
- Migrating to IPv6
- Configuring IPv6
- Introduction to WANs
- Cable and DSL
- PPP & HDLC encapsulation Methods
- Frame Relay
- LAB-Frame Relay
- Introduction To Switches & Switches Models
- STP "Spanning Tree Protocol"
- Basic Switches Configuration
- LAB-basic Switches Configuration
- VLANs "Virtual LANs"
- LAB-VLAN

A2Z Computex

# Languages Trainings

## Module 1: C

**Duration (32 hours)**

- Chapter 1: Getting Started
  1. What is C?
  2. Background
  3. Sample Program
  4. Components of a C Program
  5. Examples
  6. Data Types
  7. Variables
  8. Naming Conventions for C Variables
  9. Printing and Initializing Variables
  10. Array Examples
  11. Compiling and Executing a C Program
- Chapter 2: Functions and Operators
  1. Examples of C Functions
  2. Functions
  3. `sum` Invoked from `main`
  4. Invoking Functions
  5. Elementary Operators
  6. The `operator=` Operators
  7. Operators
  8. The Conditional Operator
  9. Increment and Decrement Examples
  10. Increment and Decrement Operators
- Chapter 3: Control Flow Constructs
  1. Examples of Expressions
  2. `if`
  3. `if else`
  4. `while`
  5. `for`
  6. Endless Loops
  7. `do while`
  8. `break` and `continue`
  9. `switch`
  10. `else if`
- Chapter 4: The C Preprocessor
  1. `#define`
  2. Macros
  3. `#include`

- 4. Conditional Compilation
  - 5. `#ifdef`
  - 6. `#ifndef`
- Chapter 5: Simple I/O
  - 1. Character I/O
  - 2. End of File
  - 3. Simple I/O Examples
  - 4. Simple I/O Redirection
  - 5. I/O with Character Arrays
- Chapter 6: More on Functions
  - 1. General
  - 2. Function Declarations
  - 3. Returning a Value or Not
  - 4. Function Prototypes
  - 5. Arguments and Parameters
  - 6. Organization of C Source Files
  - 7. Extended Example
  - 8. The `getline` Function
  - 9. The `strcmp` Function
  - 10. The `check` Function
  - 11. The `atoi` Function
  - 12. The `average` Function
  - 13. Summary
- Chapter 7: Bit Manipulation
  - 1. Defining the Problem Space
  - 2. A Programming Example
  - 3. Bit Wise Operators
  - 4. Bit Manipulation Functions
  - 5. Circular Shifts
- Chapter 8: Strings
  - 1. Fundamental Concepts
  - 2. Aggregate Operations
  - 3. String Functions
- Chapter 9: Higher Dimensional Arrays
  - 1. Array Dimensions
  - 2. An Array as an Argument to a Function
  - 3. String Arrays
- Chapter 10: Separate Compilation
  - 1. Compiling Over Several Files
  - 2. Function Scope
  - 3. File Scope
  - 4. Program Scope
  - 5. Local `static`
  - 6. `register` and `extern`
  - 7. Object Files
  - 8. Libraries



- 9. The C Loader
- 10. Header Files
- Chapter 11: Pointers (Part 1)
  - 1. Fundamental Concepts
  - 2. Pointer Operators and Operations
  - 3. Changing an Argument with a Function Call
  - 4. Pointer Arithmetic
  - 5. Array Traversal
  - 6. String Functions with Pointers
  - 7. Pointer Difference
  - 8. Prototypes for String Parameters
  - 9. Relationship Between an Array and a Pointer
  - 10. The Pointer Notation `*p++`
- Chapter 12: Pointers (Part 2)
  - 1. Dynamic Storage Allocation - `malloc`
  - 2. Functions Returning a Pointer
  - 3. Initialization of Pointers
  - 4. `gets` - a Function Returning a Pointer
  - 5. An Array of Character Pointers
  - 6. Two Dimensional Arrays vs. Array of Pointers
  - 7. Command Line Arguments
  - 8. Pointers to Pointers
  - 9. Practice with Pointers
  - 10. Function Pointers
- Chapter 13: Structures
  - 1. Fundamental Concepts
  - 2. Describing a Structure
  - 3. Creating Structures
  - 4. Operations on Structures
  - 5. Functions Returning Structures
  - 6. Passing Structures to Functions
  - 7. Pointers to Structures
  - 8. Array of Structures
  - 9. Functions Returning a Pointer to a Structure
- Chapter 14: Structure Related Items
  - 1. `typedef` - New Name for an Existing Type
  - 2. Bit Fields
  - 3. `unions`
  - 4. Non-Homogeneous Arrays
  - 5. Enumerations
- Chapter 15: File I/O
  - 1. System Calls vs. Library Calls
  - 2. Opening Disk Files
  - 3. `fopen`
  - 4. I/O Library Functions
  - 5. Copying a File

- 6. Character Input vs. Line Input
- 7. `scanf`
- 8. `printf`
- 9. `fclose`
- 10. Servicing Errors - `errno.h`
- 11. `feof`
- Chapter 16: Information About Files
  - 1. The `stat` Function
  - 2. File Existence
  - 3. Telling Time - `time` and `ctime`
  - 4. Telling Time - `localtime`
- Chapter 17: I/O With Structures
  - 1. A Database Application
  - 2. The `menu` Function
  - 3. The `fwrite` Function
  - 4. The `create_db` Function
  - 5. The `fread` Function
  - 6. The `print_db` Function
  - 7. `fseek`
  - 8. The `retrieve_db` Function
  - 9. `fflush` and `ftell`
- Chapter 18: Useful Library Functions
  - 1. `strstr`
  - 2. `strchr`, `strrchr`
  - 3. `system`
  - 4. `strtok`
  - 5. `strspn`, `strcspn`
  - 6. Math Functions
  - 7. Character Testing Functions
  - 8. `exit` and `atexit`
  - 9. `signal`
  - 10. `memcpy` and `memset`
  - 11. `qsort`
  - 12. Binary Search - `bsearch`

## **Module 2: C++**

### **Duration (32 hours)**

- Chapter 1: Perspective
  - 1. The Software Crisis
  - 2. Design Techniques
  - 3. Large Software Systems

4. Roots of Object Technology
  5. What Is Object-Oriented Programming?
  6. C++ and Object-Oriented Programming
  7. Why C++?
  8. Features of C++
  9. Pros and Cons of C++
- Chapter 2: The Language of Object-Orientation
    1. What Is an Object?
    2. What Is a Class?
    3. Encapsulation
    4. Data Hiding
    5. The Public Interface
    6. Relationships Among Classes
    7. Inheritance
    8. Polymorphism
    9. Object-Oriented Design
  - Chapter 3: C vs. C++
    1. Comments
    2. Namespaces
    3. Simple Output
    4. Simple Input
    5. Definitions Near to First Use
    6. Function Prototypes
    7. The `inline` Specifier
    8. `const`
    9. Structure Members
    10. The Reference Type
    11. Overloading Function Names
    12. Default Parameters
    13. The Scope Resolution Operator
    14. Aggregates
    15. Operators `new` and `delete`
    16. The `bool` Data Type
    17. The `string` Data Type
  - Chapter 4: Fundamentals of Classes
    1. Data Types
    2. User Defined Data Types
    3. Using the Class Concept
    4. Defining a Class
    5. `public` and `private` Access Levels
    6. The Scope Resolution Operator `::`
    7. Using Class Objects Like Built-in Types
    8. Scope
    9. Constructors
    10. Member Initialization Lists
    11. Destructors

12. Array of Objects
13. Pointers
14. The `this` Pointer
15. Passing Objects to Functions
16. Returning Objects From Functions
17. `static` Class Members
- Chapter 5: Operator Overloading
  1. Introduction
  2. Rules for Operator Overloading
  3. Rationale for Operator Overloading
  4. Overloading Member Functions
  5. Overloading Non-Member Functions
  6. `friend` Functions
  7. The Copy Constructor
  8. The Assignment Operator
  9. Overloading `[]`
  10. Overloading Increment and Decrement Operators
  11. `const` Objects and References
- Chapter 6: Composition of Classes
  1. Relationships
  2. Composition of Classes
  3. The `Point` Class
  4. The `Line` Class
  5. Member Initialization Lists
  6. An Application With Composition
  7. The Copy Constructor under Composition
  8. `operator=` under Composition
- Chapter 7: Inheritance
  1. Introduction
  2. Public Base Classes
  3. The `protected` Access Level
  4. Member Initialization Lists
  5. What Isn't Inherited
  6. Assignments Between Base and Derived Objects
  7. Compile-Time vs. Run-Time Binding
  8. `virtual` Functions
  9. Polymorphism
  10. `virtual` Destructors
  11. Pure `virtual` Functions
  12. Abstract Base Classes
  13. An Extended Inheritance Example
- Chapter 8: I/O in C++
  1. The `iostream` Library
  2. Predefined Streams
  3. Overloading `operator<<`
  4. Overloading `operator>>`

- 5. Manipulators
- 6. Stream States
- 7. Formatted I/O
- 8. Disk Files
- 9. Reading and Writing Objects
- Chapter 9: Advanced Topics
  - 1. Template Functions
  - 2. Template Classes
  - 3. Multiple Inheritance
  - 4. User-Defined Conversions
  - 5. Data Structures
  - 6. An Iterator Class
  - 7. Exceptions
- Chapter 10: Introduction to the Standard Template Library
  - 1. Introduction
  - 2. The Standard Template Library
  - 3. Design Goals
  - 4. STL Components
  - 5. Iterators
  - 6. Example: `vector`
  - 7. Example: `list`
  - 8. Example: `set`
  - 9. Example: `map`
  - 10. Example: `find`
  - 11. Example: `merge`
  - 12. Example: `accumulate`
  - 13. Function Objects
  - 14. Adaptors
- Appendix A: Introduction
  - 1. Background
  - 2. Environmental Considerations
  - 3. A Sample C Program
  - 4. Variables and Data Types
  - 5. Arrays
  - 6. Example of a Program Using an `int` Array
  - 7. Components of a C Program
  - 8. C Operators
  - 9. Examples of the Operators
  - 10. Control Structures
  - 11. Functions
  - 12. Function Prototypes
  - 13. Simple I/O
- Appendix B: More I/O in C
  - 1. The `printf` Function
  - 2. The `scanf` Function
  - 3. The Preprocessor

- 4. Conditional Compilation
- 5. Avoiding Multiple Inclusion for the Same File
- Appendix C: Aggregates in C
  - 1. Data Types Revisited
  - 2. Aggregate Types
  - 3. Arrays
  - 4. Structures
  - 5. Structures and Functions
  - 6. Bit Fields
  - 7. Enumeration Types
- Appendix D: Pointers in C
  - 1. Fundamental Concepts
  - 2. Pointer Operations
  - 3. Using Pointers to Alter a Function Argument
  - 4. Using Pointers for Array Traversal
  - 5. Pointer Arithmetic
  - 6. Sending an Array to a Function
  - 7. Command Line Arguments
  - 8. Pointers vs. Arrays
  - 9. Sending an Aggregate to a Function
  - 10. Summary of the Uses of Pointers

## ***Module 3: Data Structure (Design & Analysis Algorithm)***

**Duration (32 hours)**

- 1. Introduction
- 2. Programming Strategies
  - 2.1 Objects and ADTs
    - 2.1.1 An Example: Collections
  - 2.2 Constructors and destructors
  - 2.3 Data Structure
  - 2.4 Methods
  - 2.5 Pre- and post-conditions
  - 2.6 C conventions
  - 2.7 Error Handling
  - 2.8 Some Programming Language Notes
- 3. Data Structures
  - 3.1 Arrays
  - 3.2 Lists
  - 3.3 Stacks
    - 3.3.1 Stack Frames
  - 3.4 Recursion
    - 3.4.1 Recursive Functions

- 3.4.2 Example: Factorial
- 4. Searching
  - 4.1 Sequential Searches
  - 4.2 Binary Search
  - 4.3 Trees
- 5. Complexity
  - 5. Complexity (PS)
- 6. Queues
  - 6.1 Priority Queues
  - 6.2 Heaps
- 7. Sorting
  - 7.1 Bubble
  - 7.2 Heap
  - 7.3 Quick
  - 7.4 Bin
  - 7.5 Radix
- 8. Searching Revisited
  - 8.1 Red-Black trees
    - 8.1.1 AVL trees
  - 8.2 General n-ary trees
  - 8.3 Hash Tables
- 9. Dynamic Algorithms
  - 9.1 Fibonacci Numbers
  - 9.2 Binomial Coefficients
  - 9.3 Optimal Binary Search Trees
  - 9.4 Matrix Chain Multiplication
  - 9.5 Longest Common Subsequence
  - 9.6 Optimal Triangulation
- 10. Graphs
  - 10.1 Minimum Spanning Tree
  - 10.2 Dijkstra's Algorithm
- 11. Huffman Encoding
- 12. FFT
- 13. Hard or Intractable Problems
  - 13.1 Eulerian or Hamiltonian Paths
  - 13.2 Travelling Salesman's Problem
- 14. Games

## **Module 4: Visual Basic**

### **Duration (32 hours)**

#### **Introduction**

- *Aims*
- *Why Visual Basic?*
- *Other Applications*
- *Onion Approach*
- *Bewilderment*
- *Delivery*
- *Assessment*
- *Additional Reading*

#### **VB Integrated Development Environment (IDE)**

- *Using the Screens*
- *Form Object*
- *Properties Window*
- *Changing Properties*
- *Form Layout*
- *Exercise*

#### **Events**

- *Procedures*
- *Click Procedure*
- *Run Time Properties*
- *Other Events*
- *Loading Graphics*
- *Colour and Imaging*
- *Exercise*

#### **Objects.**

- *How Objects Work*
- *The Toolbox*
- *Controls as Objects*
- *Label Object*
- *Timers*
- *Clocks*
- *Metronomes*
- *The Object Browser*
- *Graphics on Controls*
- *External Objects*
- *Buttons, - Command, Radio*
- *Exercise*



## Linking objects

- *Data Controls*
- *Database Without Code*
- *Text box*
- *PictureBox or Frame*
- *Graphics and pictures*

## More Objects

- *Object Browser*
- *Arrays*
- *Index*
- *List Box*
- *ComboBox*
- *MSG Box*
- *Common Dialogue*
- *More Objects*

## Improving the Interface

- *Types of Form*
- *MIDI*
- *The Screen Object*
- *Scale Units*

## Menu editor

- *Building Menus*
- *Making them Work*

## Variables

- *Types of Variable*
- *Arithmetic*
- *Dim*

## Procedures

- *Writing procedures*
- *Project explorer*
- *Project files*
- *Bas module*
- *Scope*
- *Where to Dim*

## Program Structure

- *Structural Principles*
- *Branching*

- *Loops*
- *Visual Basic Code*
- *For Loop*
- *If-Then-Else*
- *Strings*

## Graphics

- *Drawing*

## Polishing and Finishing

- *Look and Feel*
- *Looking Professional*
- *Interface Standards*

## Installing Applications

- *Making '.exe' Files*
- *Installation Disk*

## Links to Office

- *With MS Office*
- *Examples in Office.*

## Professional Tricks

- *Links to Other Programs*
- *Shell 32*
- *Shell exe*

## Module 5: **Java**

### Duration (32 hours)

- Chapter 1: Review of Java Fundamentals
  1. The Java Environment
  2. Data Types
  3. The `String` Class
  4. The `StringBuffer` Class
  5. Arrays
  6. Passing Data Types to a Method
  7. Constructors and Initialization
  8. Inheritance
  9. Abstract Classes

- 10. Interfaces
- 11. Static Data, Methods, and Blocks
- 12. Wrapper Classes
- 13. I/O
- Chapter 2: Packaging and Distributing a Java Application
  - 1. Packages
  - 2. Managing Source and Class Files
  - 3. The `javadoc` Utility
  - 4. Documenting Classes and Interfaces
  - 5. Documenting Fields
  - 6. Documenting Constructors and Methods
  - 7. Running the `javadoc` Utility
  - 8. `jar` Files
  - 9. The Manifest File
  - 10. Bundling and Using Jar-Packaged Resources
- Chapter 3: Miscellaneous Enhancements
  - 1. Enhanced `for` Loop
  - 2. Autoboxing and Auto-Unboxing
  - 3. Static Imports
  - 4. `varArgs`
  - 5. Typesafe Enums
  - 6. Formatted Strings
  - 7. Format Specifier Syntax
  - 8. Format Specifier Conversions
  - 9. Format Specifier Flags
  - 10. Formatted Integers Example
  - 11. Formatted Floating Points Example
  - 12. Formatted Strings Example
  - 13. Formatted Dates Example
  - 14. Complex Formatted Example
- Chapter 4: Assertions
  - 1. Introduction
  - 2. Assertion Syntax
  - 3. Compiling with Assertions
  - 4. Enabling and Disabling Assertions
  - 5. Assertion Usage
- Chapter 5: Regular Expressions
  - 1. Regular Expressions
  - 2. String Literals
  - 3. Character Classes
  - 4. Quantifiers
  - 5. Capturing Groups and Backreferences
  - 6. Boundary Matchers
  - 7. Pattern and Matcher
- Chapter 6: The Java Collection Classes
  - 1. Introduction

2. The Arrays Class
  3. Searching and Sorting Arrays of Primitives
  4. Sorting Arrays of Objects
  5. The Comparable and Comparator Interfaces
  6. Sorting - Using Comparable
  7. Sorting - Using Comparator
  8. Collections
  9. Lists and Sets
  10. Iterators
  11. Lists and Iterators Example
  12. Maps
  13. Maps and Iterators Example
  14. The Collections Class
  15. Rules of Thumb
- Chapter 7: Generics
    1. Introduction
    2. Defining Simple Generics
    3. Generics and Subtyping
    4. Wildcards
    5. Bounded Wildcards
    6. Generic Methods
  - Chapter 8: Advanced I/O
    1. Introduction
    2. Basic File I/O Example
    3. Buffered I/O
    4. The Console Class
    5. Object Serialization
    6. Serialization Issues
    7. Compressed Files
    8. Zip File Example
    9. Writing Your Own I/O Classes
    10. Property Files
    11. The Preferences Class
  - Chapter 9: Enhanced I/O
    1. Introduction
    2. Channels
    3. Buffers
    4. Typed Buffers
    5. Direct Buffers
  - Chapter 10: Logging API
    1. Introduction
    2. Loggers
    3. Logger Levels
    4. Logger Handlers
    5. Specifying Handlers and Formatters
    6. Configuring Handlers

- 7. LogManager
- Chapter 11: Networking
  - 1. Networking Fundamentals
  - 2. The Client/Server Model
  - 3. InetAddress
  - 4. URLs
  - 5. Sockets
  - 6. A Time-of-Day Client
  - 7. Writing Servers
  - 8. Client/Server Example
- Chapter 12: Threads and Concurrency
  - 1. Review of Fundamentals
  - 2. Creating Threads by Extending `Thread`
  - 3. Creating Threads by Implementing `Runnable`
  - 4. Advantages of Using Threads
  - 5. Daemon Threads
  - 6. Thread States
  - 7. Thread Problems
  - 8. Synchronization
  - 9. Performance Issues
- Chapter 13: Remote Method Invocation (RMI)
  - 1. Introduction
  - 2. RMI Architecture
  - 3. The Remote Interface
  - 4. The Remote Object
  - 5. Writing the Server
  - 6. The RMI Compiler
  - 7. Writing the Client
  - 8. Remote Method Arguments and Return Values
  - 9. Dynamic Loading of Stub Classes
  - 10. Remote RMI Client Example
  - 11. Running the Remote RMI Client Example
- Chapter 14: Java Database Connectivity (JDBC)
  - 1. Introduction
  - 2. Relational Databases
  - 3. Structured Query Language
  - 4. A Sample Program
  - 5. Transactions
  - 6. Meta Data

# Database Trainings

## *Module 1: RDBMS & Advanced SQL*

**Duration (42 hours)**

### **Introduction**

- Object Relational Database Management System
- Oracle Internet Platform
- System Development Life Cycle
- Data Storage on Different Media
- Relational Database Concept
- Definition of a Relational Database
- Data Models
- Entity Relationship Model
- Entity Relationship Modeling Conventions
- Relating Multiple Tables
- Relational Database Terminology
- Relational Database Properties
- Communicating with a RDBMS Using SQL
- Relational Database Management System
- SQL Statements

### **1 .Writing Basic SQL SELECT Statements**

- Objectives
- Capabilities of SQL SELECT Statements
- Basic SELECT Statement
- Selecting All Columns
- Selecting Specific Columns
- Writing SQL Statements
- Column Heading Defaults
- Arithmetic Expressions
- Using Arithmetic Operators
- Operator Precedence
- Using Parentheses
- Defining a Null Value
- Null Values in Arithmetic Expressions
- Defining a Column Alias
- Using Column Aliases
- Concatenation Operator
- Using the Concatenation Operator
- Literal Character Strings
- Using Literal Character Strings
- Duplicate Rows
- Eliminating Duplicate Rows
- SQL and iSQL\*Plus Interaction
- SQL Statements versus iSQL\*Plus Commands

- Overview of iSQL\*Plus
- Logging In to iSQL\*Plus
- The iSQL\*Plus Environment
- Displaying Table Structure
- Interacting with Script Files

## **2. Restricting and Sorting Data**

- Objectives
- Limiting Rows Using a Selection
- Limiting the Rows Selected
- Using the WHERE Clause
- Character Strings and Dates
- Comparison Conditions
- Using Comparison Conditions
- Other Comparison Conditions
- Using the BETWEEN Condition
- Using the IN Condition
- Using the LIKE Condition
- Using the NULL Conditions
- Logical Conditions
- Using the AND Operator
- Using the OR Operator
- Using the NOT Operator
- Rules of Precedence
- ORDER BY Clause
- Sorting in Descending Order
- Sorting by Column Alias
- Sorting by Multiple Columns

## **3 .Single-Row Functions**

- Objectives
- SQL Functions
- Two Types of SQL Functions
- Single-Row Functions
- Character Functions
- Case Manipulation Functions
- Using Case Manipulation Functions
- Character-Manipulation Functions
- Using the Character-Manipulation Functions
- Number Functions
- Using the ROUND Function
- Using the TRUNC Function
- Using the MOD Function
- Working with Dates
- Arithmetic with Dates
- Using Arithmetic Operators with Dates
- Date Functions

- Using Date Functions
- Conversion Functions
- Implicit Data-Type Conversion
- Explicit Data-Type Conversion
- Using the TO\_CHAR Function with Dates
- Elements of the Date Format Model
- Using the TO\_CHAR Function with Dates
- Using the TO\_CHAR Function with Numbers
- Using the TO\_NUMBER and TO\_DATE Functions
- Nesting Functions
- General Functions
- NVL Function
- Using the NVL Function
- Using the NVL2 Function
- Using the NULLIF Function
- Using the COALESCE Function
- Conditional Expressions
- The CASE Expression
- Using the CASE Expression
- The DECODE Function
- Using the DECODE Function

#### **4 .Displaying Data from Multiple Tables**

- Objectives
- Obtaining Data from Multiple Tables
- Cartesian Products
- Generating a Cartesian Product
- Types of Joins
- Joining Tables Using Oracle Syntax
- What Is an Equijoin?
- Retrieving Records with Equijoins
- Additional Search Conditions Using the AND Operator
- Using Table Aliases
- Joining More than Two Tables
- Nonequijoins
- Retrieving Records with Nonequijoins
- Outer Joins
- Outer Joins Syntax
- Using Outer Joins
- Self Joins
- Joining a Table to Itself
- Practice 4, Part 1 Overview
- Joining Tables Using SQL: 1999 Syntax
- Creating Cross Joins
- Creating Natural Joins
- Retrieving Records with Natural Joins



- Creating Joins with the USING Clause
- Retrieving Records with the USING Clause
- Creating Joins with the ON Clause
- Retrieving Records with the ON Clause
- Creating Three-Way Joins with the ON Clause
- INNER versus OUTER Joins
- LEFT OUTER JOIN
- RIGHT OUTER JOIN
- FULL OUTER JOIN

## **5 .Aggregating Data Using Group Functions**

- Objectives
- What Are Group Functions?
- Types of Group Functions
- Group Functions Syntax
- Using the AVG and SUM Functions
- Using the MIN and MAX Functions
- Using the COUNT Function
- Using the DISTINCT Keyword
- Group Functions and Null Values
- Using the NVL Function with Group Functions
- Creating Groups of Data
- Creating Groups of Data: GROUP BY Clause Syntax
- Using the GROUP BY Clause
- Grouping by More Than One Column
- Using the GROUP BY Clause on Multiple Columns
- Illegal Queries Using Group Functions
- Excluding Group Results
- Excluding Group Results: The HAVING Clause
- Using the HAVING Clause
- Nesting Group Functions

## **6 .Subqueries**

- Objectives
- Using a Subquery to Solve a Problem
- Subquery Syntax
- Guidelines for Using Subqueries
- Types of Subqueries
- Single-Row Subqueries
- Executing Single-Row Subqueries
- Using Group Functions in a Subquery
- The HAVING Clause with Subqueries
- What Is Wrong with This Statement?
- Will This Statement Return Rows?
- Multiple-Row Subqueries
- Using the ANY Operator in Multiple-Row Subqueries
- Using the ALL Operator in Multiple-Row Subqueries

- Null Values in a Subquery

## **7. Producing Readable Output with iSQL\*Plus**

- Objectives
- Substitution Variables
- Using the & Substitution Variable
- Character and Date Values with Substitution Variables
- Defining Substitution Variables
- DEFINE and UNDEFINE Commands
- Using the DEFINE Command with & Substitution Variable
- Using the VERIFY Command
- Customizing the iSQL\*Plus Environment
- SET Command Variables
- iSQL\*Plus Format Commands
- The COLUMN Command
- Using the COLUMN Command
- COLUMN Format Models
- Using the BREAK Command
- Using the TTITLE and BTITLE Commands
- Creating a Script File to Run a Report
- Sample Report

## **8 .Manipulating Data**

- Objectives
- Data Manipulation Language
- Adding a New Row to a Table
- The INSERT Statement Syntax
- Inserting New Rows
- Inserting Rows with Null Values
- Inserting Special Values
- Inserting Specific Date Values
- Creating a Script
- Copying Rows from Another Table
- Changing Data in a Table
- The UPDATE Statement Syntax
- Updating Rows in a Table
- Updating Two Columns with a Subquery
- Updating Rows Based on Another Table
- Updating Rows: Integrity Constraint Error
- Removing a Row from a Table
- The DELETE Statement
- Deleting Rows from a Table
- Deleting Rows Based on Another Table
- Deleting Rows: Integrity Constraint Error
- Using a Subquery in an INSERT Statement
- Using the WITH CHECK OPTION Keyword on DML Statements
- Overview of the Explicit Default Feature

- Using Explicit Default Values
- The MERGE Statement
- MERGE Statement Syntax
- Merging Rows
- Database Transactions
- Advantages of COMMIT and ROLLBACK Statements
- Controlling Transactions
- Rolling Back Changes to a Marker
- Implicit Transaction Processing
- State of the Data Before COMMIT or ROLLBACK
- State of the Data After COMMIT
- Committing Data
- State of the Data After ROLLBACK
- Statement-Level Rollback
- Read Consistency
- Implementation of Read Consistency
- Locking
- Implicit Locking

## **9. Creating and Managing Tables**

- Objectives
- Database Objects
- Naming Rules
- The CREATE TABLE Statement
- Referencing Another User's Tables
- The DEFAULT Option
- Creating Tables
- Tables in the Oracle Database
- Querying the Data Dictionary
- Data Types
- Datetime Data Types
- TIMESTAMP WITH TIME ZONE Data Type
- TIMESTAMP WITH LOCAL TIME Data Type
- INTERVAL YEAR TO MONTH Data Type
- Creating a Table by Using a Subquery Syntax
- Creating a Table by Using a Subquery
- The ALTER TABLE Statement
- Adding a Column
- Modifying a Column
- Dropping a Column
- The SET UNUSED Option
- Dropping a Table
- Changing the Name of an Object
- Truncating a Table
- Adding Comments to a Table
- **10 Including Constraints**

- Objectives
- What Are Constraints?
- Constraint Guidelines
- Defining Constraints
- The NOT NULL Constraint
- The UNIQUE Constraint
- The PRIMARY KEY Constraint
- The FOREIGN KEY Constraint
- FOREIGN KEY Constraint Keywords
- The CHECK Constraint
- Adding a Constraint Syntax
- Adding a Constraint
- Dropping a Constraint
- Disabling Constraints
- Enabling Constraints
- Cascading Constraints
- Viewing Constraints
- Viewing the Columns Associated with Constraints

## **11. Creating Views**

- Objectives
- Database Objects
- What Is a View & Why Use it?
- Simple Views and Complex Views
- Creating a View
- Retrieving Data from a View
- Querying a View
- Modifying a View
- Creating a Complex View
- Rules for Performing DML Operations on a View
- Using the WITH CHECK OPTION Clause
- Denying DML Operations
- Removing a View
- Inline Views
- Top-n Analysis
- Performing Top-n Analysis
- Example of Top-n Analysis

## **12. Other Database Objects**

- Objectives
- Database Objects
- What Is a Sequence?
- The CREATE SEQUENCE Statement Syntax
- Creating a Sequence
- Confirming Sequences
- NEXTVAL and CURRVAL Pseudocolumns
- Using a Sequence

- Modifying a Sequence
- Guidelines for Modifying a Sequence
- Removing a Sequence
- What Is an Index?
- How Are Indexes Created?
- Creating an Index
- When to Create an Index
- When Not to Create an Index
- Confirming Indexes
- Function-Based Indexes
- Removing an Index
- Synonyms
- Creating and Removing Synonyms

### **13 .Controlling User Access**

- Objectives
- Controlling User Access
- Privileges
- System Privileges
- Creating Users
- User System Privileges
- Granting System Privileges
- What Is a Role?
- Creating and Granting Privileges to a Role
- Changing Your Password
- Object Privileges
- Granting Object Privileges
- Using the WITH GRANT OPTION and PUBLIC Keywords
- Confirming Privileges Granted
- How to Revoke Object Privileges
- Revoking Object Privileges
- Database Links

### **14 .Using SET Operators**

- Objectives
- The SET Operators
- The UNION SET Operator
- Using the UNION Operator
- The UNION ALL Operator
- Using the UNION ALL Operator
- The INTERSECT Operator
- Using the INTERSECT Operator
- The MINUS Operator
- SET Operator Guidelines
- The Oracle Server and SET Operators
- Matching the SELECT Statements

## About A2Z Computex:



A2Z Computex is a leading provider of Web-based Development & Web based Software development Solutions. We have the experience & expertise to enable complicated business solutions. At A2Z Computex, we offer complete IT Training and web development consulting from the conceptualization, design, development, integration, and implementation to maintenance.

We assist you to gain a competitive edge by continuously improving your web based business CRM solutions. A2Z Computex is a technology neutral solution provider; we can develop and integrate solutions across a broad range of technologies. Our experts are competent & veteran team can undertake web based development based on the popular web programming scripting languages like PHP, ASP, .NET, Java Script, MYSQL, MSSQL, oracle & MS Access, and many more.

A2Z Computex is a Professional Web development and IT Training company in india. A2Z Computex offers Web Designing, Web Hosting, Content Management System - CMS, Graphic Designing SEO, And IT Training.

Web Services : Website Designing, Logo Designing, Graphic Designing, Content Management System, Website Maintenance Services, Web Hosting Services, Domain Name Registrations, Payment Gateway Solutions, SEO & SES Services, SSL Implementation, Website Re-Designing, Brochure Designing, Move Web Hosting, Web Development, Company Email Systems, E-Commerce Development.

Training Services: IT Project Work, Corporate Training, Hardware & Networking Training (A+, N+, CCNA, MCSE, and MCSA), Language Training(C, C++, Java, VB, .NET, PHP, JSP), Database Training (ORACLE DBA, MY SQL), Web development Training with Real Time Project.

## Web SEO Services:



**What are search engines?** : Search engine is a kind of software being developed to provide a helping hand to the internet users which would be of great benefit by searching and listing the relevant database. It would be really helpful for users because by just entering a keyword in the search engine would be able to provide them the list of websites that have keyword in their web pages.

**What is optimization?** : Search engine optimization means analysis of your site and making required improvements so that it becomes possible for search engines to index and rank it. In case your website is not well ranked, optimization ensures and helps in bringing your website in the first upcoming pages of search results. This can vary from ranking very high in Google to good in yahoo and excellent in bing. As search engines work in different ways, so in which search engine best ranking will take place is unpredictable.

**How do search engines work?** : Search engine is not made up of one component but it consists of cluster of components which may include indexing, web spider and algorithm. Index is helpful in storing database, updates occur when there are certain or prescribed changes in websites, and is able to retrieve the websites when the users enter keyword. On the other hand the function of web spider is to collect the web page URL's lists, store them and index the keyword.

**What benefit will SEO bring to your website?** : It is with the search engines that a website is made to be ranked in the top search results of relevant keywords. It will not only help in bringing the traffic but also benefit you with targeted customers to your website which would help your company build a standardized reputation and will provide you with various business opportunities.

## Web Design Services:



**At A2Z Computex we can help you** with our unique approach of designing business and customer oriented web resources that makes your website special one out of the millions. We not only deliver websites with impressive looks but also aim to create an effective online presence that can represent the best image and identity of your business. Apart from being impressive, all websites are W3C validated, fast loading and highly usable.

We excel a creative team of professional and skilled web designers who have expertise in striking the right balance of looks and the business needs, requirements and aspirations. Our website designers are proficient in Photoshop, Flash, HTML, XHTML, CSS and Web 2.0 standards.

Great Websites... Great Values

With development of Web 2.0 having website is not enough, you need user friendly, Seo friendly websites. Our team of highly skilled designers is experts in creating websites with flare zing and further ensures to provide 100% customer satisfaction.

**Website Designing by Expert Web Designers:** The success of your website largely depends on finding the right website designing company with creative and experienced web designers.

**Why Choose A2Z Computex for Web Designing Needs?** Web 2.0 based , Fast loading websites , All websites W3C Validated , All websites cross browser compatible , SEO Semantic and clean coding , Separate Quality Department , Professional, appealing and relevant websites , User friendly, Simple navigation , Competitive pricing.



## Web Hosting Services:



**A2Z Computex has been continuously offering** quality cheap web hosting plans at the low cost. Our main objective is to offer our customers incomparable & low cost cheap web hosting services with best technical support. We always try to provide you with low cost web hosting packages. That's why we offer new hosting plans & packages more often as we can. Keep checking our Current Promotional Offers page to get in touch with these new hosting plans that are specially created for you. You will never find these plans & packages out of your budget. We have targeted everyone from small, medium and large business companies to resellers and self-employed individuals. Our window and Linux server hosting packages have been designed to cater to a range of clients.

It doesn't matter, you are familiar with web hosting or not. We ensure you that you are going to get the services & features that you exactly need. That's why we are able to provide you with these cheap web hosting services without compromising with the quality of service. Our low cost and cheap web hosting services are the best option for everyone whoever is in need of web hosting service without spending much money and efforts.

### **Why to choose A2Z Computex Hosting?**

There are several reasons to go for our hosting services. Here are few of them. Robust & reliable servers with premium bandwidth 24 \* 7 live customer support Proven and guaranteed 99.9% uptime. Winner of different hosting awards McAfee Secure and Hacker Safe certified Our Linux hosting plans come with online site builder that allows you to create your site within a matter of minutes. Our high-end Windows, Linux, SQL servers are capable of handling the most complex hosting needs.

### **Shared Hosting Platform:**

1. Windows 2. Linux

## Domain Name Services:



**Domain Name Registration:** A domain name is the name which you need to have before launching your website to the World Wide Web (www). It's same like you have to register your company before doing business. While choosing and registering your domain name there are lots of points which you need to know like what name will suits your business and will this name which you're going to take is beneficial for you? If you would to take our free suggestion which choosing your business domain name then we will be happy to help you in choosing right business domain name for your organization. There are lots of companies who are offering cheap domain name registration, but our suggestion is that please take care while registering your domain name with these providers. Generally people are not aware that there are lots of free features which you will get while registering your domains from the reputed domain name registrar. Also please take care that in the domain name registration process the Domain Registrant Administrative contact has to be you're not of your vendor.

**FREE Auto Renew Protection:** You will get free Auto Renew Protection after getting registers your domain with us. After enabling this feature your domain will be automatically renewed and the fund will be deducted from the associated Credit Card.

**Change your Registration:** You can easily assign any other domain registrant for managing your domain. You can easily do this online; it's very easy and simple. Status Alert Suppose you have modified anything in the domain control panel for any domain, we immediately inform Status Alert by email to the domain registrant.

**Complete Total DNS Control:** Manage your domain name server (DNS) records, by using our DNS management tool you can setup your domain as your name server (ns1 / ns2), set your email, FTP, sub-directories, web site location, and more.

## CMS Web Services:



**Content Management System:** A content management system (CMS) is a system used to manage the content of a Web site. Typically, a CMS consists of two elements: the content management application (CMA) and the content delivery application (CDA). The CMA element allows the content manager or author, who may not know Hypertext Markup Language (HTML), to manage the creation, modification, and removal of content from a Web site without needing the expertise of a Webmaster. The CDA element uses and compiles that information to update the Web site. The features of a CMS system vary, but most include Web-based publishing, format management, revision control, and indexing, search, and retrieval.

### Advantages of content managed website:

1. CMS Website reduces the maintenance cost.
2. CMS eliminates the dependency on Web Development Company.
3. CMS helps to maintain current information on the website.
4. Update News and Events on regular basis by any lay man.
5. CMS maintains the existing and prospective customer's data base.
6. CMS data helps to send bulk mails and news letter.
7. Affiliate leads tracking and commission calculation.
8. Add new products / services.

**A2Z Computex specializes in the following open source CMS :** Impress CMS, Typo 3, Made By Frog, Radiant CMS, Modx CMS, SilverStripe, Alfresco, Typolight, Umbraco, CMS Made Simple, Drupal, Mambo, HotaruCMS, wordpress, aegir, Joomla, expressionengine, postnuke, ariadne-cms, flux-cms, Moodle, Magento, Opencart etc.

## Logo Designing Services:



Logo Designing Service Get a Logo that will play an Active Role in sending a Meaningful Message to an Onlooker in the Market. Make your Design Stand Out from the rest.

### **The jpeg and gif formats can be used for the following:**

- Website
- Internet Marketing
- Email signature
- Email marketing
- Some Microsoft Office Programs

**Tiff Format:** If you would like to transfer digital images between various applications then tif is the best format. This is also suitable for basic printing needs.

### **You can make use of the tif format with the following applications:**

- Word
- Excel
- PowerPoint
- Outlook

**Bmp Format** This is one of the basic formats that is used by windows. This format too comes with lower resolution. This format can be used for invoices in QuickBooks.



## Hire Developers/Network Engineers/Programmers:



**Hire Dedicated Developers:** "Outsourcing beginning the day, Companies and Business owners found pay for Indian IT Contract Developers / Programmers to complete the project is the best way to complete their job with nice cost savings. Plus NO taxation, high salaries, benefits, or tons of obligations that comes in addition to hiring a permanent in-house Staff."

**Offshore Dedicated Team:** There are several big enterprises who don't wish to mesh up themselves with a lot of individual freelancers and expect a full-fledged team of experts of varying domains managed by an experienced team manager. Considering this fact A2Z Computex has developed a system to offer its services in form of a dedicated team.

**Open Sources:**

Joomla, Os-commerce, Zen Cart, X-cart, Cs-cart, Magento, Drupal, Wordpress. LAMP, Web 2.0 technologies

Server side software like: Linux, Windows, Macintosh.

Graphic tools: Adobe Flash, Photoshop, Fireworks, Flex and 3ds Max.

**Hire a Network Engineer:** "Outsourcing beginning the day, Companies and Business owners found pay for Indian IT Contract Developers / Programmers to complete the project is the best way to complete their job with nice cost savings. Plus NO taxation, high salaries, benefits, or tons of obligations that comes in addition to hiring a permanent in-house Staff."

A2Z Computex Also Providing Network engineers For Your Network project.

**A2Z Computex Network engineers Skills :**

- \* Configure, test and maintain LAN/WAN equipment and services
- \* Administrating common TCP/IP-based services
- \* Architect and setup all network services and monitoring for a new data center and remote offices
- \* Provides networking assistance to users, including troubleshooting network and applications performance problems, 24x7 on-call rotation
- \* Ensure QoS through proper design for data, voice and video
- \* Identify, diagnose and resolve network problems to minimize network down time
- \* Create and maintain comprehensive documentation for all networks
- \* Manage vendors, including tracking hardware/software issue and driving vendors to resolve issues
- \* LAN/WAN MPLS Network systems planning
- \* Experience troubleshooting & resolving network issues
- \* Experience implementing & administering common TCP/IP based services including DNS, DHCP, HTTP, FTP, SSH, SMTP
- \* Working knowledge of common network monitoring and security tools
- \* Positive customer service attitude and enthusiasm for the job
- \* Ability to perform several tasks simultaneously and work in a dynamic, rapidly changing environment
- \* Ability to make decisions and solve problems while working under pressure
- \* Excellent verbal, written, and telephone communication skills are essential
- \* Ability to work independently, as well as within a team

## Graphic Designing Services:



**Graphic Designing:** A2Z Computex creative professionals can create designs promoting your business and distinguishing your brand in the marketplace. Our expert graphic designers provide creative design solutions for a wide range of graphic design needs quickly. We also work with your existing logo, digitizing and vector zing it for printing and web applications in many formats. We cater to the graphic design needs of printing companies. We can graphically design or re-design your website to improve its overall appearance.

**A2Z Computex creative instincts** expanse of graphic design capabilities, degree of expertise, and unmatched resources provide clients with top quality graphic design services. At A2Z Computex, our talented team of illustrators, animators and programmers can help you with all your graphic design, animation and imaging needs.

### **We provide a wide array of imaginative and professional services :**

3D Animation and Logos, Rendering, Caricatures, CD and DVD covers, Displays and Signs, Posters, Labels, Print Media, Business Cards, Catalogues, Magazine Layouts, Newsletter Layouts, Postcards, Print-Ads, Stationary Design, Website Design, Multi-media services

**3D Graphics:** 3D and graphics design may seem to play a merely aesthetic role in the course of any Web or application development project. The truth however is entirely different: Graphics are a lot more than just pretty pictures to liven things up, and the tools you choose to create your work may go a long way creating the image you project. We cater to all your 3d graphic creation needs. Our 3d graphic design services are customized to suit your needs.

## SSL Implementation Services:

# SSL Implementation



**SSL Implementation:** SSL (Secure Sockets Layer) enable your site with easily implemented standard protocol for transaction security - is an encrypted link between your Server and your Customer's browser. Once the link is established all communication between your Server and your Customer's browser will remain confidential. As the value of e-commerce / online portals continues to increase, Trust and Security become a critical differentiator in the market place. It is essential to any success business that all custom droppers. Credit card fraud and identity theft are two of the gravest concerns for any Internet user. As such, most internet users refuse to enter their personal information on unsecured sites. The ability to provide your customers with the certificates they need to secure their sites can set you apart from other hosting providers. With a A2Z Computex, you can get SSL Certificates to get confidence of your prospects and a result converting them in customers, This SSL allow them to safely run sites that permit users to enter usernames, passwords, personal information, or even credit card numbers.

**Features:** A variety of SSL Certificates to choose from (RapidSSL, QuickSSL and QuickSSL Premium). All Certificates incorporate True Site technology with the functionality of a 128 to 512 bit SSL certificate. Third party validation is indicated by a patented "Smart Seal" technology that resides on your clients' sites.

**Benefits:** The renewal process for SSL Certificates is streamlined, allowing for easy and efficient reordering. User-friendly management through the ResellOne.net Reseller Interface. Customer confirmation and renewal messaging.



## Manage Google AdSense:



**Buy 100% Genuine Ad sense Account :** First you must know, what are the different methods of Creating Google Ad sense Account, whether Google Ad sense Account getting by Account Creators is a Genuine or not.

Methods of Creating Genuine Google Ad sense Account:

1. Creating Google Ad sense Account through Revenue Sharing Site
2. Creating Google Ad sense Account through Tampering Data
3. Creating through high Traffic Domain, which is owned by the Account Creator.

### **Why Choose Ad sense :**

The flexible, hassle-free way to earn revenue online  
Highest paying advertising company owned by Google Inc  
Run ads that will interest your users.  
Leverage Google search technology.  
Run ads targeted to your audience  
Filter unwanted ads.  
Getting started is fast and easy.

### **Why Choose Us:**

If you received an email from Google entitled "Google Ad Sense Account Disabled", stated "You've violated another portion of the T&C of Ad Sense program".

If you received an email from Google entitled "Google Ad Sense Account Disabled", stated "It has come to our attention that invalid clicks have been generated on the Google ads on your site(s). We have therefore disabled your Google Ad Sense account. Tired by applying & applying for an Ad sense account & getting rejected by Google. No need to worry here after, you have come to the right place. We provide Ad sense account in your name with 100% Genuine Ad sense Account

## Brochure Designing Services:



**A well-developed Brochure is an investment** in the company's future. It helps to lend credibility and professionalism to the enterprise, at a time when it is trying to become known in the market. Successful companies invest a lot of time and energy into managing how they are seen by the world.

From a corporate logo to the use of specific colors and layouts, a visual corporate image contains a message far beyond that of the text. It carries that first impression of how professional and reliable your corporation is. Potential clients base decisions not only on the content of a message, but on how well it's presented. For each and every industry, there is a specific image that will be most appealing to a target audience. A2Z Computex succeeds in defining and implementing this necessary business strategy by designing powerful and memorable brochure designs.

- A team of dedicated and experienced Brochure Designers.
- Cognizant of the latest trend of the volatile Brochure Graphic Design Industry.
- Meeting the requirements of clients within stipulated time.
- Harnessing latest technologies for generating better outcome.
- Creating best brochure design for your organization.
- A portfolio featuring our diverse range of work-samples.

## IT Manpower Consultancy Services:

# IT Manpower Consultancy



**IT STAFF Augmentation Services:** In today's rapidly changing times, every business entity is looking for something extra in the form of services. We are committed to providing customer centric services that are highly effective in the form of performance and cost, have a basic transparency to them with no hidden messages/cost and are focused on long term associations.

**What do we provide?** Our IT Staff Augmentation services enables you in getting qualified and experienced personnel to suit your requirements working exclusively for you either offshore or on-site. It is a perfect way to accomplish your special or seasonal projects without adding permanent staff to your workforce.

Off-shore dedicated IT resources working at our place.

On-shore dedicated IT resource working at your place.

### **A2Z Computex IT Staff Augmentation Services :**

Outsource .Net 3.5 Development

Hire PHP / Open Source Developers

Hire Dedicated Developers

Hire ASP.NET Developers

Hire SEO Expert

Hire Website Designer

Hire CMS Developers

Hire Database Admin

Hire Computer Trainer

Hire Network Engineer

Hire Web Developer

Hire Computer Operator

## Website Maintenance Services:



**Website Maintenance:** Creating a website is one thing. But maintaining it is another. It is not enough to design and develop a website and place it on the World Wide Web. Yes, you would have an online presence but you would have 'only' an online presence. If you want to have a successful web presence and make sure your website achieves its prime goals and objectives, it is important that you maintain it well and keep it up to date. Only if you keep it updated, will your visitors keep coming back. Our website maintenance package enables us to manage your site while you get on with your business! Once your website is launched we undertake a whole range of key activities to accomplish the following sort of mainstream website maintenance activities:

- Updating content of informational pages
- Adding new pages to the website
- Optimizing pages of the website for search engines
- Adding new dynamic features to the website
- developing tools to generate reports to monitor site progress
- Changing design templates of the website
- Adding new interactive components to the website

## eCommerce Web Development Services:



**E-Commerce Development:** Based in Rajasthan, India, A2Z Computex is a process driven web services company, offering a wide range of end-to-end services in the web domain. Our Services range from Designing, Development, and 24X7 customer supports to Web Marketing. Our Motto "Your Destination for Perfection" reflects our dedication towards serving our clients. We follow Industry Certified Processes to deliver quality services to our offshore clients from the U.S, Europe, Australia, New Zealand, and Japan. We are associated with many companies as their sole Outsourcing Partner.

**Contact us today for your ecommerce development & Custom Web Site Development.** Take a look in our portfolio section for some work we have done. Ecommerce enables the firms and individuals to conduct their business and transactions through their website or other available resources on the internet. This provides you the opportunity to not only make your products or services available to the global market but also let the customer choose, buy and pay online through your website 24 hours a day, 365 days a year.

**Credit Card:** A credit card is a payment system technique, in this technique user name printed back side of the small plastic card issued to users to use this payment system anywhere and anytime. This card is differing from a debit card because it does not remove money from the user's account after each transaction completed. We provide all kind of support for online transactions. It is very crucial part of any business so we can suggest you. We have expertise to connect your site to most of the available payment gateways.

**Payment Gateway** A payment gateway is an E-Commerce and dynamic service that allow online payment for E-Business. Payments Gateway provides the ability for transfer of information's between payment portals. When any customer purchase or



order any product, it does so many tasks combined to complete the task. We manage your transactions, help prevent fraud, and grow your business

**Merchant Account:** Through merchant account you can do easily your business with credit cards, debit cards and all kind of payment cards. We can say this term as payment processing. Any Merchants or any owner who do payment processing. For their products and services, should have a merchant account through a merchant bank or Merchant Service Provider.

**Shopping Cart Websites:** To enable the customer browse, choose the product, specify product specifications and quantity, and keep track of his shopping basket. It may include any custom made functionality for your store. We can develop shopping carts as per your requirement and budget. We also select the technology which fulfills not only your immediate needs but also has scope for future upgrades

**E-commerce Application / Shopping Cart:** A2Z Computex offers the e-commerce development solutions that will act as the link between your online business and the rest of the world. Our company has shown remarkable growth as well as great client testimonials with regard to the e-commerce application development services that we offer. In today's dynamic world of business and technology we seek to merge these two fundamental aspects, in such a way that they bring out the best of the goods and services that your business is offering. A2Z Computex is proficient in e-commerce development, e-commerce website development, e-commerce website design, e-commerce web development and e-commerce application development. Hire e-commerce developers at competitive price and get the complete e-commerce web solutions. A2Z Computex is India based most reputed website development company offer quality e-commerce application development services.

**Quality E-commerce solution by A2Z Computex:**

- E-Commerce development
- W-Commerce website development
- e-commerce website design
- W-Commerce web development
- W-Commerce application development
- Shopping cart solutions
- E-commerce portal development
- E-commerce Application migration

## Payment Gateway Solutions Services:



**Payment Gateway Solutions:** Payment Gateway refers to an e-commerce service that authorizes payments for e-businesses & online retailers. In a way, it represents a physical POS (Point-of-sale) terminal located at most retail outlets. Payment gateways encrypt sensitive information, such as credit card numbers, to ensure that information passes securely between the customer and the merchant.

**Why is Payment Gateway needed?** Payment Gateway holds the essence of any e-commerce site. One cannot think of making or receiving on-line payments without a Payment Gateway. Payment Gateway basically refers to an e-commerce service that authorizes payments for e-businesses & online retailers. It, in a way, represents a physical POS (Point-of-sale) terminal located in most retail outlets. Payment gateways encrypt sensitive information, such as credit card numbers to ensure that information passes securely between the customer and the merchant.

**A2Z Computex is one of the few companies** that provide complete ecommerce setup for businesses. It does not matter in which business you are in, we can design and implement an ecommerce solution that is perfect for you and is cost effective too. A2Z Computex can also setup a shopping cart for your website and integrate the payment gateway to accept credit cards from your customers. All the credit card transactions will be credited into your bank account within 72 working hours after you capture the payment.

**We process the following payment options:** Credit cards of Master Card Visa and Diners Net banking of ICICI Bank, Axis Bank, Citibank, HDFC Bank & Jammu & Kashmir Bank ITZ Cash card Debit card options of Citibank, Axis Bank, Corporation Bank, Deutsche Bank, HDFC Bank, Indian Overseas Bank, ING Vysya Bank, Karur Vysya, State Bank of India.

## Website Re-Designing Services:



**Website Re-Designing:** So you have a website and are planning to revamp it because you wish to have a more appealing web page, easy navigation, faster download, better design, fresh content, flash animation, latest technology and new features. All in all a site that reflects your organizations growth and current business line, but before finalizing on any web redesign company you need to understand the fact that website redesigning requires more technical expertise and understanding of the subject then just designing a new website. This is because over the years, every website becomes popular and gains some weight from search engines for its page url or path of its web pages. Be it a redesigning of a simple static site or a redevelopment of dynamic site with shopping cart and payment gateway, if you don't wish to lose the advantage what your old website is currently having then you need to have a professional web design company to handle your job.

**Our Website Redesigning Services:** A2Z Computex is an earnest service provider that specializes in rendering quintessential website redesigning services. We redesign websites in accordance of different standards and considering search engine's compatibility. The features of our web redesign includes: -

A superb quality with professional attire for your entire site. You can also refer the designing model of other site, you like most - web can build any or all possible design styles. Quick service in less time. We redesign your whole site in days not weeks. Facilitate small size file designing for ultra-fast downloading. Redesigned pages are optimized for the top search engines. Page titles, meta-tags, and navigation are all optimized sequentially to strike higher rankings.

To incorporate changes to your existing content, we provide a defined amount of free development time in all redesign packages. Designing your site by utilizing the best web techniques such as server-side includes and cascading style sheets.



## Manage Company Email System Services:



**A2Z Computex - An Email Hosting company:** A2Z Computex has several years of experience in providing state-of-the-art email hosting services. Our corporate-style business email hosting services with fast reliable connectivity and quality customer support have been used by many companies.

**Business-Email:** Business-Email is a popular solution that has a comprehensive set of features ranging from "Branded Interfaces" to "Advanced SPAM filtering". It helps increase the productivity of an organization through simple yet effective communication. We offer different plans that can cater to anyone from "Small Scale enterprises" to "Corporate customers".

Our Business-Email (email hosting) run on dedicated Linux mail servers located in state-of-the-art Tier 1 data centers in USA. All administration, security, daily backups of hardware and software are managed by us, saving you the high costs of having technical staff to manage your organization's email system. By availing A2Z Computex's Business-Mail you can have any ISP connection and still send branded emails using your website email id like 'yourname@yourwebsite.com'.

All you have to do to reinforce the online brand of your organization through fast effective communication is to sign-up and create your employee email ID's!

## Our Technologies:



**Web Development Technologies:** The A2Z Computex programming professionals span most of today's widely used internet technologies, meeting the ever-growing needs of clients. Our IT experts approach each customer case individually and propose the optimal cost/performance technical solution.

### Our Web activities involve:

Online program database and telecast schedule maintenance  
Content schedule implementation for regional Websites  
Page construction for all content  
online event implementation (contests, polls, etc.)  
Promotional activities (e-Newsletters, online AV's, etc.)  
Application development for key processes (Banner Management System, Global Resource Management System, Administration consoles) Implementation of interactive features  
Beta testing, debugging and packaging for distribution to NGC teams worldwide  
Web server & Web site maintenance  
Implementation and monitoring of the Web Trends Live site analysis system  
Offline mirror site maintenance  
Offline Image banking

## Web Designing Training:

# Web Designing Training



**Web designing Training:** Web designing is one of the most crucial tasks to create a usable and attractive website. Web designing consists of designing the layout and UI of a webpage. It involves the process of concept development, modeling and execution of the business need. The main focus while creating websites will be on client requirements and targeted users of the website. We at A2Z Computex provide expert web design training with emphasis on all the processes required to create a professional website. We are located in Rajasthan, India and targeting all around the world for web design training. In our professional web designing course we teach all the aspects of requirement analysis, concept creation, Photoshop layout designing, color scheme generation, web design implementation, functionality integration, compatibility tests and web hosting. A2Z Computex provides professional web design training in Rajasthan, India. We provide web design training included with all the latest web designing trends with real time examples.

**Benefits of web designing training from A2Z Computex:** All trainers are real-time web designers with more than 5 years of experience in their domain. Our trained students are working in TCS, Accenture, Infosys, Google, Satyam and many other well known IT companies. We provide free placement assistance to all our students. We already have tie-up with software companies and provided placement for many web design students. We include all the latest trends in web designing like web 2.0 design concepts in our training modules. We conduct Normal courses, Fast Track and Weekend training in web designing. We provide study materials with the web design training course which consist of concepts, examples and latest web designing tips.

## IT Project Work Training:



**IT Project Work (TRAINING):** We are delighted to introduce A2Z Computex, Placement consultancy, Software & Web development, and AMC provider organization which also strengthens area like IT Project Work. We believe that there is always a thirst for knowledge, the more we acquire, the more we enhance, and the greater we feel the need for it. .

### **We Provide IT Project Support for B.E, B. Tech, And Polytechnic Diploma (IT)**

**Students:** Are you near to complete your BE (Computer Application, Electronics)/B.Tech (Computer Application, Electronics)/MCA (Master in Computer Application) Course, and yet have not done your project in the lack of efficiency? Come to A2Z Computex and complete your project work with working our professionals in the industrial environment and under the experts' guidance. Here, our experienced and highly skilled professionals will guide you in all ways, whenever and wherever you require. Under our proficient guidance, you will not only complete your MCA project successfully, but also pave your way to be a successfully software professional in the future. A2Z Computex has the experts of all streams of computers and all of them have long experience in the industry. That's why; they can solve very complex problems in the blink of eyes.

A2Z Computex is a software firm that has launched this service to fulfill the requirements thousands of engineering students in the North India. Viewing the requirement of the students, A2Z Computex is offer live project training on all major language and software including Java, C, C++, C#, .Net, ASP, VB.NET, JSP, Servlets, Struts, Ajax, PHP, MySQL, HTML, XML, J2ME, J2EE, J2SE and Objective C. The

opening for B.E/B.Tech/MCA project is always open and any final year student can join A2Z Computex as a trainee for completing projects.

## Database Training:

# Database Training



### Database Training (SQL, MY SQL, DBA):

**MS SQL Server:** A2Z Computex offers MS SQL Course which is appropriate for individuals who derive physical database designs, develop logical data models, create physical databases, create data services by using Transact-SQL, manage and maintain databases, configure and manage security, monitor and optimize databases, and install and configure SQL Server MS-SQL Server is a database which serves as high end utility for Data Mining and OLAP Services

### Course Benefits:

MS SQL DBA Course in A2Z Computex has the benefits like:

Learning the database architecture

Learn and build database

Develop real time project using MS-SQL Server as back-end

Envisage your career as DBA

Live Project

Highly educated and professionally qualified faculties

Excellent Training to match with industrious expectation

24x7 operational facilities

Real-time project training

Economy fee structure

RDBMS & SQL , Concepts of DBMS & RDBMS, Data Model, ER Diagram, Normalization, SQL, Data Integrity, Tables, Index, Views, Sequence, Cursor, Error Handling, Trigger, Administration



## Summer Training:



### **SUMMER TRAINING on Windows ADMINISTRATION**

The subject matter of Windows administration includes computer systems and the ways People use them in an organization. This entails knowledge of operating systems and Applications, as well as hardware and software troubleshooting, but also knowledge of The purposes for which people in the organization use the computers. However, Perhaps the most important skill to a system administrator is problem solving - Frequently under various sorts of constraints and stress. The sys admin is on call when a Computer system goes down or malfunctions, and must be able to quickly and correctly Diagnose what is wrong and how best to fix it. In the A2Z Computex this course will cover the basics & advance topics of Windows in detail. At The end of the course delegates will have the skills required to administer a Windows System. The course will also cover Internet application server configuration on live registered domain named with valid public IP addresses. The training will be given by Senior System Network engineers with several years of industry experience. Administering Windows. Installation, initial configuration, managing files, managing software, and granting rights to users. DNS, FTP, send mail; Networking and other services receive lots of attention. Advantage of the COURSE: The Windows Networking & System Administration course provides knowledge and skills For Windows- systems administrators who want to build proficiency at Configuring common network services and security administration using Windows. This Course is updated for building skills on Windows Administration.

### **SUMMER TRAINING On WEB DEVELOPMENT:**

**DURATION:** 45 Days (1 hrs a day)

A2Z Computex Web Development is a leading India web development PHP company consist team of well experienced PHP programmers and Web Designers are specifically trained and dedicated to development of Web Site Design, Dynamic website

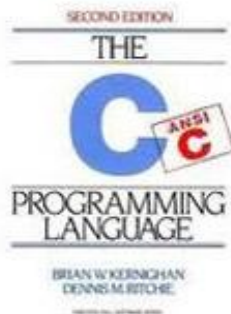
development, web application, E-commerce, Shopping Cart Development, offshore and outsourcing software development in India. A2Z Computex web development is an Offshore Software Development Center focused on low cost website development, shopping cart development in osCommerce, yahoo stores, Drupal, X-cart and Zen Cart. A2Z Computex web development Technology offers IT Outsourcing Services, PHP MY SQL Web Development, Offshore PHP Developers, Open Source Shopping Cart, PHP / MY SQL Offshore Development, PHP Programming Services.

A2Z Computex web development has accepted the importance of open source movement by encouraging PHP/ My SQL development in the LAMP environment. Though Open Source Technologies and software are free, the support and expertise behind successfully deploying them is not. Some vendors will charge thousands of dollars for such support services, bringing down the Return of Investment on the software suites and operating systems. A2Z Computex web development believes that providing successful management of computer technology can be achieved at a price premium. By lowering costs, training in-house, and developing our employees instead of hiring contractors. Excellent turn around time for offshore website design companies and software development firms!

Practical Examples: At this point the course has a number of practical examples whose suitability will be assessed with regards to the applicants needs. Examples range from, Basic Content Management Systems, Image Galleries, Video Galleries, Bulletin Boards, Login Systems, Custom Applications, Abstract Usage of PHP, Industry Relevance Open Source CMS Systems (ModX, Wordpress, Drupal, Joomla, PHPBB etc) Installing Open Source Software, Understanding and customizing Open Source Systems

## Language Training:

# Languages Training



### Language Training(C, C++, Java, VB, .NET, ASP):

A2Z Computex Academy is a division of A2Z Computex Technologies, An International Web development and Software Development Company. We are the professional class Training Institute in Rajasthan with a vision to open the branches and franchise all across India and Abroad. A2Z Computex Academy provides the world class facility at the coaching labs, the institute has state of the art infrastructure, full access to internet for all students, fully loaded computers with high speed Intel powered processors and above all highly educated and experienced training faculty cum programmers. Learning from experts makes all the difference. A2Z Computex Academy is established to meet the requirements of industry, we want to bridge the gap between what software industry wants from IT professionals and what is being taught in the conventional institutes. Our training classes are solely focusing on technology and trends that are highly in demand so when a student completes our course, they won't have to wait for a job, the employers will come and find them. A2Z Computex Academy is part of A2Z Computex Technologies that is offshore software Development Company; being in the industry we can teach the insights of the technology that is highly in demand through our experienced programmers cum faculty members.

**A2Z Training Features :** High-standards of training process by experienced industry professionals Hands-on soft skills development for new and experienced students One-on-one interaction with each student; personal workstations; personal URL; live FTP access Anytime broadband internet access, all work to be done online for live experience Convenient 'on floor' practice facility available for all students Practical sessions at work stations and labs training carried on projectors for real application feel Regularly updated course material to offer the latest and train with latest technologies

Also available All Polytechnic Diploma and B.Tech Subject Training...



## Corporate Training:



**Corporate training and important** ingredient for all the corporate companies. It's been designed in a very simpler form where clients can post training requirements and corporate trainers can apply for training requirements. This section helps all the corporate trainers, training companies to grow and to enhance their profit levels ensuring growth to all small and medium enterprises and also the making it easier for the clients to fulfill their corporate training requirements.

**A2Z Computex Advantage:** We at A2Z Computex Technologies have delivered training programs for more than 50 batches of corporate work force. These programs range from Induction level programs for the fresh recruits to customized project specific programs to the team leads and project managers. Some of the salient features of our delivery are

**Programs handled:** The needs of the growing industry are varied as they depend largely on the customer requirements. Leveraging our experience in corporate training for last 2 years, we have formulated content for some of the frequently conducted programs as mentioned below. We are also open for offering customized programs as per client's need. Select Any One programs According to Your Corporate Need.

1. Hardware & Networking Training (A+, N+, CCNA, MCSE, MCSA)
2. Language Training(C, C++, Java, VB, .NET, ASP)
3. Database Training (SQL, MY SQL,)
4. Web development Training with Real Time Project

With Communication Skills Training and Personality Development Programs Free Of Cost

## PHP & MySQL Training:



**PHP & MySql:** PHP is a computer scripting language. Originally designed for producing dynamic web pages, it has evolved to include a command line interface capability and can be used in standalone graphical applications. It generally runs on a web server, taking PHP code as its input and creating web pages as output.

My SQL is a relational database management system (RDBMS) and runs as a server providing multi-user access to a number of databases. My SQL is popular for web applications and acts as the database component of the LAMP, BAMP, MAMP, and WAMP platforms and for open-source bug tracking tools like Bugzilla.

### **Course Benefits:**

Learning the open source scripting language.

Learn and build techno-commercial websites.

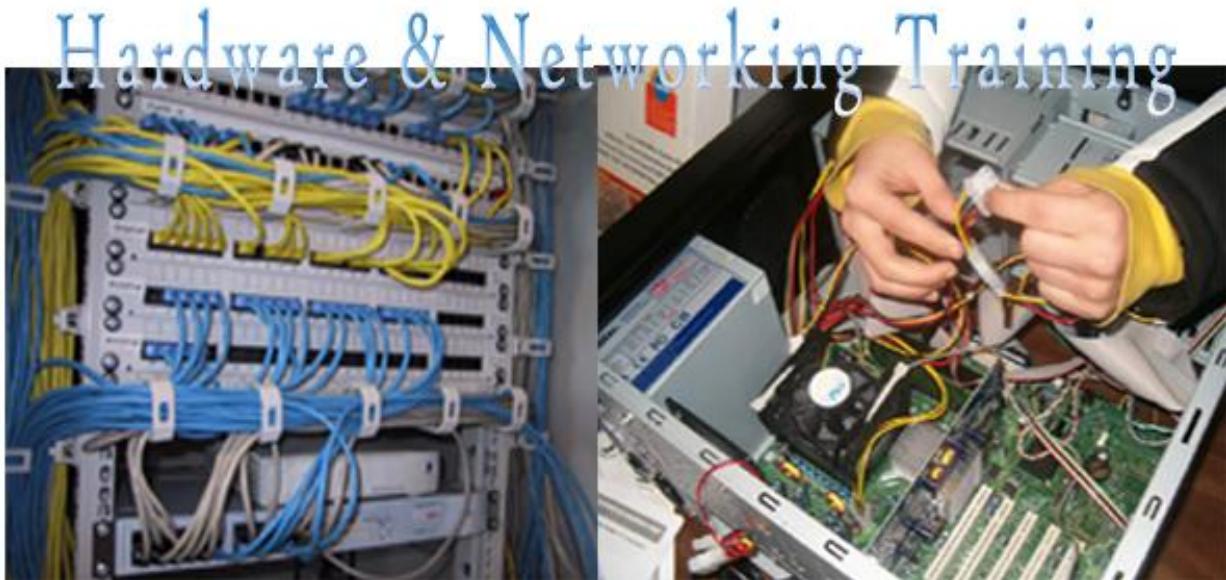
Develop real time project using PHP & My Sql or PHP with any data bases.

Your career into web pages and become Tester for web pages. Live Project

### **Specialty of A2Z Computex :**

1. Highly educated & professionally qualified faculties
2. Excellent Training to match with industrious expectation
3. 24x7 operational facilities.
4. Real-time project training.
5. Economy fee structure.

## Hardware & Networking Training:



### **Hardware & Networking Training (A+, N+, CCNA, MCSE, MCSA):**

COMPUTER – The High Growth Area Today computer and telecommunication equipment have become indispensable components of our lives. The need for these advanced machines is constantly on the rise-and so is the need for professionals who can operate and service them. It is estimated that by the year 2005 India alone will require 15 million professionals in the fields of Computers, Networking, Telecommunications and Robotics. Yes, the future belongs to those who understand computer. And if you are reading this you have reached just the place from where your career will zoo off in the right direction. A2Z Computex – An Ideal launching pad A2Z Computex .

**A2Z Computex – An Ideal launching pad:** A2Z Computex is a premier Computer House in India offering high quality and cost-effective Software & Hardware products, Consultancy & services and professional grade training. A2Z Computex. Are India's No. 1 and oldest Hardware & networking Institute imparting Complete Computer Education Our endeavor has been to engage in Quality Computer Education and to render ever satisfactory service to the IT community and thereby the Indian society profitably. The principle business of the company is the provision of IT training in Computer Hardware and Networking to meet the ultimate needs of the student community and the corporate sector.

## About Our Company:



**A2Z Computex has a great vision** not only to be a great name in IT world but also believes in making the business of global clients. We intend to build a high level confidence among all of our customers on giving quality and gratifying services. We have been always seeking the costumer's feedback to improve the quality of our services.

The enterprising spirit of our staffs will help you to make your messages prevalent throughout world. We also believe in result oriented services which helps you to establish consistent & permanent solutions that will assist you to make an eternal nexus with our clients. Our company gives importance on the web solution that speaks directly to the customers to fulfill their dreams in this highly competitive world.

**Appealing Designs:** We believe in providing vivid graphical design with entire website that gives wonderful looks, as well as aesthetical pleasures. We modify the graphical designs of our clients such a manner that satisfies them to their business fulfillment.

**Systematically organized:** A2Z Computex always have a big dream to provide a nicely organized website that helps to get rank in Google, Yahoo, MSN and almost all the search engines on the Internet. We make sure that the website has a perfect and relevant designs and contents which is a part and parcel of Web Designing Services. Our experience and knowledge says that even a small website with nicely organized images and pictures helps a lot to clutch the customers permanently.

**Easy Navigation:** Web statistics says that most of the visitors wait maximum eight seconds for opening a website. So we pay close attention to help the website to open in far-less time. In addition our web department all along keeps a meticulous vigil for an easy navigation while visiting the website. Because we want the visitors should have a rewarding experience without any sort of disappointments at the time of exploring the website.

**Carefully tested:** A website has a great importance if it is methodically tested. Before getting the website online we thoroughly check any spelling mistakes with grammatical errors, which effects the website ranking in search engines and visitors should not get annoyed. Our Web Designers follow the World Wide Consortium Standards (W3C Validation) for HTML pages.

**Quality control:** A website is easy to design but not easy to maintain the quality of international standards, which A2Z Computex follows .Our quality control engineers meticulously survey the entire website before making it a globally approved website. The Quality Control Team at our company take all possible measures to make the website eye-catching so that no visitors bounce and the website remains fresh in the memory of the visitors.

**Dedicated professionals:** Dedicated Professionals have a great value in the current competitive IT world. A2Z Computex always hires qualified skilled IT professionals with great background to provide the clients reliable and secure services, as a result your website and software is always at your clutch. To be a great company we need always great people and these IT Professionals have great value all the time.

**Innovative Creativity:** Creativity and optimized solution is an integral part of web designing and software applications. We have an Expertise Web Designers in A2Z Computex, who have excellent ideas for innovative and interactive designs. Our motto is to provide a Quality Website and Web/Windows based solution in the era of highly competitive world.



## Benefits of A2Z Computex

We design Logos, Corporate Presentation and Web Design packages at highly competitive prices.

We hire only experienced Web Designers.

We believe in completing the project with complete satisfaction & providing quality to our Customers.

All the projects are handled in professional manners with plenty of documentations.

All the projects are handled in professional manners with plenty of documentations.

We are specialists in Content Writing, Visual Designers, Graphic Designers, Web Analyst and Web Programmer, which is handling by our team experts like- Project Manager, Project Leaders, Search Engine Specialist.

Our team expertise provides consultations and suggestions

Your website will boost your business, sales and eventually reduce your cost.

Your website will increase the corporate identity of your company.

With the help of your web identity, your customers with great potential can reach you very easily.

Your website will remain online.

The website will provide you a great chance to market your products globally.

We provide ecommerce solutions to our business clients.

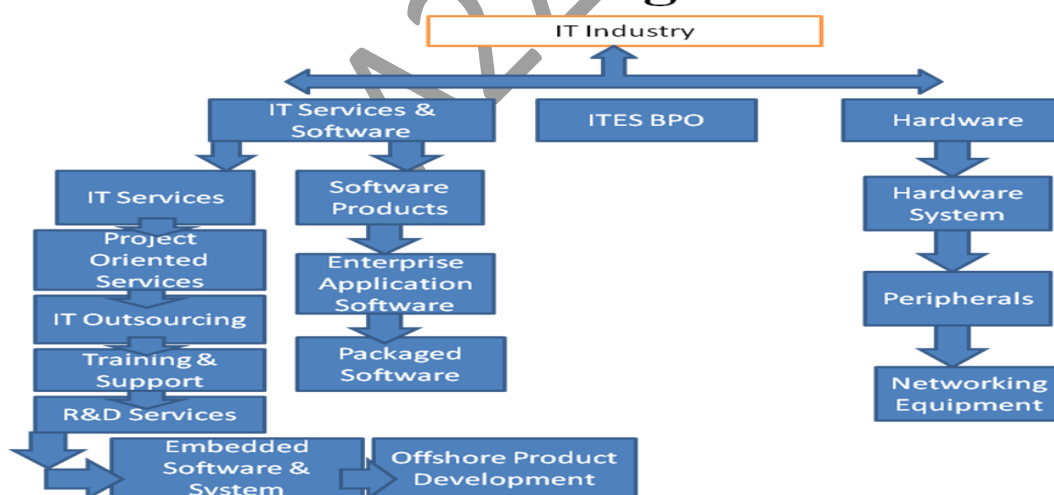
We have expertise in Web / Windows Based ERP application for medium and larger companies.

We globally implemented many e-Commerce Websites.

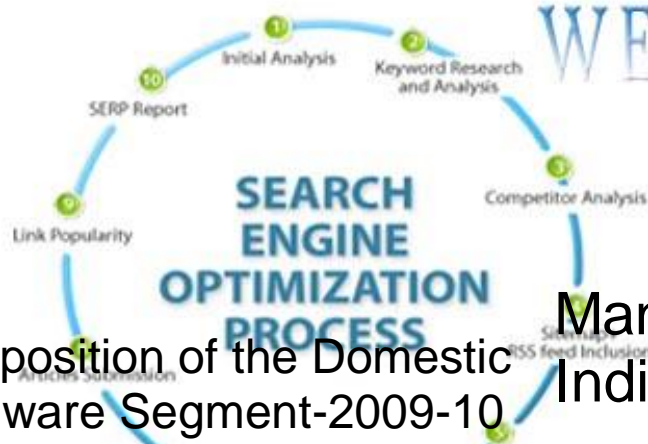
We do not believe any third party solution that is why; we are having our own Web-Hosting Server for our client.

We haven't design website using readymade templates, we exclusively design website according to the business portfolio of our client.

## Indian IT Segmentation

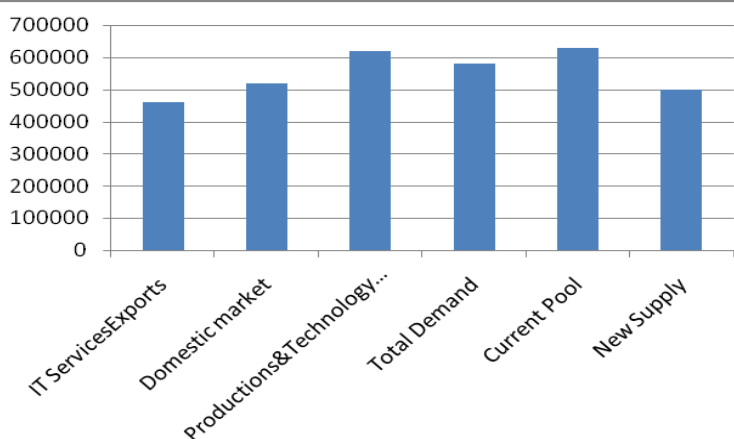


# WEB SEO

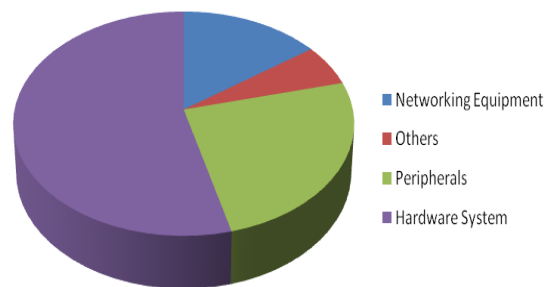


## Composition of the Domestic Hardware Segment-2009-10

## Manpower Projections for the Indian IT Industry



Series1



## Our Technologies

