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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Strings and Regular Expressions** |
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| * **Regular Expressions**   + **Searching for a Match**   + **More Complex Pattern Matching** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **OOPs Concepts** |
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| * **Interfaces**   + **Defining an Interface**   + **Implementing an Interface**   + **Implementing Multiple Interfaces**   + **Interface Inheritance**   + **Overriding Interface Implementations** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Collections Interfaces** |
| * **Dynamic Arrays Using the ArrayList Class** * **Stacks** * **Queues** * **Dictionary** * **Indexers and Iterators** * **Implementing IEnumerable<T> and IEnumerator<T>** * **Implementing Comparison Using IComparer<T> and IComparable<T>** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Delegates and Events** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Generics** |
| * **Understanding Generics** * **Generic Classes** * **Using the default Keyword in Generics** * **Advantages of Generics** * **Using Constraints in a Generic Type** * **Generic Interfaces** * **Generic Methods** * **Generic Operators** * **Generic Delegates** * **Generics and the .NET Framework Class Library** * **System.Collections.ObjectModel** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Exception Handling** |
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| * **Creating Custom Exceptions** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Threading** |
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| * **Thread Synchronization**   + **Using Interlocked Class**   + **Using C# Lock**   + **Monitor Class**   + **Using the BackgroundWorker Control**   + **Testing the Application** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Files and Streams** |
| * **Working with Files and Directories** * **Working with Directories** * **Working with Files Using the File and FileInfo Classes** * **Creating a FileExplorer** * **The Stream Class**   + **BufferedStream**   + **The FileStream Class**   + **MemoryStream** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Working with XML** |
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| * **XML Reading & Writing**   + **Text Writer Fundamentals**   + **Text Reader Fundamentals**   + **XMLDocument** | |
| * **Serialization**   + **Binary Serialization**   + **XML Serialization** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Assemblies and Versioning** |
| * **Assemblies** * **Structure of an Assembly** * **Examining the Content of an Assembly** * **Single and Multi-File Assemblies** * **Understanding Namespaces and Assemblies** * **Private versus Shared Assemblies** * **Creating a Shared Assembly** * **The Global Assembly Cache** * **Putting the Shared Assembly into GAC** * **Making the Shared Assembly Visible in Visual Studio** * **Using the Shared Assembly** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Type Reflection, Late Binding, and Attribute-Based** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **ADO.NET** |
| * **ADO .NET Introduction**   + **ADO vs. ADO .NET**   + **ADO .NET Architecture** * **Connecting to Data Sources**   + **Choosing a .Net Data Provider**   + **Defining a Connection**   + **Managing a Connection**   + **Handling Connection Exceptions**   + **Connection Pooling** * **Performing Connected Database Operations**   + **Working in a Connected Environment**   + **Building Command Objects**   + **Executing the Commands**   + **Data Reader Object** * **Using Transactions** * **Perfoming Dis-Connected Database Operations**   + **Configuring a DataAdapter to Retrieve Information**   + **Populating a DataSet Using a DataAdapter**   + **Modifying Data in a DataTable**   + **Persisting Changes to a Data Source**   + **Working in a Disconnected Environment**   + **Building Datasets and DataTables**   + **Binding and Saving a Dataset**   + **Defining Data Relationships** * **Reading and Writing XML with ADO.NET**   + **Creating XSD Schemas**   + **Loading Schemas and Data into DataSets**   + **Writing XML from a DataSet** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **ASP.NET** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Creating N-Tier Applications** |
| * **Multi-Tier Architectures** * **Creating an N-Tier ASP.NET Application** * **The Data Tier** * **The Middle Tier** * **The Presentation Tier** * **Managing Concurrency** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Web Form Fundamentals** |
| * **The Anatomy of an ASP.NET Application**   + **ASP.NET File Types**   + **ASP.NET Application Directories** * **Introducing Server Controls**   + **HTML Server Controls**   + **Converting an HTML Page to an ASP.NET Page** * **A Deeper Look at HTML Control Classes**   + **HTML Control Events**   + **Advanced Events with the HtmlInputImage Control**   + **The HtmlControl Base Class**   + **The HtmlContainerControl Class**   + **The HtmlInputControl Class** * **The Page Class**   + **Sending the User to a New Page**   + **HTML Encoding** * **Application Events**   + **The Global.asax File**   + **Additional Application Events** * **ASP.NET Configuration**   + **The web.config File**   + **Nested Configuration**   + **Storing Custom Settings in the web.config File**   + **The Website Administration Tool (WAT)** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Web Controls** |
| * **Stepping Up Web Controls**   + **Basic Web Control Classes**   + **The Web Control Tags** * **Web Control Classes**   + **The WebControl Base Class**   + **Units**   + **Enumerations**   + **Colors**   + **Fonts**   + **Focus**   + **The Default Button** * **List Controls**   + **Multiple-Select List Controls**   + **The BulletedList Control** * **Table Controls** * **Web Control Events and AutoPostBack**   + **How Postback Events Work**   + **The Page Life Cycle** * **A Simple Web Page**   + **Improving the Greeting Card Generator**   + **Generating the Cards Automatically** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Validation** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **The Data Controls** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Rich Controls** |
| * **The Calendar**   + **Formatting the Calendar**   + **Restricting Dates** * **The AdRotator**   + **The Advertisement File**   + **The AdRotator Class** * **Pages with Multiple Views**   + **The MultiView Control**   + **The Wizard Control** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Files and Streams** |
| * **Files and Web Applications** * **File System Information**   + The Path Class   + A Sample File Browser * **Reading and Writing with Streams**   + **Text Files**   + **Binary Files**   + **Shortcuts for Reading and Writing Files**   + **A Simple Guest Book** * **Allowing File Uploads**   + The FileUpload Control | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **State Management** |
| * **The Problem of State** * **View State**   + **The ViewState Collection**   + **A View State Example**   + **Making View State Secure**   + **Retaining Member Variables**   + **Storing Custom Objects** * **Transferring Information between Pages**   + **Cross-Page Posting**   + **The Query String** * **Cookies**   + **A Cookie Example** * **Session State**   + **Session Tracking**   + **Using Session State**   + **A Session State Example** * **Session State Configuration**   + **Cookieless**   + **Timeout**   + **Mode** * **Application State** * **An Overview of State Management Choices** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Error Handling, Logging, and Tracing** |
| * **Common Errors** * **Exception Handling**   + **The Exception Class**   + **The Exception Chain** * **Handling Exceptions**   + **Catching Specific Exceptions**   + **Nested Exception Handlers**   + **Exception Handling in Action**   + **Mastering Exceptions** * **Throwing Your Own Exceptions** * **Logging Exceptions**   + **Viewing the Windows Event Logs**   + **Writing to the Event Log**   + **Custom Logs**   + **A Custom Logging Class**   + **Retrieving Log Information** * **Error Pages**   + **Error Modes**   + **Custom Error Pages** * **Page Tracing**   + **Enabling Tracing**   + **Tracing Information**   + **Writing Trace Information**   + **Application-Level Tracing** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Deploying ASP.NET Applications** |
| * **ASP.NET Applications and the Web Server**   + **How Web Servers Work**   + **The Virtual Directory**   + **Web Application URLs**   + **Web Farms** * **Internet Information Services (IIS)**   + **The Many Faces of IIS**   + **Installing IIS 5 (in Windows XP)**   + **Installing IIS 7 (in Windows Vista)**   + **Registering the ASP.NET File Mappings**   + **Verifying That ASP.NET Is Correctly Installed** * **Managing Websites with IIS Manager**   + **Creating a Virtual Directory**   + **Configuring a Virtual Directory** * **Deploying a Simple Site**   + **Web Applications and Components**   + **Other Configuration Steps**   + **Code Compilation**   + **The ASP.NET Account** * **Deploying with Visual Studio**   + **Creating a Virtual Directory for a New Project**   + **Copying a Website**   + **Publishing a Website** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **User Controls and Graphics** |
| * **User Controls**   + **Creating a Simple User Control**   + **Independent User Controls**   + **Integrated User Controls**   + **User Control Events**   + **Passing Information with Events** * **Dynamic Graphics**   + **Basic Drawing**   + **Drawing a Custom Image**   + **Placing Custom Images Inside Web Pages**   + **Image Format and Quality** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Caching** |
| * **Understanding Caching**   + **When to Use Caching**   + **Caching in ASP.NET** * **Output Caching**   + **Caching on the Client Side**   + **Caching and the Query String**   + **Caching with Specific Query String Parameters**   + **A Multiple Caching Example**   + **Custom Caching Control**   + **Fragment Caching**   + **Cache Profiles** * **Data Caching**   + **Adding Items to the Cache**   + **A Simple Cache Test**   + **Caching to Provide Multiple Views** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Styles, Themes, and Master Pages** |
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| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Website Navigation** |
| * **Site Maps**   + **Defining a Site Map**   + **Seeing a Simple Site Map in Action**   + **Binding an Ordinary Page to a Site Map**   + **Binding a Master Page to a Site Map**   + **Binding Portions of a Site Map**   + **The SiteMap Class**   + **Mapping URLs** * **The SiteMapPath Control**   + **Customizing the SiteMapPath**   + **Using SiteMapPath Styles and Templates**   + **Adding Custom Site Map Information** * **The TreeView Control**   + **TreeView Properties**   + **TreeView Styles** * **The Menu Control**   + **Menu Styles**   + **Menu Templates** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Creating and Using Web Services** |
| * **Understanding the Web Service Model** * **Creating an ASP.NET Web Service** * **WSDL and Web Service Clients** * **Creating & Consuming Web Services with Visual Studio .NET** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Security Fundamentals** |
| * **Determining Security Requirements** * **The ASP.NET Security Model**   + **The Visual Studio Web Server**   + **Authentication and Authorization** * **Forms Authentication**   + **Web.config Settings**   + **Authorization Rules**   + **The WAT**   + **The Login Page** * **Windows Authentication**   + **Web.config Settings**   + **IIS Settings**   + **A Windows Authentication Test** * **Impersonation**   + **Understanding Impersonation**   + **Programmatic Impersonation** * **Confidentiality with SSL**   + **Creating a Certificate Request**   + **Secure Sockets Layer** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Membership** |
| * **The Membership Data Store**   + **Membership with SQL Server**   + **Using the Full Version of SQL Server**   + **Configuring the Membership Provider**   + **Creating Users with the WAT**   + **The Membership and MembershipUser Classes**   + **Authentication with Membership**   + **Disabled Accounts** * **The Security Controls**   + **The Login Control**   + **The CreateUserWizard Control**   + **The PasswordRecovery Control** * **Role-Based Security**   + **Creating and Assigning Roles**   + **Restricting Access Based on Roles**   + **The LoginView Control** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Profiles** |
| * **Understanding Profiles**   + **Profile Performance**   + **How Profiles Store Data** * **Using the SqlProfileProvider**   + **Enabling Authentication**   + **Using the Full Version of SQL Server**   + **The Profile Databases**   + **Defining Profile Properties**   + **Using Profile Properties**   + **Profile Serialization**   + **Profile Groups**   + **Profiles and Custom Data Types**   + **The Profile API**   + **Anonymous Profiles** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **ASP.NET AJAX** |
| * **Understanding Ajax**   + **Ajax: The Good**   + **Ajax: The Bad**   + **The ASP.NET AJAX Toolkit.**   + **The ScriptManager** * **Partial Refreshes**   + **A Simple UpdatePanel Test**   + **Handling Errors**   + **Conditional Updates**   + **Triggers** * **Progress Notification**   + **Showing a Simulated Progress Bar**   + **Cancellation**   + **Timed Refreshes** * **The ASP.NET AJAX Control Toolkit**   + **Installing the ASP.NET AJAX Control Toolkit** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **.NET Version 4.0** |
| * **Implicitly Typed Local Variables and Arrays** * **Object Initializers** * **Collection Initializers** * **Extension Methods** * **Anonymous Types** * **Lambda Expressions** * **Query Keywords** * **Auto-Implemented Properties** * **Language-Integrated Query (LINQ)** * **dynamic data type** * **Named Parameters** | |
| **http://www.pragimtech.com/Images/ArrowPointer.gif** | **Windows Communication Foundation** |
| * **WCF Essentials**   + **WCF Overview**   + **SOA Overview**   + **WCF architecture**   + **Essential WCF concepts:**   + **Addresses**   + **Contracts**   + **Bindings**   + **Endpoints**   + **Hosting**   + **Clients** * **Contracts**   + **Designing and working with service contracts**   + **Contract overloading and inheritance**   + **Data Contracts**   + **Serialization**   + **Attributes**   + **Versioning**   + **Collections & Generics** * **Instance Management & Operation**   + **Behaviors**   + **Per-Call Services**   + **Per-Session Services**   + **Singleton Service**   + **Demarcating Operations**   + **Instance Deactivation**   + **Throttling**   + **Operations**     - **Request-Reply**     - **One-Way**     - **Callback**     - **Events**   + **Streaming** * **Faults**   + **Errors and exceptions**   + **Fault Contracts**   + **Error handling Extensions** * **Transactions**   + **Transaction Propagation**   + **Protocols and Managers**   + **The Transaction Class**   + **Declarative Programming**   + **Explicit Transaction Programming**   + **With Instance management**   + **Callbacks** * **Security**   + **Authentication & Authorization**   + **Transfer Security**   + **Scenario-Driven Approach** * **Concurrency Management**   + **Service Concurrency Mode**   + **Instance Management and Concurrency**   + **Deadlocked Avoidance**   + **Synchronization Context**   + **Callbacks** | |