Essential Java EE-based Architecture for Executives and Managers

This 3-day Immersive Learning workshop introduces you to the Java EE architecture and individual technologies that the market has determined is the de facto standard for robust, secure, distributed enterprise-wide software solutions. Even more valuable is the experiencing of a paradigm shift in thinking required of the executive level that seeks to maximize the strategic power of the Java EE platform to implement in software the ideas of their best people.

A third major overall benefit of this workshop is the experiencing of the Immersive-Learning labs that immediately apply the new knowledge base and skill set just learned. This instructional design caveat is embedded in the way the material is revealed to you, discussed, and queued in your mind for later recall. Through fun – but intense – labs, teamwork, detection and design sessions, you will acquire the equivalent of a full year in the life of a Java EE architect.

This workshop provides the enterprise-wide multidisciplinary "same song sheet" desperately needed by today's organizations that need to gain efficiency and cut costs while increasing productivity. It represents part of the executive pre-work needed to build a truly effective Service-Oriented Architecture that embraces enterprise-wide Java EE business integration for both one's own firm and the building of Java EE solutions for customers and clients.

Who Should Attend

This learning workshop is comprehensive in design and appropriate for executive and management personnel desiring basic adeptness with the Java EE architecture, and technical managers who are responsible for making decisions about these technologies.

Workshop Objectives:

- ▸ The Java EE architecture and specification.
- ▸ Every major Java EE technology and how to architecturally design distributed solutions.
- ▸ What an XML namespace is, and why Java and XML work so well together.
- ▸ How the modeling of business processes and workflows occurs within Java EE-enabled Service-Oriented Architectures.
- ▸ Form an essential mental "floorplan" within which to place the Java EE technology "furniture" that can keep you oriented amidst the most complex of solution design discussions and implementations.
- ▸ Build a library of mental images (Reference Images) to refer to when discussing any part of the Java EE architecture and APIs with your IT staff.
- ▸ What you can and can't do with Java EE Integrated Development Environments (IDE).
- ▸ Intelligent strategies for determining where to use which Java EE technology.
- ▸ The ideals and best practices that go into some of the world's best Java EE solutions.
- ▸ How to talk intelligently with your IT staff about Java EE solutions to customer issues.
- ▸ To craft the architecture of a Java EE solution to an enterprise process problem you bring with you into the workshop.

Building Java EE-based Web Services for the Service-Oriented Architecture (SOA)

This Immersive Learning workshop provides participants with state-of-the-art principles for understanding and building a Service-Oriented Architecture with Java-based Web Services technologies. Everything has been updated and tailored to meet new industry requirements. It is a hands-on, lab-based learning experience for Java EE developer teams wanting to understand the SOA and Web services rationale and gain hands-on experience in the second-generation SOA framework and technologies that are proving to be the next major paradigm shift in Web-based distributed computing for the enterprise.

In addition to the core technologies that make up Web Services, developer teams will learn the philosophy behind the SOA, why it is all the rage, what is groundbreaking about it, how it fits within Java EE, what it's best for and what it's worst for, and where it holds potential for better integrated solutions across the enterprise.

Who Should Attend

Software developers and their managers needing an overview of new trends in IT, architects and managers who must collaborate with technical staff, team leaders of Java EE projects, legacy code reuse projects, and business process improvement initiatives, IT project managers that need to harness the full power of Java EE for crafting secure distributed web services-based portal solutions, hard-core Java EE programmers, system integrators, and technical staff potentially involved in building an SOA.

Prerequisites

Software developers should have 1-2 years experience with servlets and JSPs, and should be familiar with XML. Executives, managers, and project leads need only to have in mind the broad scope of the demands on their respective areas of responsibility, and an open mind.

Workshop Objectives:

▸ Understand and intelligently discuss with peers and managers the competencies of Web Services and their core technologies.

▸ Understand the big picture, the advantages and disadvantages, and what it takes to maintain deployments.

▸ Design, develop, and deploy real-world Java EE Web Services.

▸ Expose existing Java applications and components as XML Web Services.

▸ Write Java components that access remote Web Services hosted by a third party.

▸ Read and understand a WSDL document.

▸ Parse, process, and respond to a SOAP message, synchronously or asynchronously.

▸ Employ in real-world solutions the tools and APIs provided by the JWSD and that lead the industry.

▸ Come away with hands-on experience in the leading tools in this space that facilitate development and maintenance of SOA Web-Services deployments.

Understanding Service-Oriented Modeling and Architecture (SOMA): A Mangement Overview

Welcome to a world-class workshop for managers in the fundamentals of how to comprehend, detect, document, notate, and manage business-process driven implementations of service-oriented enterprise architecture deployments. This 5-day workshop is designed to equip today's managers with an understanding of the inner workings of Service-Oriented Architectures and the Business Process Modeling mechanics managers must know to fully leverage the SOA platform. When put into practice, the skills learned during this workshop serve to fulfill the executive strategy of aligning IT departments with business strategy using a SOMA standards-based approach. Such a convergence will serve to develop more optimal and operationally-integrated business processes that can be implemented by departments, business units, and business partner networks across the globe. Such alignment opens the door to "the plum in the pudding" — enterprise-wide congruence.

Who Should Attend

Managers, project managers, business domain experts, technical project leads, business analysts, customer support personnel, and IT staff who may be involved in refactoring legacy systems and/or developing new software systems. Managers will gain an invaluable overview as they become familiar with the concepts and become versed in proper terminology and standardized diagramming notation.

Prerequisites

None, except for a desire to participate in aligning business strategy with technical prowess. Previous knowledge of Object-Oriented languages and concepts is not necessary but helpful. Some sense of what current procedural IT systems do will also be helpful.

Workshop Objectives:

▸ Comfortably converse both verbally (terminology) and visually (diagram notation) re SOMA in a 2010 industry-standard context, including how OSGi is standardizing SOA implementations.

▸ Become a master "systems sleuth", detecting proposed system points of integration.

▸ Learn how to communicate complex ideas and processes effectively to IT staff.

▸ Apply critical thinking skills to the discipline of business analysis and the modeling of business processes that will run on a Service-Oriented Architecture.

▸ Follow a step-by-step process for interviewing, eliciting, researching, and documenting SOMA requirements.

▸ Create a Service Requirements Document (SRD) that conforms to the latest standards.

▸ Perform deep analysis on problem domains and be able to model prototype solutions for software architects and designers.

▸ Gain practice in drawing and using SOMA artifacts.

▸ See how component technologies and XML enable mixed-language, mixed-platform, and distributed systems development to all come together in a Service-Oriented Architecture (SOA).

▸ Develop strategies for applying SOMA across your areas of responsibility yet within an enterprise SOA.

Web Services

In this 3-day workshop participants will learn what Web Services are and how they can be of service to modern businesses. Also, attendees will get an introductory exposure to the core Web Services concepts and technologies. The preparatory activities that an enterprise should complete before undertaking a Web Services initiative are discussed. Emphasis is placed on de-mystifying jargon and acronyms, and presenting graphical representations of the relationships and interplay between the various architectural levels and functional components that make up the world of Web Services.

A brief review of the technological "family tree" of Web Services helps to establish a context for the current state of the technology and the industry. A review of the business requirements that are driving the evolution of Web Services helps define the "need" that Web Services are trying to fulfill. A discussion of the solutions that are being gradually supplanted by Web Services helps to define the scope of what is being replaced, and it also helps establish the minimum service requirements of any new solution.

Having established a context for the discussion, the class moves into the various functional areas of Web Services, the completeness of the specifications for the various functional levels, the locations of helpful resources regarding Web Services, the various tools useful in implementing Web Services and class exercises intended to engage and educate the participants.

Who Should Attend

This workshop is aimed toward technically literate executives, project leads and Web Services developers. It should be invaluable to ANYONE thinking about undertaking a Web Services effort.

Workshop Objectives:

<   Define Web Services.
<   Provide World Wide Web resources to support the various aspects of Web Services.
<   Review the background and current requirements necessitating Web Services.
<   Discuss the functional roles of the components of the Web Services standards initiative.
<   Discuss what activities an enterprise should do before starting a Web Services initiative.
<   Expose students to (or review) basic XML concepts.
<   Use the Simple Object Access Protocol (SOAP).
<   Assist students in implementing a simple Web Services transaction.

Web Security: Defending Your Electronic Frontier

This is a 2-day workshop covering all the major topics and issues involved in planning, deploying and managing a web security solution. Your attendance will expose you to the latest security issues, hacking concepts, prevention solutions, and best-practices including standardized security protocols, layered prevention architectures, web management, and current case studies in a multidimensional learning environment involving lectures, demonstrations with live web security examples and exercises. The workshop will focus on applying the theory learned during the first part of the sessions with the practices of management, monitoring, and control of your organization's web hosting environment. The examples and exercises will be oriented towards real-life situations in which the participants can incorporate their own experiences and get answers to questions concerning current problems and issues.

During the workshop sessions, the concepts of understanding the "what" and "how" of improving web security will be integrated with the "why" and "wherefore" of sound security planning and management of such protection infrastructures. Issues of holistic security strategies, intrusion detection, and solutions will be prominent throughout the session discussions to ensure the participant's grasp of making their web security environment practical, efficient, and cost-effective. Participants are encouraged to bring laptop computers as there will be a limited number of wireless cards for use during the workshop so that everyone will be able to see and experience actual web security activities, hacking demonstrations, and systems hardening exercises.

Who Should Attend

This workshop will be very beneficial to all those involved in an organization's information and web infrastructure efforts: informational security personnel, network administrators, technical support personnel, web masters and mistresses, Internet server administrators, web system administrators, network security officers, MIS/IS/IT management personnel, and web developers. Technical and management personnel from organizations that have deployed web platforms, and need of in-depth information on how to protect an organization's web stores and services.

Workshop Objectives:

< Cover the basics of web application architectures and components.
< Learn the parts of a web hosting environment most vulnerable to attacks.
< Discover how authentication and authorization schemes help and hurt.
< Obtain information on how holistic web security is the best approach to prevention.
< Understand how intruders use "system profiling" to probe a web environment's weaknesses.
< Discover how the underlying network and systems can compromise web security.
< Apply the "laws of effective security" to improve a web's resistance to hacking.
< Learn the concepts of cryptography and how to apply them to reduce eavesdropping.
< Develop a sound web security plan.
< Discover how hackers and intruders think and operate in order to defeat their efforts.
< Reduce the amount of information leakage usually found in "unprotected" webs.
< Understand how scripting and URL programming are a hacker's haven.
< Learn about the most frequently deployed web server, DBMS, and browser hacks.
< Obtain lists of current web environment vulnerabilities and threats.
< Discover how to harden a web environment to reduce exposure to these threats.
< Use industry "best-practices" to design, develop, and deploy an effective web security plan.
< Learn how to develop high-security web applications.
< Walk through actual case studies in order to learn from other's mistakes.
< Discuss the current security tools, and security solutions available on the market.
< By exercise and demonstration, see how a web site is attacked and subverted.
< Obtain a better understanding how to implement web security without breaking the bank.
< Learn how to get management's approval to implement effective web security solutions.

Flash 8 for Developers

This 2-day workshop is no less than 70% hands-on, and no more than 30% lecture — participants "learn by doing." The workshop is designed for experienced application developers, and introduces them to the Flash IDE and how best to develop applications using ActionScript 2 for the Flash 8 Player. The workshop begins with an overview of the Flash workflow to help developers better understand it from the designers perspective. Participants take an in-depth look at how to use ActionScript to interface with the Flash timeline animations and library. Next we learn how to use modular OOP techniques to create robust applications using Flash.

The ActionScript training progresses through basic syntax and code structure, and then moves on to Class based programming, and subclasses of the major object types. We will also cover using components, and working with media such as sound and video streams. Upon completion of the workshop, the participants will not only have a clear understanding of the ActionScript 2.0 language and Built-in Classes, but will also know how to create custom classes and packages, and how to integrate all the controls with a typical Flash timeline driven animation and linkage to Library content. All the applications created will demonstrate best programming practices and practical ways to leverage pre-existing design and animation content in the Flash movie file.

Who Should Attend

Experienced application developers.

Workshop Objectives:

▸   Understand Flash player and Flash app workflow for a typical application.
▸   Explore the Flash workspace and the Flash documents.
▸   Learn basic Flash movie elements and graphics content management.
▸   Use the movie timeline and keyframes and layers.
▸   Understand Symbols and the Library.
▸   Use ActionScript in the .fla file.
▸   Debug Flash movies, and error handling.
▸   Interact with movie file elements.
▸   Use external Data.
▸   Understand packages and classes.
▸   Create a typical Flash application using the Flash IDE.
▸   Use ActionScript to create and manipulate graphic elements.

Flex: Programming the Visual Experience

What is Adobe Flex? Like Flash, Flex creates SWF files that are rendered by Flash Player. However, Flex is primarily a developer's tool and the way you develop Flex applications is entirely different than the way you develop Flash RIAs. All Flex development is based upon a framework that provides you with reusable and extendable UI components, data retrieval services, event handling functionality and much more.

In this 3-day workshop, learn from an Adobe Certified Master Instructor for the Flex, Flash, ColdFusion, and Dreamweaver product lines. *Flex: Programming the Visual Experience* provides experienced Flex developers with hands-on practical experience implementing common graphical and interactive requirements illustrated by designer and project mockups. With our instructor paving the way, you will learn how to work with embedded images and fonts, implement transitions and easing effects, apply filters and blends, and programmatically interact with mouse position and actions like dragging and dropping. In addition, participants will learn how to extend and skin Flex UI components using both images and shapes drawn with the ActionScript Drawing API.

Who Should Attend

Flex is geared towards programmers, rather than designers. The primary Flex programming language, ActionScript 3, is Object-Oriented so it is a good idea for participants to have some experience with OOP concepts.

Workshop Objectives:

▸ Discover how to create data bound drag and drop functionality for virtually any Flex control.

▸ Learn to create mouse-aware application features.

▸ Understand loose component coupling, implemented through bindings and events.

▸ Get inside tips on optimizing file size through programmatic shape creation.

▸ See how to implement and skin Flex components directly in ActionScript 3.0.

Microsoft Silverlight 2 for Developers

This is a 5-day workshop that walks developers through the process of learning Microsoft Silverlight 2 and developing a real-world application using Silverlight. In this workshop, participants will learn how to create and test Silverlight applications using Visual Studio 2008. Participants will delve into animation and graphics in Silverlight applications, networking protocols and communications, securing Silverlight applications, and accessing data. Participants will also examine user interface design standards when using Silverlight, as well as how to utilize and customize user interface controls.

Who Should Attend

This workshop is designed for application developers that wish to quickly become proficient at developing applications using Microsoft Silverlight. This workshop illustrates and explains how to create and manage media, graphics, and animations in Silverlight, but does not focus on animation and media design techniques. Silverlight will open the door for the army of existing .NET developers to begin creating rich interactive applications (RIAs) utilizing their existing .NET Framework knowledge. Developers who wish to create applications using Silverlight should attend, as well as development team managers. Designers who will be working with development teams that utilize Silverlight — or those designers who wish to begin creating elaborate RIAs using Silverlight — should also attend.

Workshop Objectives:

▸ Become familiar with the Silverlight framework and application infrastructure, and how to create Silverlight applications using Visual Studio 2008.

▸ Create and understand animations for use in Silverlight applications.

▸ Prepare media for display and use in Silverlight applications.

▸ Learn how to create Web and WCF services that will be consumed by Silverlight applications.

▸ Secure data and user credentials for transport over the Web using Silverlight.

▸ Communicate with server-side services using Silverlight and the various support protocols including sockets, POX, SOAP, REST, JSON, RSS, and ATOM.

▸ Store, access, import, export, and query data using Silverlight, Isolated Storage, XML, and Language Integrated Query (LINQ).

▸ Develop Silverlight applications using either C# or Visual Basic.

▸ Learn how to create applications using the Extensible Application Markup Language (XAML).

▸ Create user interfaces using Silverlight controls, and customize controls using templates and data binding.

XML Programming for Developers

The application development process is evolving in significant ways. As new technologies are constantly introduced and the demand for integrated data access and utilization grows, understanding key technical XML programming concepts is essential to success in today's application development environment.

Beginning with the fundamentals of the XML specification, attendees will learn how the XML environment forms the basis for all other XML components. Specific attention will be paid to learning how to read and create XML grammars both DTDs and Schemas. Once these topics have been discussed, the workshop will move on to understanding how to use the XSL/XSLT styling and transformation specifications based on the XPath language. Finally, the attendees will be exposed to the DOM and SAX XML parsers that they will use in developing XML-based solutions.

This 4-day workshop will be intermixed with hands-on exercises to allow the attendees to immediately put the new found knowledge into concrete examples that they will be able to take with them upon successful completion of the workshop. Attendees will use current tools and development environments to aid them in obtaining XML development skills and experiences.

Who Should Attend

This workshop will be very beneficial to all those involved in an organization's application and systems development activities. These would include application developers, programmers, application designers, architects and system analysts. In addition, managers and supervisors of these types of activities would also benefit by understanding the tools and skills needed by personnel under their management attention.

Prerequisites

An understanding of a programming language and basic application development logic is assumed.

Workshop Objectives:

<   Understand the XML specification as it relates to application development.
<   Learn what defines a well-formed and valid XML data stream.
<   Learn the primary XML components (elements, attributes, and entities), and how to define them.
<   Use the secondary XML components (PI, CDATA, and comments) to improve XML grammars.
<   Learn the new XML grammar solution called Schemas, and how it enhances DTDs.
<   Explore XML Schema data types and structures that significantly improve grammar's capabilities.
<   Develop both an XML DTD and Schema that are used to validate an XML data stream.
<   Beginning with the XPath language, learn how to traverse an XML tree structure to access content.
<   Learn how XPath uses the 13 XML tree axes to define where and how a content tree is accessed.
<   Using XPath, learn the concepts of XSLT and its use within an XML programming environment.
<   Use XSLT to transform one XML stream into another based on end-user requirements.
<   Understand how the XSL specification uses HTML and CSS to present XML data for desired output.
<   Develop an XSL stylesheet that creates a report solution from an XML data stream.
<   Learn the basics of the DOM parser and its application development capabilities.
<   Learn the basics of the SAX parser and its application development capabilities.
<   Understand the differences between the DOM and SAX APIs.
<   Explore additional topics such as XML messaging, e.g. SOAP and ebXML.
<   Complete the discussion of current XML tools and development aids available on the market today.

Advanced XML

This 3-day hands-on workshop is designed to provide you with the concepts, tools and techniques to enable communication between applications and platforms using XML messaging.

You will learn how to parse XML documents with Document Object Model (DOM) parsers and Simple API for XML (SAX) parsers. You will also learn to format messages using both basic XML messaging concepts and the new Simple Object Access Protocol (SOAP). Both server-side and client-side XML deployment will be discussed.

This workshop includes a balanced mix of presentation, exercises and hands-on labs and also includes examples of XML in a variety of applications to reinforce and demonstrate the range and importance of XML.

Who Should Attend

This workshop is beneficial for individuals involved in developing communication between applications on heterogeneous platforms including database personnel who need to access, transfer or communicate data, analysts who will need to define and organize the requirements, and developers who will need to construct the system.

Prerequisites

Students should have attended the introductory workshop on XML for developers, or have equivalent hands-on experience with XML. At least a reading knowledge of HTML, and proficiency in some procedural programming language or scripting language is needed. This workshop involves some programming, but is structured so that knowledge of a specific language is not required. Basic concepts and terminology of Object-Orient Programming, such as encapsulation, inheritance, polymorphism, interface, class, and method should be familiar.

Workshop Objectives:

< Review XML.
< Learn advanced XSLT.
< Learn to use the Document Object Model (DOM).
< Locate parts of an XML document with XML Path Language (XPath).
< Use the JAVA Document Object Model (DOM) parser.
< Use the JAVA Simple API for XML (SAX) parser.
< Learn about and use basic XML messaging concepts.
< Learn about and use Simple Object Access Protocol (SOAP).
< Be introduced to emerging XML technologies.

XML Schemas: Technologies and Application

XML, since its inception, has used a hold-over from its SGML lineage: DTD (document type definitions) to define the structure of associated documents and data streams. DTDs have several short-comings that limit its usefulness in defining data structures beyond that which was necessary for print-out formats. XML Schemas overcome this limitations and bring much more to the XML development environment.

This is a 2-day workshop covering all the major topics and issues relating to XML schemas. In this workshop, attendees will learn the schema language syntax and constructs that are used to define both simple and complex data structures. Schema data types, built-in, primitive, and user-defined, will be discussed and used to further enhance data stream definitions so that the application developer can more efficiently deal with business issues instead of input edit checking and data errors. This workshop will show how schemas can stream-line the development and usage of XML data streams in all kinds of applications. Each attendee will have access to a copious number of actual schema examples as well as the opportunity to design, develop, and test their own schema work. The combination of hands-on and classroom time will aid the attendee in obtaining the necessary knowledge and skills to utilize schemas in their daily technical duties and activities. During the workshop sessions, the concepts of understanding the "what" and "how" of designing, developing, and validating data streams with XML Schemas will be integrated with the "why" and "wherefore" of sound data structure design and utilization. Additional issues of converting existing XML grammars into schema form, building modular schemas, and creating reusable data structures will be prominent throughout the session discussions to ensure the participant's grasp of making their XML applicational environments practical, efficient, and cost-effective.

Who Should Attend

This workshop will be very beneficial to all those involved in an organization's information and application development efforts: informational services personnel, software engineers/architects, programmers, and their associated managers and supervisors.

Prerequisites

A basic understanding of XML is assumed since this workshop concentrates on XML grammars, and their use in the application development process.

Workshop Objectives:

<   Understand the XML Schema specifications and their capabilities.
<   Learn how namespaces are supported in XML Schemas.
<   Learn how namespaces support different data structures and user-defined data types.
<   Create reusable user-defined data structures using named types in schemas.
<   Discover the XML Schema syntax.
<   Discover how XML Schemas support hierarchy and scoping of components.
<   Understand how schemas can create and reuse elements.
<   Understand how schemas can create, group, and reuse attributes.
<   Be able to design, development, and test simple and complex data structures in XML.
<   Learn how to derive custom data types using the built-in, base data types.
<   Learn to create pattern-based data types using regular expressions.
<   Understand how to create modularity in XML Schemas.
<   Learn how design schemas for large XML projects and solutions.
<   Create XML grammar solutions during in-class examples and exercises.

XML Programming Using Java

The platform independence of both XML and Java make for a perfect partnership. Java has added several packages specifically to take advantage of this. This 3-day hands-on workshop is designed to provide the concepts, tools and techniques to enable the participant to use these packages for parsing, processing and communicating using XML.

You will learn how to parse XML documents with Simple API for XML (SAX) parsers and Document Object Model (DOM) parsers, display and process the XML data using Java Swing and Collection objects, and communicate between applications using XML. You will also learn to use Java to communicate XML information to and from browsers, access databases, and advertise and find business services.

This workshop includes a balanced mix of presentation, exercises, and hands-on labs and also includes examples in a variety of applications to reinforce and demonstrate the range and importance of the XML-Java partnership.

Who Should Attend

This workshop is beneficial for individuals involved in developing communication between applications on heterogeneous platforms including database personnel who need to access, transfer or communicate data, analysts who will need to define and organize the requirements, and developers who will need to construct the system.

Prerequisites

A basic understanding of XML (including DTD's, schemas, and XSL), HTML, and application development and architecture. A working knowledge of Java is also required.

Workshop Objectives:

▸ Review XML.
▸ Understand the advantages and disadvantages of the different parsing mechanisms.
▸ Use the Java Simple API for XML (SAX) parser.
▸ Use the Java Document Object Model (DOM) parser.
▸ Use Java collections to process XML information.
▸ Display XML information using Java's Swing capabilities.
▸ Learn to communicate between applications with XML.
▸ Learn how XML is used with JavaBeans and Enterprise JavaBeans.
▸ Use a browser to communicate with data described in an XML document.
▸ Map XML documents to relational databases.
▸ Advertise and find business services using XML.

JavaScript Programming

The World Wide Web has spawned many new technologies, one of which is the manner of embedding a programming environment within a web page. There have been many scripting languages developed to fulfill this need, but JavaScript appears to have finally taken the lead and is now the most popular scripting language in use today.

This 3-day workshop will take the attendee from the basics of JavaScript using examples and hands-on exercises through the more advanced topics such as file handling, JavaScript messaging, JavaScript troubleshooting and debugging of 3rd party scripts. The attendees will learn how JavaScript uses very simple, but effective techniques to manipulate data streams of many forms either on the client-side or the server-side. In the three days, attendees will learn and discover all the major JavaScript components and operations that are found in most scripting environments on the Internet today.

The workshop is heavily "hands-on" (about 60%) with a series of exercises and problem sets.

Who Should Attend

Those from IT development and/or programming departments such as programmers, developers, application designers, system designers, and maintenance programmers. A familiarity with HTML and/or XML will be very helpful as the workshop is also focused on using JavaScript to manipulate the web page object model for using JavaScript within an HTML page.

Prerequisites

An understanding of a procedural or Object-Oriented language. Knowledge of HTML and/or XML will be helpful in understanding the programming environment of JavaScript.

Workshop Objectives:

▸   Understand the differences between JavaScript and the Java programming language.
▸   Learn what browsers support which versions of JavaScript.
▸   Discover how to use the <script> element for embedding JavaScript into a web page.
▸   Understanding JavaScript capabilities and requirements for using scripting.
▸   Learn about the JavaScript programming environment: editors, debuggers, etc.
▸   Discover how to use functions and methods in JavaScript.
▸   Understand how to use variables, naming requirements and data types in JavaScript.
▸   Learn how to create, use, and manipulate strings and arrays in JavaScript.
▸   Learn how to make decisions, use conditionals, and implement testing structures in JavaScript.
▸   Discover how to design and use looping and iterative structures in JavaScript.
▸   Discover how JavaScript is "object-sensitive" vs. being truly Object-Oriented.
▸   Using events and event handlers in JavaScript to control and time operations.
▸   Use JavaScript to load, manipulate and convert HTML objects and XML data files.
▸   Discover how to manipulate file handling in JavaScript on the client and server.
▸   Understand how to design, development and deploy JavaScript applications.
▸   Learn how to troubleshoot and debug existing 3rd party JavaScript applications.
▸   Use current tools and editors to create, edit, and troubleshoot JavaScript solutions.

Introduction to Java

The Java programming language is now over 12 years old, and continues to be a leading contender for Internet, web page, and embedded programming tasks. Sun Microsystems has finally taken the first steps towards moving Java into the "open source" environment which should make Java all the more acceptable to many organizations that require such "hands-off" control. There are 3 primary communities making up the Java environment: SE (Standard Edition), ME (Mobile/Embedded Edition), and EE (Enterprise Edition).

This 4-day workshop will take the attendee starting from the basics of Java, involving examples and hands-on exercises using the Java 6 SE and SDK as the primary learning platform. The attendees will learn how the Java programming language uses its Object-Oriented nature to simplify the programming task. In addition, attendees will learn the concepts of the Java language such as creating simple Java programs, declaring and using variables and arrays, using operators, making decisions, using iterative structures, declaring and using methods, and implementing inheritance designs.

This workshop will prepare the attendees to make initial and productive use of the Java programming language in many real-life programming situations. They will also learn how to continue their learning of the Java programming language after the workshop has concluded.

Who Should Attend

This workshop is best attended by those having programming experience in either a procedural or Object-Oriented language, or those with logical and/or mathematical skills. The attendees coming from the IT development and/or programming departments will include job titles such as programmers, developers, application designers, system designers, and maintenance programmers. Others that can benefit from attending this workshop are those with titles such as technical writer, web developer, and technical manager. A familiarity with computer programming concepts and basics will be very helpful, but not absolutely necessary as this workshop can be successfully completed by beginning/novice programmers.

Prerequisites

A basic understanding of a programming language is assumed. The ability to use a text-editor to enter, compile and run simple scripting or procedural programs is also assumed. Having some experience in the solving of logic-based problems would be very helpful in gaining the most benefits from this workshop.

Workshop Objectives:

▸ Understand the Java programming language concepts and constructs.
▸ Learn how to create, compile, debug, and run Java programs and applets.
▸ Discover how to use Java decision-making and iterative constructs to solve logic problems.
▸ Learn how to use Java methods to modularize a Java application.
▸ Understand the basic concepts of Object-Oriented technologies used by Java.
▸ Using Java constructs, create several Java applications and applets.

Advanced Java Programming

The Java programming language is now over 12 years old, and continues to be a leading contender for Internet, web page, and embedded programming tasks. Sun Microsystems has finally taken the first steps towards moving Java into the "open source" environment which should make Java all the more acceptable to many organizations that require such "hands-off" control. There are 3 primary communities making up the Java environment: SE (Standard Edition), ME (Mobile/Embedded Edition), and EE (Enterprise Edition).

This 4-day workshop is an advanced exploration and hands-on experimentation of the Java programming environment. Building on the skills a Java programmer of 1-3 years has obtained, this workshop expands the understanding of Object-Oriented techniques (encapsulation, polymorphism, and inheritance) to design, and create more complex and extensive programming solutions. The attendees will learn how to use Java's multithreading capabilities, TCP/IP socket access for networking solutions, Java's I/O functionality for handling data access, and its extensive error handling capabilities.

This workshop will extend the attendee's current level of Java programming knowledge with advanced techniques to solve more complex programming solutions that are encountered in every day computing operations. Finally, they will learn how to design graphical user interface (GUI) solutions that use event-driven graphical object classes to provide a rich computing experience for end-users.

Who Should Attend

This workshop is best attended by those having a 1-3 year experience level in the Java programming language. The attendees coming from the IT development and/or programming departments will include job titles such as programmers, developers, application designers, system designers, and maintenance programmers. This level of experience and familiarity with Java is necessary since this workshop will assume the attendee has already achieved a basic to intermediate understanding of Java through actual use of the language.

Prerequisites

The attendee should have attended an *Introduction to Java Programming* workshop or be self-taught with at least 1-3 years of programming experience in the Java language. The workshop assumes the concepts of Java constructs and components are well known by the attendee.

Workshop Objectives:

<   Extend knowledge of Object-Oriented technologies such as encapsulation, and polymorphism.

<   Use the MVC (Model, View, Controller) design pattern methodology to design Java applications.

<   Understand the concepts of the UML (Unified Modeling Language) diagrams in Java designs.

<   Use the Java programming environment to create sophisticated solutions.

<   Create error-handling structures that improve the "bullet-proof" nature of Java solutions.

<   Create event-driven GUI solutions using the Java Swing architecture.

<   Use the TCP/IP communications model, based on sockets, to implement networking access.

<   Learn how to access remote objects using the Java RMI (Remote Method Invocation).

<   Use Java I/O capabilities to implement data storage and database access solutions.

<   Use Java multi-threading techniques to solve complex, simultaneous problem sets.

<   Understand the Java SE architecture toolset and packages that extend Java capabilities.

<   Learn how to use Java IDE's such as NetBeans and/or the Eclipse frameworks.

Developing Java Web Services

XML-based Web Services allow applications to access functionality via the Internet and are at the forefront of the newest shift in distributed computing. Microsoft recently reengineered its platform to support enterprise applications and Web Services (Microsoft .NET). However, the Java platform is already engineered for distributed, cross-platform, highly scalable and maintainable enterprise systems. Sun Microsystems and the open source Java community have embraced Web Services technology and offer many techniques for adding a Web Services layer on top of existing applications, which enables implementation-independent, cross-application communication.

This 5-day hands-on class explores the various standards that compose the Web Services architecture, such as XML (eXtensible Markup Language), DOM (Document Object Model), SOAP (Simple Object Access Protocol), UDDI (Universal Description, Discovery, and Integration) and many of the APIs that comprise Sun's new JAX (Java API for XML) Pack, including JAXP (JAX Parsing), JAXM (JAX Messaging), JAXR (JAX Registries), and JAX-RPC (JAX Remote Procedure Call). Students will explore how to build, consume, test, and advertise Web Services, as well as discussing various issues that affect them, such as performance and security. In addition, the class describes the various tools available to Java Web Services developers.

Who Should Attend

This workshop is designed for developers who are going to work with Web Services in the Java environment.

Prerequisites

The instructor will assume that students are well versed in the Java language and have extensive Java development experience. Knowledge of XML is not required. Experience with Servlets and Java Server Pages (JSPs) is also not required, though it is helpful.

Workshop Objectives:

▸ Expose an application as a Web Service.
▸ Study the details of the SOAP protocol.
▸ Generate and understand the contents of a WSDL file.
▸ Create client proxies and applications.
▸ Use JAXM to create Web Services and clients.
▸ Register your Web Service and discover others using UDDI and JAXR.
▸ Discuss security, performance, and other design considerations.
▸ Explore the difficulties of testing Web Services.

Java Database Access Using JDBC

Java has become the language of choice for many enterprise application developers. Because Sun Microsystems recognizes the importance of data access and manipulation to business applications, they developed the Java Database Connectivity (JDBC) API to allow for secure, robust, and portable enterprise-level data access. Similar to Microsoft's Open Database Connectivity (ODBC), JDBC is an open API that enables cross-vendor data access. However, JDBC is much more Object-Oriented in nature, as it was developed specifically for use with Java. The new JDBC 3.0 contains powerful enhancements over the previous versions of the API. For instance, it allows developers to access data from flat files, as well as from databases. In addition, version 3.0 introduces robust mechanisms for doing batch updates, creating transaction savepoints, and implementing distributed transactions.

This 3-day hands-on class will introduce developers to all these topics, as well as addressing more advanced topics, such as transactional programming and performance, JavaBeans, and design patterns. The class includes many hands-on exercises, and students will come away with the ability to successfully access, update, and manipulate data in both client- and server-side Java applications. Furthermore, they will have learned the information necessary to making important design decisions concerning performance trade-offs.

Who Should Attend

The workshop material is aimed at developers who will be writing data-centric applications using the Java Platform.

Prerequisites

Students should have strong Java programming experience and should be familiar with the basics of relational databases and SQL.

Workshop Objectives:

- Connect to databases and execute SQL commands.
- Manipulate data result sets.
- Map Java data types to their JDBC counterparts and vice versa.
- Use transactions to support business logic.
- Discover database objects and their properties at runtime using database metadata.
- Improve applications with common design patterns.
- Optimize data access performance.
- Interact with Enterprise JavaBeans (EJBs).

Introduction to Enterprise JavaBeans (EJBs)

Sun Microsystems's JavaBeans provide a means of modularizing applications with simple, reusable components. While they are very useful for local use, JavaBeans themselves are too simple to add much value to enterprise-level business applications. Enter Enterprise JavaBeans (EJBs). Though they share part of their name with standard JavaBeans, EJBs are a whole different animal. With built-in support for the common infrastructure issues of object persistence, security, and transaction management, EJBs combine server-side components with distributed object technology. This results in greatly simplified program development by allowing developers to spend their time concentrating on the business logic specific to their applications.

This 5-day hands-on workshop covers the EJB fundamentals of implementing session, entity, and the new EJB 2.0 message-driven beans. Students will then delve into more complex topics like distributed transactional programming, exception handling, and security and performance issues. The workshop also presents invaluable design and testing strategies that have been proven in the field. In addition, the instructor will often discuss issues of troubleshooting and best practices as they relate to the various topics presented throughout the workshop.

Students will have the opportunity to utilize their new skills with many hands-on exercises using Java 2 Software Development Kit (SDK) version 1.4.

Who Should Attend

This workshop is designed for experience Java developers who wish to create Java 2 Platform, Enterprise Edition, (J2EE) applications using secure, scalable, and transactional EJB components.

Prerequisites

Students are expected to have a strong Java programming background, with experience in advanced techniques such as multithreading. Familiarity with JDBC and transactional programming is helpful, though not necessary. The instructor will assume, however, that students know the basics of relational databases and SQL.

Workshop Objectives:

<   Understand the roles and architecture of EJBs.
<   Implement session, entity, and message-driven beans.
<   Compare Bean-Managed and Container-Managed Persistence (BMP and CMP).
<   Learn about the services offered by the EJB container and successfully manage its resources.
<   Optimize the performance of your EJB application.
<   Use local and distributed transactions to ensure data integrity.
<   Design robust, secure, and scalable applications.
<   Create a test suite that meets the challenges of the EJB environment.

Introduction to Servlets and JavaServer Pages

Servlets and JSPs form the foundation of the Java 2 Platform, Enterprise Edition (J2EE). The Java equivalent of Common Gateway Interface (CGI) programs, servlets provide full enterprise application support on the back end of a Web server. JSPs can format the dynamic content provided by a servlet, making for very rich and robust Web applications and interfaces.

This 5-day hands-on workshop covers everything developers need to know to start designing and implementing a Web application using Java servlets and JSPs, from basic overall architecture to the specifics of HTTP request and response headers, processing HTML form data, cookie support, session state management, and JSP directives. In addition, students will learn how to integrate other pertinent technologies, such as JavaBeans and Java Database Connectivity (JDBC), into their Web applications. Lastly, the instructor will often discuss issues of performance, design, and best practices as they relate to the various topics presented throughout the workshop.

Students will have the opportunity to utilize their new skills and will learn to debug J2EE Web applications with many hands-on exercises using the Java 2 Software Development Kit (SDK), version 1.4.

Who Should Attend

This workshop was created for experienced Java developers who will be designing and implementing J2EE Web applications using servlets and JSPs.

Prerequisites

Students must have experience with Java programming and the Java environment. Also, the instructor will assume that students are familiar with the basics of relational databases and simple SQL statements. Knowledge of HTML and XML are helpful but not required.

Workshop Objectives:

- Describe the architecture of a J2EE Web application.
- Handle client requests and build appropriate responses.
- Use cookies to customize a user's interaction with an application.
- Track session state.
- Access enterprise data using JDBC.
- Format dynamic content with JSPs.
- Pass information between servlets and JSPs using JavaBeans.
- Enhance JSP functionality with custom tag libraries.

Java Server Faces

The Java programming language is now over 12 years old, and continues to be a leading contender for Internet, Web page, and embedded programming tasks. Sun Microsystems has finally taken the first steps towards moving Java into the "open source" environment which should make Java all the more acceptable to many organizations that require such "hands-off" control. There are 3 primary communities making up the Java environment: SE (Standard Edition), ME (Mobile/Embedded Edition), and EE (Enterprise Edition).

This 4-day workshop introduces the Java Server Faces API for Java Web application development. Building on an assumed experience with Java SE or Java EE, attendees will learn the JSF framework and architecture, and how it can simplify the development of web pages within a web application. Students create JSF Web applications by organizing their pages as JSF component trees, and their server-side code as JSF managed beans and controllers. They add data access and validation logic, and learn to work with JSF's data-table control.

This workshop will prepare the attendees to make initial and productive use of the JSF development environment in many real-life programming situations. The attendees will also learn how to continue their learning of the JSF framework after the workshop has concluded.

Who Should Attend

This workshop is best attended by those having a programming experience in Java SE or Java EE. The attendees coming from the IT development and/or programming departments will include job titles such as programmers, developers, application designers, system designers, and maintenance programmers. Others that can benefit from attending this workshop are those with titles such as technical writer, web developer, and technical manager. A familiarity with Java programming concepts and basics is assumed since this workshop builds on already-acquired Java programming and development skills.

Prerequisites

An introductory workshop on Java, JSP (Java Server Pages) and XML, and some real-world experience using the Java programming language, is assumed as the prerequisite for this workshop. In addition, knowledge of HTML/HTTP is extremely helpful since JSF uses the HTTP request/response model of JSP. This workshop is best used from within an IDE such as Java Studio or Eclipse as the customer so desires.

Workshop Objectives:

< Understand the purpose and scope of the JSF framework and architecture.
< Learn how to use the JSF lifecycle and page navigation rules.
< Understand the many JSF interface components and tag libraries.
< Use managed beans to encapsulate server-side form handling and client-side presentation logic.
< Develop and use JSF events and controllers in order to take actions initiated by users.
< Use validators and converters to implement JSF application validation.
< Build web applications using JSF and its components/tags.
< Depending on attendee experience, delve into the data table manipulation capabilities of JSF.

Introduction to Perl Programming

This 3- or 4-day hands-on workshop will provide a complete introduction to one of the most powerful, useful and easy-to-use scripting languages, still arguably the most popular on the planet, used in companies and academic institutions around the world. We will cover all the basic data types, control structures and tools for reading and writing to files, communicating with other programs, and manipulating data. At the conclusion of this workshop you will be able to create scripts that can process text, read and manipulate filesystems, execute or send signals to external processes, and perform many other tasks central to programming, system administration, network administration, and many other areas of IT.

Who Should Attend

This workshop is geared toward programmers, system administrators, webmasters, system support specialists, and network administrators.

Prerequisites

Attendees should have a working knowledge of another programming or scripting language such as C, Java, JavaScript, PHP, or shell scripting.

Workshop Objectives:

▸ Write and run Perl programs.

▸ Read and modify existing programs.

▸ Use Perl's built-in data structures: Scalars, Arrays and Hashes.

▸ Use Perl's loop control structures: if, while and foreach.

▸ Understand how Perl handles its data and how it interprets the user's syntax.

▸ Open, read and write files.

▸ Understand how to find more information and continue to develop as programmers.

Advanced Perl Programming

Building on concepts learned in Introduction to Perl Programming, this 3-day workshop exposes the attendee to concepts and techniques essential to any intermediate to advanced application of Perl in the professional environment. Students will be introduced to data references and their use in complex data structures and Object-Oriented Programming; an introduction to several useful modules, including for database interface (DBI) and web programming (CGI) will be accompanied by techniques for creating and using custom modules. Finally, Perl's powerful Regular Expression engine for text analysis and processing will be explored.

Who Should Attend

This workshop is geared toward the Perl programmer who has started working with Perl and wishes to extend his or her knowledge and practical range into advanced and extended Perl programming situations.

Prerequisites

The Introduction to Perl seminar or equivalent knowledge, plus field experience writing new Perl code and modifying existing Perl code in practical situations.

Workshop Objectives:

▸ Understand and identify Perl reference syntax, and use references to create complex data structures such as arrays of arrays, hashes of arrays, etc.

▸ Use complex data structures to model structured data as found in repositories such as databases, text files or network resources; create custom structures for analysis and for writing to other structured data repositories.

▸ Use Perl's elegant Object-Oriented Programming language features to create classes, instance variables and methods; understand and use the OOP design features encapsulation and polymorphism, and learn good class design approaches using composition and inheritance.

▸ Explore and use Perl's vast module library, including several useful modules that should be a part of any Perl programmer's toolkit, and learn how to design and disseminate custom modules through the organization or the world.

▸ Explore and write Perl programs for the Common Gateway Interface (CGI), creating networked Perl programs that can be accessed over the company intranet or anywhere in the world.

▸ Learn Perl's database interface module (DBI), and how to read from and write to relational databases such as MySQL, Oracle and many others.

▸ Learn how to use Perl's powerful regular expression engine for text analysis and processing.

Introduction to Python

This 3- or 4-day hands-on workshop will provide a complete introduction to an increasingly popular programming language which is the "scripting language of choice" at companies such as Google, YouTube, Industrial Light and Magic, and NASA. Python is extremely easy to use, with a consistent interface and clean, readable syntax, yet it can be employed to create powerful programs and programming systems on a variety of platforms. The workshop covers all core language features, including types, operators, statements, classes, functions, modules and exceptions -- and shows how to solve common programming tasks and write complete standalone applications.

Who Should Attend

This workshop is geared toward programmers, systems administrators, webmasters, system support specialists, network administrators, and any IT professional who needs to solve problems and create up-and-running systems quickly.

Prerequisites

Attendees should have a working knowledge of another programming or scripting language such as C, Java, JavaScript, Perl, PHP, or Shell Scripting.

Workshop Objectives:

▸ Write and run Python programs.

▸ Read and modify existing programs.

▸ Understand the Python class and object system and its built-in classes.

▸ Use Python's built-in classes to store string, numeric, sequence and paired data.

▸ Use Python's control structures to create complex algorithms.

▸ Create and use functions.

▸ Create, use and distribute reusable Python modules.

▸ Understand and use Python's elegant exception handling system.

▸ Understand Python's user-defined classes, objects and object methods.

Developing Web Applications with AJAX

This 2-day hands-on workshop will help the attendee to understand and experience the capabilities and benefits of AJAX in the development of leading-edge web sites and services. Many companies have already incorporated AJAX into their commercial web offerings: Google Earth, backpackit, and Cold Fusion. AJAX programming can improve web site development without increasing the network and server overhead that most current forms of web site development incur. AJAX uses a combination of web technologies in a novel way to reduce the time to market and cost of development while addressing issues such as privacy and security. Microsoft originally introduced the AJAX concept in their Internet Explorer 5.5 with the XMLHttpRequest object where the browser engine decided what to do locally and what to forward on to the web server. This concept is the heart of AJAX. AJAX uses a combination of web technologies in a novel way to reduce the time to market and cost of development while addressing issues such as privacy and security.

Attendees will learn from lecture, demos, and hands-on exercises how to exploit the capabilities of an AJAX development environment without the overhead of learning a full-featured programming language such as C, C++, or Java. Using simple scripting techniques within HTML/DHTML packages, AJAX provides powerful control and capabilities without the complexity of CGI or server-side programming. The attendees will also complete an in-class project that will further expand AJAX development knowledge and skills development.

Who Should Attend

This workshop will be very beneficial to web programmers, web site designers, content managers, programmers, software engineers, and those that manage such personnel and projects.

Prerequisites

Experience with web site development using HTML, dynamic HTML, XML, or VRML, or light coding experience in some current scripting language: VBScript, JavaScript, PHP, or Perl.

Workshop Objectives:

- Understand the technologies that AJAX uses to enhance web site development.
- Examine the concepts of Client/Server computing model used inside of AJAX applications.
- Examine the AJAX architecture and how its implemented on different platforms.
- Understand how AJAX uses standards to implement cross-browser compatibility and actions.
- Learn the basics of the JavaScript scripting language.
- Learn the concepts of the DOM (Document Object Model) that AJAX manipulates.
- Learn the concepts of XML syntax necessary to support AJAX application programming.
- Understand how to use the XMLHttpRequest and other AJAX objects to achieve asynchronicity.
- Use in-class examples in learning how to package AJAX calls within web pages.
- Experience how AJAX can begin to duplicate normal desktop application "look and feel".
- Learn how AJAX can be used internally to implement "desktop-like" application experiences.
- Put all the AJAX technologies together into a "take-it-with-you" development environment.
- Understand how to begin using AJAX solutions in everyday business environments.
- Examine the security issues and their solutions when using AJAX technologies.
- Compare AJAX with other web development solutions such as JSF, .NET, and Web Services.

Advanced AJAX Development

This 3-day, hands-on advanced workshop will give the attendee the chance to develop the skills needed to develop feature-rich web applications that simulate the current experience of the desktop application user. Building on the attendee's knowledge of JavaScript and HTML, this workshop moves quickly into dissection of the DOM (document object model) and asynchronous JavaScript methods that form the heart of the AJAX development framework. Using extensive in-class, and hands-on examples, exercises – and a workshop project – attendees will gain valuable knowledge and experience in how and why AJAX is becoming one of the fastest growing web application development solutions today.

Attendees will learn from lecture, demos, and hands-on exercises the details and intricacies of the DOM that opens every web page element to the control and manipulation of the developer. They will learn how to utilize the power of the desktop platform to perform operations that would normally require a round-trip to the web server, and how to deal with some of the issues that asynchronous operations bring to the web development environment. Attendees should leave this workshop with the knowledge and understanding of how to immediately put AJAX to work in their everyday application development situations.

Who Should Attend

This workshop will be very beneficial to web programmers, web site designers, content managers, programmers, software engineers, and those that manage such personnel and projects.

Prerequisites

Experience with web site development using HTML, dynamic HTML, and XML, and 1 year coding experience in JavaScript or VBScript with JavaScript is preferable.

Workshop Objectives:

- Dissect the AJAX development framework to understand the major AJAX components.
- Learn and experience, with in-class examples, how to use the DOM for web page element control.
- Learn how to use the XMLHttpRequest to obtain new data points from the web server.
- Learn how to use the concept of IFrame objects to house AJAX page components.
- Understand how to break out of the "Client/Server" web model currently deployed on most sites.
- User AJAX methods to control form, and form input objects to limit server-side overhead.
- Use CSS formatting to control the "look and feel" of the web apps without page refreshing.
- Learn advanced XML skills and techniques to communicate with web servers and DBMS.
- Learn the differences between the DHTML and DOM page object definitions and events.
- Compare some of the vendor-proprietary solutions such as .NET, XML and JSF vs. AJAX.
- Using an extensive workshop project/example, workshop topics will be illustrated and expanded.
- Develop a simple, yet powerful design framework for using AJAX solutions in the real world.
- Examine current AJAX vendor offerings for strengths and weaknesses.

Programming with Ruby

This 3-day hands-on workshop will provide the attendee with the knowledge and skills to begin using Ruby for everyday programming tasks using the growing number of install-provided classes, modules, and methods. While Ruby is mostly used by its converts to create web sites and web services, Ruby can be used as an all purpose programming language for anything that C++, C#, Java, Perl, and Python can do, with the possible exception of creating operating system primitives. This workshop will concentrate on the use of Ruby in creating, deploying and maintaining web sites and services as the vehicle in learning the necessary Ruby skills. Attendees will be able to take the knowledge and capabilities learned during this workshop and exploit them to use Ruby in just about any programming environment.

This workshop provides the attendees with everything they will need to begin using and benefitting from the Ruby language. In class examples, exercises and projects will further the attendees understanding of the Ruby environment which is fully "open-sourced" so the components of Ruby are freely available to anyone with an Internet connection. Participants will complete an in-class project that will expand their Ruby programming knowledge and skills development.

Who Should Attend

Web developers, programmers, and other web personnel, current users of C++, Java, C#, and those with web-related scripting languages will all benefit.

Prerequisites

Familiarity and experience with web scripting such as Perl, Python, JavaScript, or VBScript, or experience with web site development using HTML, XML, or VRML, or light coding experience in some current programming language: VB, Java, C, C++, or C#.

Workshop Objectives:

< Understand what the Ruby language is all about, including syntax and conventions.

< Learn the basics of Object-Oriented programming principles and techniques.

< Experience the ease with which Ruby is installed, invoked and utilized to accomplish tasks.

< Learn the basic Ruby syntax and vocabulary through hands-on examples and exercises.

< Examine the standard Ruby objects: numbers, strings, ranges, and regular expressions.

< Learn how Ruby objects implement their methods in a clear, logical, and consistent syntax.

< Understand the concept of Ruby objects, error handling, and basic input/output activities.

< Learn the Ruby constructs of containers, blocks, and iterators.

< Learning the "Ruby Way" concepts to assist programmers in conforming to Ruby conventions.

< Develop a knowledge of Ruby methods, method invocation, and parameterization.

< Learn how to maintain and document a Ruby programming environment via RubyGems and RDoc.

Advanced Ruby Programming

Since its release in 1995, Ruby has grown into a full-featured capable Object-Oriented programming environment: complete with standard libraries, built-in classes and modules, and networking capabilities via its sockets-based objects. This 3 day, hands-on workshop builds upon a participant's basic knowledge and experience with Ruby to provide a more detailed, complete experience of the Ruby programming environment. During this workshop, the attendee will learn how to use Ruby's vast standard libraries and modules to complete tasks such as database access, file control and management, networking, and server interaction. Successful completion of this fast-paced, intense workshop will prepare the attendee to utilize most of the advanced features of Ruby in his/her ever day programming environment thereby gaining the benefits that Ruby brings to such programming activities.

This advanced workshop delves into the topics of using Ruby in environments requiring threading, multi-threading, network access via sockets, web server access and programming, web service generation, and security.

During this 3-day hands-on workshop the attendee will learn how to use the extensive capabilities of Ruby to support the more advanced tasks required of a programming solution in today's inter-networked, security-focused environments.

Who Should Attend

Web developers, programmers, and other web personnel, current users of C++, Java, C##, and those with web-related scripting languages will all benefit.

Prerequisites

Familiarity and experience with the basic concepts of the Ruby programming language, or programming experience with an Object-Oriented programming language: C++, Java, or C#.

Workshop Objectives:

< Understand the Ruby environment: standard libraries, modules, and built-in classes.
< Discover how to create customized objects and methods.
< Understand the manner in which Ruby uses standard libraries to simplify programming activities.
< Learn how Ruby implements inheritance and dynamic method invocation.
< Learn how to extend standard Ruby components to improve reusability.
< Examine Ruby's use of reflection and objects to simplify complex programming tasks.
< Understand how to use Ruby in a distributed environment.
< Understand how to link into an operating system's internals using system hooks.
< Understanding the concept of "duck typing" in Ruby.
< Discover simplified testing and module development in Ruby.
< Using Ruby in a high security environment to prevent unwanted access or viewing.
< Learn how Ruby utilizes threads to support task-oriented programming design.

Ruby on Rails and Web Application Development

This 3-day workshop builds on the attendee's basic knowledge of the Ruby language (see *Programming with Ruby*) in learning how to combine Ruby with SQL databases like MySQL to simplify web site development dramatically. Ruby on Rails (ROR) does all the normal backend plumbing needed to develop a web site using a backend SQL database. In class, attendees will receive CD's with complete ROR development environments that they can use. This development environment includes everything needed to learn, to use – and if desired – deploy an ROR application: ROR, web server, and SQL database. This development environment can be taken with the attendee upon successful completion of the workshop to further their use of this exciting web development solution.

Ruby on Rails can simplify the development of a database-backed web site or application in two ways: first, with the Ruby language and its straightforward, fully Object-Oriented syntax, and secondly, through the implementation of intelligent defaults and conventions that speeds the development process by off-loading the tedious configuration and maintenance issues. ROR cuts through the complexities that Java, JavaScript, VBasic, .NET, PHP, and Perl normally interject into a web development environment. This workshop helps the attendee to learn and take advantage of these benefits offered by ROR.

This workshop will provide extensive programming examples and exercises to assist the attendee with the understanding of ROR programming concepts. The attendees will also complete an in-class project that will further expand ROR development knowledge and skills.

Who Should Attend

This workshop will be very beneficial to all those involved in designing, developing, and deploying web-based applications: web designers, web developers, and programmers, web application design engineers, and those that manage such personnel or projects.

Prerequisites

Familiarity and experience with web scripting such as Perl, Python, JavaScript, or VBScript – or – experience with web site development using HTML, XML, or VRML – or – light coding experience in some current programming language; Ruby is preferable.

Workshop Objectives:

< Understand how the Ruby on Rails framework works to simplify web development.
< Learn the basics of the MVC (model-view-controller) application partitioning environment.
< Experience how to install and use a normal Ruby on Rails development solution.
< Understand the controller component function as the intelligent router for Rails applications.
< Learn how to use Rails conventions to speed up application development, simplify maintenance.
< Use templates and views to control how the data is presented to the user.
< Develop data models to interface with the backend database systems to provide page data.
< Using a comprehensive in-class project, develop an online shopping web site using Rails.
< Learn how to test and deploy a Rails application to either an Internet or Intranet web host.
< Learn how to use the Rails Builder to automate creation of application components.