

ASP.NET Using Visual C# 2010

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Course description: In this course, you will learn how to use features of Visual Studio 2010 and Visual C# 2010 to build ASP.NET Web pages. You will gain an understanding of the architecture behind ASP.NET and how to use the various ASP.NET server controls. You will learn to create consistent web sites using Master Pages, add membership features and configure-deploy ASP.NET applications, to authenticate users and limit their access to resources, direct users using Site Navigation tools, debug .NET, and to display/edit data using ASP.NET and ADO.NET. In addition, you will learn about ASP.NET features, such as support for LINQ (Language Integrated Query), CSS tools, and will become familiar with the tracing features in Visual Studio that help you quickly troubleshoot issues. You will also learn how to work with ASP.NET Profile features, ASP.NET Web Parts, and how to take advantage of creating your own user-defined control. As you progress through the course you will learn about optimizing your sites, the ListView control, and so much more.

Course outline:

Introduction to ASP.NET

- Introduction
- Dynamically Create Pages
- Demo: View Classic ASP Page
- ASP Object Model
- Demo: View Classic ASP Page
- Handle ASP Postbacks
- Demo: View Classic ASP Page
- Demo: View ASP Page Source
- ASP Shortcomings
- ASP.NET to the Rescue
- ASP.NET Web Apps
- Create New Web App
- Demo: Create ASP.NET App
- Summary

ASP.NET Controls

- Introduction
- Render HTML w/Server Ctrl
- Types of Server Controls
- HTML Controls
- Demo: HTML vs Server Ctrl
- Web Server Controls
- Demo: Page w/HTML Ctrl
- Demo: View Code Behind File
- Demo: Page_Load Event

- Demo: Retrieve Data
- Demo: Using Directives
- Demo: Handle Postback
- View Client Source
- Demo: Build a Table
- Demo: Properties Window
- Demo: Modify Styles
- Browse Final Page
- ASP.NET Server Controls
- Demo: Page w/Server Ctrl
- AutoPostBack Property
- Demo: AutoPostBack Property
- Summary

Data Binding

- Introduction
- Demo: Data Binding
- Add/Config SqlDataSource
- Add/Config DropDownList
- Add Data Connection
- Add Products Table
- Refresh Gridview
- Config Gridview
- Browse the Page
- Web Development w/VS
- Code Behind vs Inline Code

- Web Sites and Applications
- Demo: Web Site Project
- Demo: Web App Project
- ASP.NET Development Server
- Demo: Development Server
- Demo: Web Site Properties
- Demo: Web App Properties
- Multi-Targeting Support
- Demo: Multi-Targeting
- Summary

Introduction to Controls

- Introduction
- Web Server Controls
- WebControl Class
- Browser Detection
- Label Control
- Demo: Label
- Simple Input Controls
- TextBox Control
- Demo: TextBox
- CheckBox Control
- RadioButton Control
- Demo: CheckBox/RadioButton
- GroupName Property
- Demo: GroupName Property

- Summary

Hyperlink Buttons

- Introduction
- Overview: HyperLink Control
- Postback Behavior
- Demo: HyperLink
- Overview: Button Controls
- Demo: Button
- Demo: LinkButton
- Demo: ImageButton
- Multi Events w/Single Handler
- Demo: Handle Multiple Events
- Display Images
- Demo: Image Control
- Demo: ImageMap
- Define Image Hotspots
- Demo: Image Hotspots
- Control Hotspot Behavior
- Image Alternate Text
- Summary

List Controls

- Introduction
- Overview: List Controls
- Demo: List Controls
- Demo: Add Items to List
- Demo: Add Items at Runtime

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- Demo: AutoPostBack
- Demo: Multiple Selections
- Demo: Retrieve Selection List
- Demo: Selection List Location
- Demo: Clear Selections
- Control Focus
- Demo: Control Focus
- Form Defaults
- Demo: Focus Method
- Demo: Access Keys
- Demo: Associated Ctrl ID
- Demo: Default Buttons
- Summary

Calendar Control

- Introduction
- Overview: Rich Controls
- Overview: Calendar Control
- Demo: Calendar Control
- Graphics Instead of Text
- Demo: Style Properties
- Handle Calendar Events
- Demo: Calendar Events
- Code: SelectionChanged
- Code: VisibleMonthChanged
- Demo: DayRender
- Code: DayRender
- View Client-side Code
- Summary

AdRotator / XML Controls

- Introduction
- Overview: AdRotator
- Demo: AdRotator
- How AdRotator Works
- Advertisements File
- Set Target Frame
- Demo: Target Frame
- Keyword Filter
- Test AdRotator.aspx
- Overview: XML Control
- Demo: XML Control
- Set Properties
- Summary

Retrieve Data

- Introduction
- Overview: ADO.NET
- ADO.NET Classes
- OleDb vs SqlClient
- ADO.NET Architecture
- DataTable Object
- Demo: Fill DataTable
- Connect to Data Source
- Set Up Connections

- Make the Connections
- Exception Handling
- The using statement
- Overview: Commands
- Overview: Command Object
- Overview: Read Data
- Demo: SqlDataReader
- Summary

DataSet / Providers

- Introduction
- Work with Data
- Get Data into DataSet
- DataSet Object
- Steps to Fill DataSet
- Demo: OleDb DataSet
- Rows and Columns
- Use DataRows
- DataColumn and Schema
- Demo: SqlConnection DataSet
- Choose a Provider
- SQL Server Data Provider
- OLE DB Data Provider
- ODBC Data Provider
- Multiple Providers
- Demo: Multiple Providers
- Summary

Intro to LINQ

- Introduction
- Working with Data
- LINQ and VB/C#
- LINQ and Language Features
- LINQ Usages
- LINQ Overview
- LINQ Syntax
- Demo: Query Expressions
- Intellisense with LINQ
- Extension Methods
- Demo: Custom Extension
- More Complex Objects
- Object Initializers
- Demo: Object Initializers
- Query Extension Methods
- Lambda Expressions
- Demo: Lambda Expressions
- Anonymous Types
- Demo: Anonymous Types
- Interesting Examples
- Demo: List Processes
- Demo: Process a Text File
- LINQ and Delayed Execution
- Summary

LINQ to SQL

- Introduction

- Overview: LINQ to SQL
- Create Data Model
- Demo: Add LINQ to SQL Class
- Demo: Add Stored Procedure
- Demo: Examine Data Model
- Demo: Query SQL Database
- Call Stored Procedures
- Demo: Call Stored Proc
- Anonymous Types w/SQL
- Demo: Anonymous Types
- Modify SQL Data
- Demo: Modify SQL Data
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LINQ to DataSets/XML

- Introduction
- Overview: LINQ to DataSets
- LINQ to Typed DataSets
- Demo: Typed DataSets
- LINQ to Untyped DataSets
- Demo: Untyped DataSets
- LINQ to XML
- Demo: LINQ to XML
- Transform XML
- Demo: Transform XML
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.NET Configuration

- Introduction
- Benefits
- Navigate Hierarchy
- machine.config
- Demo: config files
- Root web.config
- Application web.config
- Use location Element
- Config File Elements
- system.web Element
- Demo: web.config
- appSettings Section
- connectionStrings Section
- system.web Section
- ASP.NET Configuration Tools
- Config Security Features
- Web Site Admin Tool
- Demo: Web Site Admin Tool
- Unified Error Handling
- Summary

Programming Configuration

- Introduction
- Configuration APIs
- Demo: Configuration API
- Connection Strings/Providers
- Write to Config Files

- Demo: Write to Config Files
- Save appSettings
- Retrieve all appSettings
- Summary

External Files

- Introduction
- Overview: External Files
- Demo: External Config File
- Standard Config Sections
- Demo: Debug Setting
- Read from Standard Section
- Write to Standard Section
- Is There More to Config API?
- Encrypt Config Sections
- Protected Config Provider
- Demo: Protected Provider
- Demo: Encrypted Conn String
- Demo: Encrypt Data
- Encrypt w/External File
- Move Encrypted Files
- Summary

Sql DataSource

- Introduction
- Data Binding
- Data Source Controls
- Data-Bound Controls
- SqlDataSource
- Demo: SqlDataSource
- Configure SqlDataSource
- Add/Configure DropDownList
- Run/View Source
- Use Stored Procedure
- Add/Config DetailsView Ctrl
- View in Browser
- Add/Configure Filtering
- Data Source Control Events
- Handle Delete Error
- Demo: Handle Delete Error
- Demo: Dropdown Refresh
- Demo: Item Updated Event
- Summary

Other DataSource Controls

- Introduction
- ObjectDataSource Control
- Demo: ObjectDataSource
- LinqDataSource Control
- Demo: LinqDataSource
- XmlDataSource Control
- Demo: XmlDataSource
- Demo: FormView Control
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Simple Validators

- Introduction

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- Where Do They Work?
- Overview: Validation Ctrl's
- Types of Validators
- Is a Page Valid
- RequiredFieldValidator
- Designer Markup
- Handle Initial Values
- Manage Screen Size
- Demo: RequiredFieldValidator
- RangeValidator
- Demo: RangeValidator
- CompareValidator
- Demo: CompareValidator
- View Client Source
- Summary

Complex Validators

- Introduction
- RegularExpressionValidator
- Regular Expressions
- Regular Expression Editor
- Demo: RegExprValidator
- Combine Validators
- CustomValidator
- CustomValidator Props
- Validate on the Server
- When Does it Validate?
- Client-Side Validation
- Demo: CustomValidator
- ValidationSummary
- Demo: ValidationSummary
- Validation Groups
- Demo: Validation Groups
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CSS Styles

- Introduction
- Advantages of Styles
- Format Content w/HTML
- Styles on HTML Elements
- Demo: Add Inline Style
- Design Embedded Style Sheet
- Define a Style
- Demo: Define Styles
- Design Linked Style Sheet
- Linked Style Sheets
- Overview: CSS
- Cascading Order
- Investigating Styles
- Font Attributes/family
- Demo: font-family
- Font Styles-Decorations
- Demo: Font Styles

- Color Attributes
- Demo: Attributes
- DIV and SPAN Tags
- Demo: DIV and SPAN Tags
- Classes and IDs
- Group Attributes
- Consolidate Styles
- Demo: Classes and IDs
- Summary

Themes

- Introduction
- Review: CSS
- Overview: ASP.NET Themes
- Themes vs CSS
- Themes, Folders and Skins
- Demo: Explore Themes
- Skins
- View Label Markup
- View Skin Markup
- Create a Theme
- Demo: Apply a Theme
- Demo: Create a Theme
- Organize Skins
- Work with Themes
- Deal with Conflicts
- Demo: Conflicts w/Themes
- Opt Out of Theme
- Create Named Skins
- Demo: Use Named Skins
- Images with Skins
- Demo: Use Images
- Combine CSS and Themes
- Apply Themes Globally
- Apply Themes at Runtime
- Demo: Themes at Runtime
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Master Pages

- Introduction
- Two New Page Types
- Demo: Create Master Page
- Demo: Create Content Page
- Convert to Content Page
- Add Default Content
- Demo: Convert Page
- Demo: Add Default Content
- Practical Master Pages
- Demo: Add Table Layout
- Nested Master Pages
- Demo: Nested Master Pages
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Navigation

- Introduction

- Providers / Data Sources
- Default XmlSiteMapProvider
- SiteMapDataSource Control
- Absolute / Relative URLs
- Relative URLs
- Absolute URLs
- URLs in Server-Side Controls
- Create XML Site Map
- Demo: XML Site Map
- Built-In / Custom Attributes
- Site Navigation Controls
- Demo: Navigation Controls
- View Page Source
- SiteMapDataSource Control
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Navigation API

- Introduction
- Demo: Navigation API
- Demo: Master Page Nav
- URL Mapping
- Demo: URL Rewriting
- External Config Files
- Adjust Site Map
- Demo: Child Site Map
- Multiple Site Map Providers
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Security Trimming

- Introduction
- Demo: Navigation Security
- Authentication/Authorization
- Website Admin Tool
- Configure Authentication
- Enable User Login
- Test the Application
- Set Up Roles
- Override Automatic Trimming
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- Introduction
- Configure the Gridview
- View the Source
- Filter Gridview Data
- Create a DropDownList
- Test the DropDownList
- Filter by Selection
- Add DropDownList to Grid
- Introducing Templates
- Convert into a Template
- Demo: Convert to Template
- Edit DataBindings
- Demo: Show Data w/Gridview
- Browse the Page

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Gridview - Part 2

- Introduction
- Display Filtered Info
- Add a Hyperlink
- View the Page
- Auto-generate Fields
- Make Hyperlink Editable
- Make Field Sortable
- Delete Rows / Handle Errors
- Add Delete Link
- Convert to Template Field
- Add Client-Side Alert
- Test Delete Link
- Add Event Handling Code
- Summary

Preserving State

- Introduction
- Methods to Preserve State
- Page-Level State
- Dynamic Page Modifications
- Demo: Dynamic Modifications
- View State / Page Lifecycle
- Enable Change Events
- Demo: Enable Change Events
- Overview: View State
- Preserve Postback Data
- Raise Change Events
- Storing Custom Data
- Custom Data Syntax
- Disable View State
- View State: Encryption
- View State: Tampering
- Page-Level Limitations
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Cookies

- Introduction
- Demo: Cookies
- Using Cookies
- Demo: Work with Cookies
- Limits of Cookies
- ASP.NET Session State
- Problems in Classic ASP
- Demo: Default Session State
- Session Object
- Session Object Methods
- Store Objects in Session
- Demo: Store Objects
- Store ADO.NET Objects
- Demo: Work with Data
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- Session State Mode Attribute
- Out-of-Proc State Server
- Demo: Config State Server
- Ensure Data Is Serializable
- Use DataViews/ DataTables
- Test StateServer Session
- Store Session in SQL Server
- Config SQL Server State
- SQL Server Objects
- Test SQL Server Session State
- Cookieless Session IDs
- Application State
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- Introduction
- Overview: Membership
- Membership Management
- Role Management
- Security Services Stack
- Where Does Data Go?
- Data Access Provider Model
- Prepare SQL Server
- Demo: Prepare SQL Server
- Set Up Configuration
- Web-Based Config Tool
- Demo: ASP.NET Config Tool
- Set a Provider
- Set Up Security
- Create/Manage Roles
- Create/Manage User
- Examine web.config
- Examine aspnetdb.mdf
- Modify Provider Behavior
- Examine machine.config
- Role Support
- Role Manager
- Create/Manage Access Rules
- Test Access Rule
- Work with Cookies
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- LoginStatus Control
- Login Control
- Demo: LoginStatus Control
- Demo: Login Control
- LoginView Control
- LoginName Control
- ChangePassword Control

- PasswordRecovery Control
- CreateUserWizard Control
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- Demo: PasswordRecovery Ctrl
- Demo: Config Email Settings
- Demo: CreateUserWizard Ctrl
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- Demo: Work with Users
- Add New User
- Delete a User
- Change Password Info
- Find Users by Email
- Find Users by Name
- Reset Password
- Roles Class
- Demo: Work with Roles
- Get All Roles
- Add New Role
- Display All Roles
- Delete Roles
- Is User in Role
- Add User to Role
- Create Custom Provider
- Sample XML Provider
- Demo: Use Custom Provider
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Server Debugging

- Introduction
- Visual Debugger
- Demo: Configure Debugging
- Visual Studio Options
- Config Project-Level Debug
- Work with Breakpoints
- Breakpoints Window
- VS Stores Breakpoints
- Step through Code
- Debug Toolbar
- Customize Debug Toolbar
- Step Into/Step Over/Step Out
- DataTips and Visualizers
- Work With Data Tips
- Run to Cursor
- Work with Visualizers
- DataSet Visualizer
- Tracepoints
- Summary

Debugging Windows

- Introduction

- Debugging Windows
- Locals Window
- Watch/Quick Watch Windows
- Call Stack/Threads Windows
- Debug Exceptions/Handle Errs
- The Exception Assistant
- Redirecting Users
- Custom Error Page
- asperrorpath query string
- Debug Stored Procedures
- Debug w/Database Project
- Work with Data Connections
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JavaScript Debugging

- Introduction
- Overview: Debugging
- Configure Script Debugging
- Demo: Config Script Debug
- Demo: Debugging
- Break Mode /Breakpoints
- Dynamic Debug Tab
- Data Visualizers
- Locals Window
- Immediate Window
- Breakpoints Saved
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- Demo: Debug Menu Control
- Limits of Breakpoint Mapping
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Custom Visualizers

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- XML Visualizer
- Custom Data Visualizers
- Demo: Create a Visualizer
- Build Custom Visualizer
- Demo: Create Interface
- Code: Create Interface
- Implement Client Visualizer
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- Demo: Page-Level Tracing
- Trace.Write and Trace.Warn
- Demo: Using Write and Warn
- Interpret Trace Output
- Page Tracing with TraceContext
- Demo: TraceContext
- Application-Level Tracing
- Configuring Web.config
- <trace> Attributes and Options
- Forwarding Trace Output
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- Using the Trace Viewer Tool
- Demo: Trace Viewer Tool
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- Using TracelListeners
- TracelListener Methods
- Pre-Defined TracelListeners
- Trace Switches
- TraceSwitch Class
- Configuring Switches
- Demo: Switches in Web.config
- Demo: Listeners and Switches
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Health Monitoring

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- TraceFinished Event
- TraceContextRecord
- Demo: Create Event Handler
- Send Web Event Data
- Demo: Setup aspnetdb Database
- Demo: SqlWebEventProvider
- Providers and Rules
- Demo: View webconfig
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- A More Complex User Control
- Providing States Data
- User Control Properties
- User Control Events
- Demo: Investigate the Control
- Demo: Providing States Data
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- HtmlTextWriter Class
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- Demo: Property Behavior
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- IPostBackDataHandler Interface
- Demo: IPostBackDataHandler
- PostBack Sequence
- Loading Postback Data
- Raising Postback Events
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- Reviewing the Postback Events
- Specifying a Toolbox Icon
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- Finishing Touches
- Demo: Ease-of-Use Features
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Caching

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- Improvements over Classic ASP
- Types of Caching in ASP.NET
- Page Output Caching
- Caching Static Pages
- Demo: Caching Static Pages
- Caching Multiple Page Versions
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- Varying by Form Parameters
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- Demo: Varying by HTTP Header
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- Demo: Using VaryByControl
- Multiple Versions of a Control
- Demo: Multiple Control Versions
- Post-Cache Substitution
- Call a Method to Insert HTML
- Demo: WriteSubstitution Method
- Caching Configuration
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- Declarative Output Caching
- Demo: Declarative Output

- Advanced Caching Features
- Test Caching in VS 2008
- Programmatic Page Caching
- Setting Cacheability
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- Demo: Vary by Parameters
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- Caching Data
- Using Cache.Add / Cache.Insert
- Controlling Expiration
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- Demo: Poll Changes to a Table
- Steps for Poll-Based Caching
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- Source Control vs. Directive
- Polling on Query Results
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- Data Binding
- Controls and Templates
- What About ListView?
- What About Templates?
- Using the Repeater Control
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- Binding to Data
- Demo: Binding to Data
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- Reviewing the Repeater Control
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- Demo: DataList Example
- Formatting the DataList
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- Demo: Configuring ListView
- ListView Control Templates
- Demo: Look at ListView Templates
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- Grouping Items
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- Demo: Modifying to Listview
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- Demo: Sort Data in a Listview
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- Demo: Profile Behavior
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- Configuring Profiles
- Setting Up Web.config
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- Modifying Provider Behavior
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- Enabling Anonymous Profiles
- Migrating Anonymous Users
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