

INTRODUCTION TO ACCESS SERVICES

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ABOUT ME

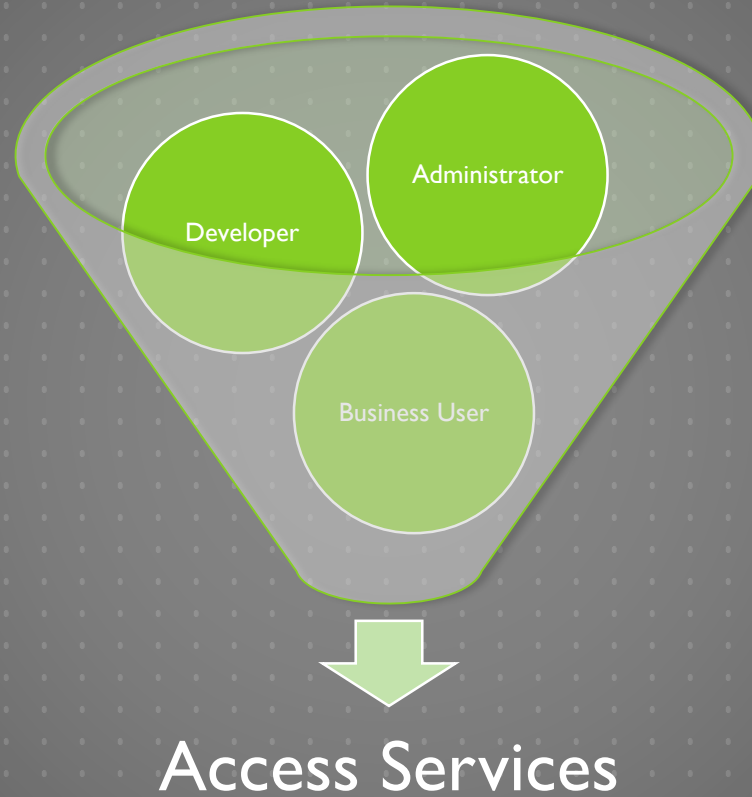
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OVERVIEW



- ▶ Access Overview
- ▶ “Access & SharePoint” Love Story
- ▶ Access Services
 - ▶ Overview
 - ▶ Requirements
 - ▶ Use Cases
 - ▶ Best Practices
 - ▶ Legacy Database Planning
 - ▶ Limitations

AUDIENCE ROLE CALL



ACCESS OVERVIEW



- ▶ Rapid Application Development (RAD) Tool
- ▶ Alternative to utilizing IT resources (like Excel)
- ▶ Requires Access Client for each user
- ▶ Cannot support large amounts of data
- ▶ Concurrency issues
- ▶ Databases can become corrupted
- ▶ Databases are often stored on file shares
- ▶ Difficult for IT departments to maintain
 - ▶ Security
 - ▶ Backup / Restore
 - ▶ Performance
- ▶ Sometimes banned by IT due to above reasons

SHAREPOINT / ACCESS HISTORY



▶ SharePoint 2003

- ▶ ISAM driver used to connect to SharePoint lists
- ▶ Join SharePoint data to other data sources

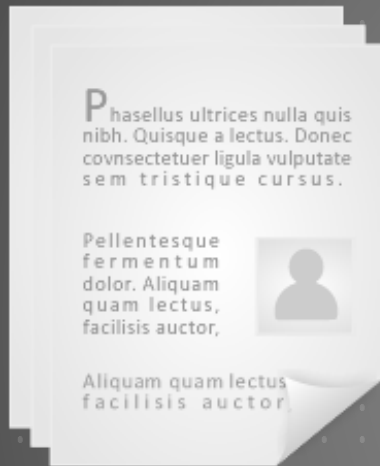
▶ SharePoint 2007

- ▶ Ability to take lists offline and re-sync
- ▶ Improved compatibility with SharePoint data types
- ▶ Improved UI for moving data to SharePoint lists
- ▶ SharePoint UI support for working with Access applications inside document libraries

SHAREPOINT 2007 / ACCESS 2007 CHALLENGES

- ▶ **Data integrity**
Data integrity concepts such as required values, unique values, data validation, restrict delete, cascade delete were all missing
- ▶ **Performance**
Lists with thousands of record yielded unacceptable performance
- ▶ **Web forms and reports**
Need for additional support in deploying forms and reports to the browser
- ▶ **Distribution**
Many people indicated SharePoint wasn't deployed in their organization

SHAREPOINT / ACCESS 2010 RELATED IMPROVEMENTS



▶ SharePoint

- ▶ Unique values
- ▶ Data validation
- ▶ List relationships (restrict delete, cascade delete)

▶ Access

- ▶ Revamped macro engine based on portable xml design
- ▶ Data macros

ACCESS SERVICES OVERVIEW

- ▶ Ability to design, construct, and populate an Access Database Application within the Access 2010 client, and then publish the structure and data to a SharePoint 2010 site
- ▶ Publishing includes tables, queries, reports, forms, and macros
- ▶ Re-sync data between SharePoint and individual instances of Access Database
- ▶ Manage permissions within SharePoint
- ▶ Locks are per-object instead of per-database
- ▶ Performance issues resolved through server-side and client-side caching
- ▶ Access objects are serialized and stored in a hidden list
- ▶ Explicit support for IE7, IE8, Firefox, and Safari

ACCESS SERVICES DEMO

ACCESS SERVICES PUBLISHING MAP

Access 2010	SharePoint 2010
Table	List
Query	System Table Entry
Report	RDL File
Form	ASPX Page
UI Macro	JavaScript
Data Macro	Workflow

ACCESS SERVICES REQUIREMENTS



- ▶ SharePoint Server 2010 Enterprise Edition
 - ▶ Hosted solutions are an alternative
 - ▶ Office 365
 - ▶ <http://www.accesshosting.com/>
- ▶ Access 2010 (for creating and updating databases)
- ▶ Access Services Service Application
- ▶ SSRS Add-in for SharePoint Technologies 2010
- ▶ Enable-SPSessionStateService

SSRS INSTALLATION OPTIONS

▶ **SSRS installed before SharePoint**

- ▶ Preferred Option
- ▶ SharePoint automatically installs SSRS Add-In when using prerequisite tool

▶ **SSRS installed after SharePoint**

- ▶ Order of installation steps is important
- ▶ Add-on needs installed on each Web Front End

SSRS CLIENT MODE OPTIONS

- ▶ **Connected Mode**

- ▶ Reporting Services Server

- ▶ **Local Mode**

- ▶ No server-side abilities such as subscriptions
- ▶ No Reporting Services Server

ACCESS SERVICES BENEFITS

- ▶ Agile development with Access
- ▶ SharePoint development experience not required
- ▶ Reach more users by eliminating Access client
- ▶ Supports large lists and queries
- ▶ Handle security through SharePoint
- ▶ Published applications can run in browser or Access (useful for Client-only features)
- ▶ Manage backup and restore through SharePoint
- ▶ IT Maintenance is centralized and predictable

ACCESS SERVICES USE CASES



- ▶ Organizations utilizing Access
- ▶ Organizations with Access developer(s)
- ▶ Organizations with Legacy Access databases
- ▶ Time-constrained projects
- ▶ Management of Access across organization
- ▶ Reporting needs

ACCESS 2010 WEB DATABASES



- ▶ Restricts options in Access client that are not supported in Access Services Publishing
- ▶ Blank Web Database Templates included with Access 2010

ACCESS 2010 WEB OBJECTS

- ▶ Can only be created in Access 2010
- ▶ Limited subset of functionality
- ▶ Web objects can reference other Web objects
- ▶ Web objects cannot reference Client objects (unless using 'IsClient')
- ▶ Visible in the browser when published through Access Services
- ▶ Limited to Expressions supported in browser
- ▶ Marked by a globe icon

ACCESS 2010 CLIENT OBJECTS

- ▶ All current objects in ACCDB files made with Access 2007 and earlier
- ▶ Can be created in Access 2010
- ▶ Full set of Access 2010 functionality, including VBA
- ▶ Client objects can reference web objects
- ▶ Client objects are still published and synchronized
- ▶ Publishing still useful for Client objects (management, versioning, concurrency)

DESIGNING FOR ACCESS SERVICES

- ▶ ACCDB format is required (MDB files must be upgraded)
- ▶ Web Compatibility Checker for application and individual tables
 - ▶ Invalid Expressions can still pass the Web Compatibility Checker
 - ▶ Invalid data such as URLs and Dates
- ▶ Name AutoCorrect for cascading name changes (test thoroughly)
- ▶ Web and Client object types cannot be converted back and forth
- ▶ Cannot maintain a mixture of Web and Client tables after publishing
- ▶ Must conform to SharePoint column limits (i.e. 276 single line of text)
- ▶ “Move to SharePoint Site Issues” table for publishing issues
- ▶ “USysApplicationLog” table for compilation errors (web objects compile asynchronously)
- ▶ Runtime issues reported in Application log

DESIGN RESTRICTIONS



- ▶ Creating Web Objects
 - ▶ Tables do not support Design view
 - ▶ Queries cannot be opened in SQL view
 - ▶ Forms and Reports do not support Design view

SYNCHRONIZATION



▶ Data

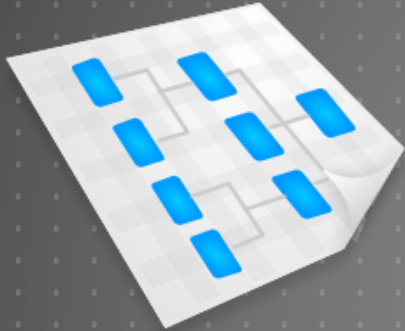
- ▶ Access syncs data updates automatically to SharePoint automatically when online
- ▶ SharePoint syncs data updates to Access automatically when online
- ▶ Data macros may be delayed in a disconnected Access application

▶ Objects

- ▶ Web table design changes synchronize automatically
- ▶ Design changes to Access Database are pushed by initiating 'Sync All' process in Backstage

SYNCING DEMO

WEB DATABASE TEMPLATES



- ▶ Assets Web Database
- ▶ Charitable Contributions Web Database
- ▶ Contacts Web Database
- ▶ Issues Web Database
- ▶ Projects Web Database

CUSTOM TEMPLATES



▶ Prerequisites

- ▶ Site Collection SharePoint Server Enterprise feature
- ▶ Site SharePoint Server Enterprise feature

▶ Installation Steps

1. Create Access 2010 Templates (*.accdt)
2. Upload Template(s) to Solution Gallery
3. Activate Solution
4. Start using new template under “Web Databases” category

TEMPLATE DEMO

ACCESS SERVICES SERVICE APPLICATION



- ▶ Service Application must be pre-configured by Administrator
- ▶ Service Application contains various configuration options for working with Access Services

SERVICE APPLICATION DEMO

BEST PRACTICES

- ▶ Perform Proper Capacity Planning and Hardware Planning with Infrastructure team
- ▶ Design new applications as Web Databases in Access 2010
- ▶ Establish governance for incremental updates and offline databases
- ▶ Coordinate design changes with other developers and end users
- ▶ Do not alter Access Services Service Application Default Configuration unless necessary
- ▶ Determine a pilot database

LEGACY DATABASE PLANNING

- ▶ Transition Pre-Access 2007 databases (<http://msdn.microsoft.com/en-us/library/bb203849.aspx>)
- ▶ Consider 3rd Party Conversion Process (<http://www.access2010converter.com/index.asp>)
- ▶ Office Migration Planning Manager
 - ▶ Does not analyze Web Compatibility
- ▶ Run Web Compatibility Checker, make updates, rinse and repeat
- ▶ Move incompatible data to a separate database
 - ▶ Redesign these tables over time
- ▶ Replace VBA macros with web-compatible macros
- ▶ Use Day-0 dates for time-only values (1/1/1900)
- ▶ Store legacy databases in a document library

LEGACY DATABASE COMMON ISSUES

- ▶ Field Naming Issues
- ▶ Composite Indexes
- ▶ Relationships not associated with Web-compatible Lookups
- ▶ Number, Currency, and Date/Time values

UNSUPPORTED ITEMS

- ▶ Client Objects (in browser)
- ▶ SharePoint Designer
- ▶ Anonymous Authentication
- ▶ Tables linked to external data (move external data into local Web tables)
- ▶ Double Expressions
- ▶ Composite keys / non-numeric keys (use BeforeChange data macro)
- ▶ Union / Crosstab Queries
- ▶ DateAdd, DatePart, DateDiff functions
- ▶ BETWEEN operator
- ▶ Overlapping Controls on Forms
- ▶ Table Relationships
- ▶ Conditional Formatting
- ▶ Variety of Macro Actions and Expressions

EXPERIMENTAL DEMO

QUESTIONS



- ▶ **Twitter:** @mjimison
- ▶ **Blog:** <http://www.mattjimison.com/blog/>

REFERENCES

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- ▶ <http://technet.microsoft.com/en-us/library/ee748653.aspx>