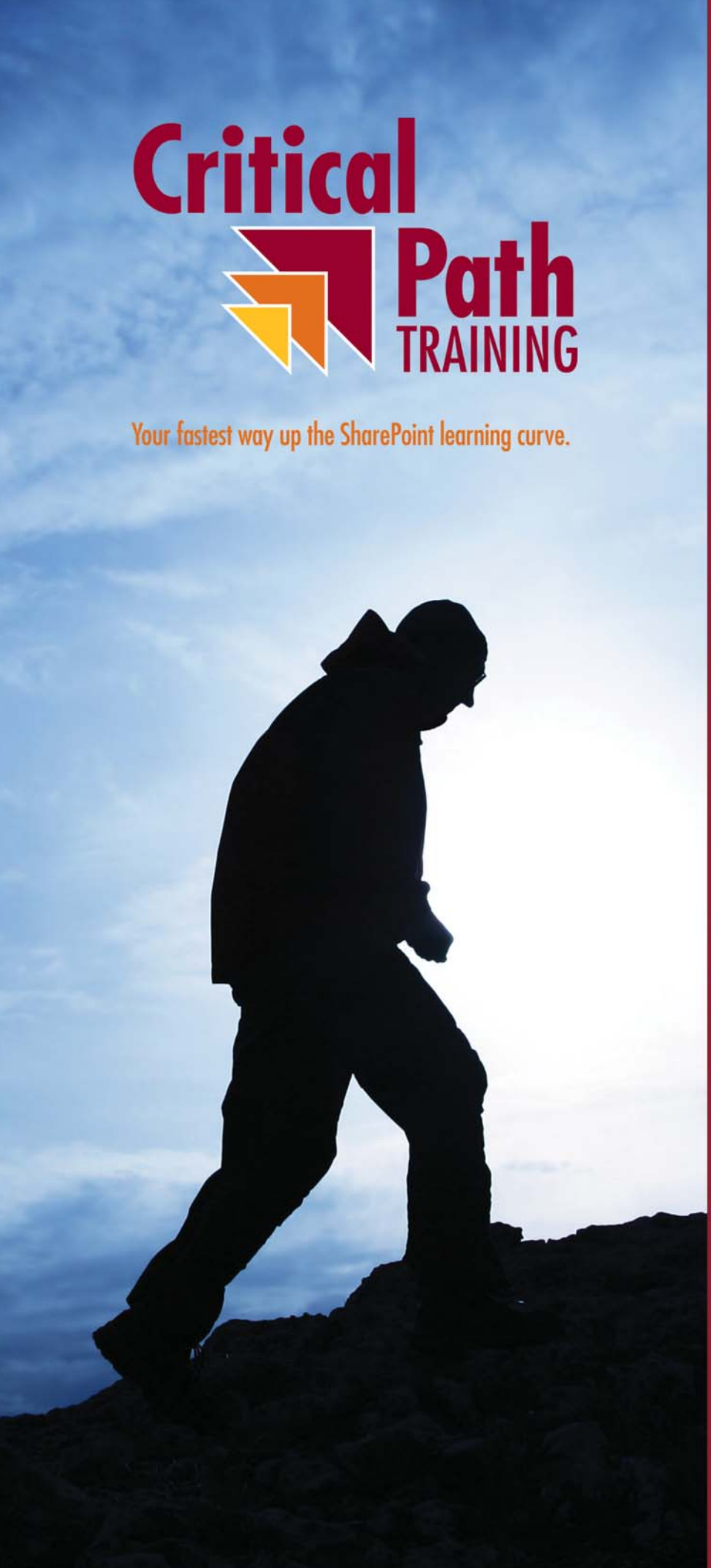


Professional SharePoint Server 2007 Administration

WC-SPA401

www.CriticalPathTraining.com

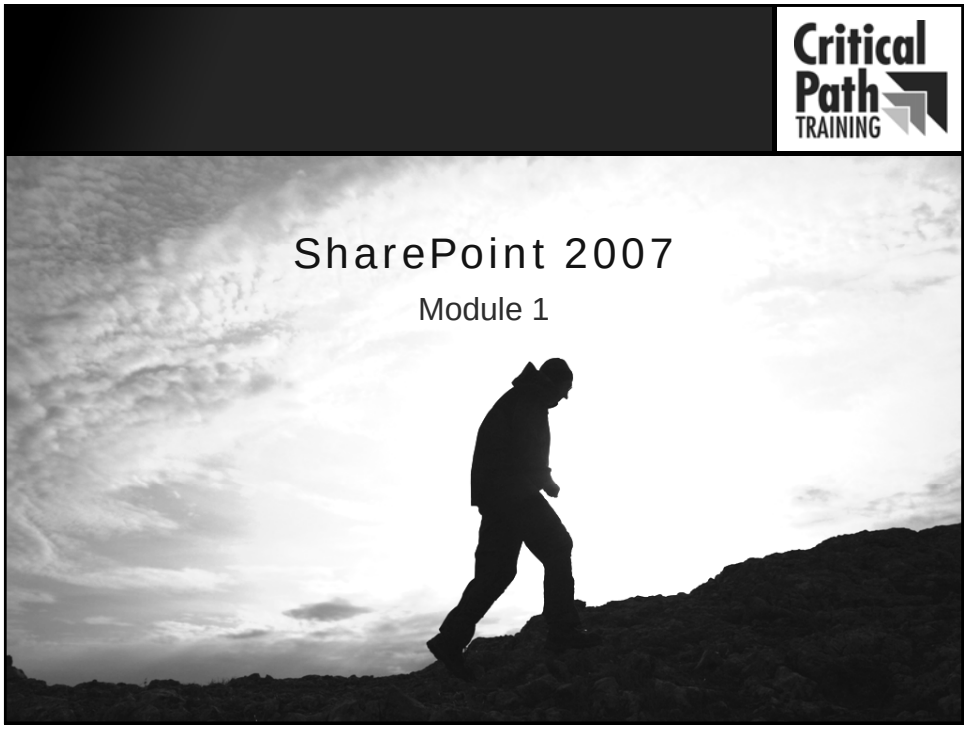
info@CriticalPathTraining.com

SPA401: Professional SharePoint 2007 Administration

Schedule of Lectures

1. SharePoint 2007
2. SharePoint Installation
3. SharePoint Administration Tools
4. Creating and Designing SharePoint Sites
5. Customizing SharePoint Sites
6. Installing and Configuring Components
7. Configuring Search
8. Profiles, Audiences and MySites
9. Creating Internet-facing Sites
10. Optimizing Performance
11. Deploying and Moving SharePoint Data
12. High Availability, Backups and Disaster Recovery

Revision: v3.0



Who Am I?

- Shane Young
- Owner of SharePoint911.com
- Microsoft Office SharePoint Server MVP
- Consultant, Trainer, Writer, & Speaker
  - shane@sharepoint911.com
  - Blog
    http://msmvps.com/shane
  - SharePoint Consulting
    http://www.sharepoint911.com
  - SharePoint Training
    http://www.CriticalPathTraining.net

Who are you?

- What is your name?
- Where are you from?
- What is your day job?
- What is your favorite animal?

Schedule of lectures

1. SharePoint 2007 Components and Services
2. SharePoint Installation
3. SharePoint Administrative Tools
4. Creating and Configuring SharePoint Sites
5. Customizing and Using SharePoint Sites
6. Installing and Configuring Additional Components
7. Configuring and Customizing Search
8. Profiles, Audiences, and My Sites
9. Creating and Configuring Internet-facing Sites
10. Optimizing SharePoint 2007 Performance
11. Deploying, Moving, and Rearranging SharePoint Data
12. High Availability, Backups, and Disaster Recovery

Agenda

- SharePoint SKU's and Licensing
- Pre-SharePoint Installation Issues
- Overview of Upgrading from 2003 to 2007

The Great SharePoint Story

- Where did SharePoint come from?
  - V1 – STS and SPS 2001
  - V2 – WSS v2 and SPS 2003
  - V3 – WSS v3 and MOSS 2007
- There is no such thing as SharePoint 2007
  - However, people often say the term out loud
  - Term represents related technologies not a product

Windows SharePoint Service 3.0 (WSS)

- WSS often referred to as a “free” product
  - Licensed as part of Windows 2003 Server (Win2K3)
  - Win2K3 CAL applies to sites running on WSS
- WSS is platform for building web-based solutions
  - Storage and Web Presentation
  - Authorization/User management
  - Interface to the Windows Workflow Foundation
  - APIs and Web Services that can be extended
  - Collaboration Tools and features

Collaboration with WSS

- WSS provides Collaboration Tools
  - Collaboration templates for lists and libraries
  - Provides basis for collaboration across teams
- Team Site can be designed with…
  - Document Libraries (file sharing)
  - Lists (calendars, contacts, links)
  - Surveys, discussion forms
  - Web 2.0 (RSS, wikis, blogs)

MOSS 2007

- Microsoft Office SharePoint Server 2007
- Requires both a per server license and CALs
- Usage:
  - Organization and aggregation (Intranet site)
  - Publishing controlled sites (Internet site)
- Has reusable, centrally managed services

Reusable Services

- The Shared Services Provider (SSP) allows…
  - Service to be shared across
    Web Applications
    SharePoint Farms
- Think of a parent-child relationship.
- MOSS Only Feature

SSP Services Available

- Services such as:
  - Search
  - Profiles and Audiences
  - My Sites
  - Excel Services
  - BDC

Where did MOSS come from?

- A collaboration of several Microsoft technologies
  - WSS (collaboration)
  - SPS 2003 (aggregation)
  - CMS 2002 (web publishing)
- Opens doors for standardizing on one technology

Several options to choose from

- Two Main Choices
  - MOSS 2007 Standard
  - MOSS 2007 Enterprise

MOSS 2007 Standard

- Some key features
  - Portal template for building your intranet
  - User Profiles, Social networking and My Sites
  - Site Directory for organizing sites in the enterprise
  - Rollup web parts for aggregating info
  - Enterprise search
  - Publishing features
  - Built in workflows
  - Records Management

MOSS 2007 Enterprise

- Everything from standard edition plus
  - BDC
  - Forms Server
  - Excel Services
  - More web parts

Forms Server 2007

- Can be bought separate of MOSS
- Licensed per server + CALs
- Unlimited Internet edition available

MOSS 2007 Internet Edition

- Same features as MOSS Enterprise.
- Allows unlimited NON EMPLOYEE access
- Licensed per server, no CALs

Demo: Walkthrough MOSS sites

- Check out typical collaboration environment
- Check out public websites
  - www.sharepoint911.com
  - www.sqlpass.org
  - www.paulmitchell.com
  - www.hedkandi.com
  - www.ocps.net
  - www.directenergy.com

Search Server 2008

- Throw away your search appliances!
- http://www.microsoft.com/enterprisesearch/serverproducts/searchserver/default.aspx

Non SharePoint Servers

- Windows Server 2003
- SQL Server 2000 or 2005
- Email Server

Windows Server 2003

- Install on W2K3 SP1 or later
  - Works fine with R2
- All editions of server are supported.
  - Web edition require separate SQL Server
- Other pieces
  - .NET 3.0
  - IIS (common files, WWW, & SMTP)
  - AD required for multi server deployment
    `NT 4 domain does not work`

Windows Server 2008

- Supported as long as you are running SP1 for SharePoint
  - This means you will have to slipstream the install
- http://blogs.msdn.com/sharepoint/archive/2008/01/16/windows-server-2008-and-sharepoint-resources.aspx

Server Hardware Requirements

- From Microsoft: (Single Server MOSS Minimums)
  - 2.5 GHZ, 1 GB RAM
- In reality:
  - Dual processors with 4 GB of RAM
  - Gigabit network between servers in farm
- More details in Module 10

32 bit vs. 64 bit

- Both are supported and available
- 32 bit is generally faster
- Farm - Same role, same architecture
- New hardware?
  - Buy 64 bit hardware
  - V.next will only be 64 bit
- Use 64 bit if needed to support > 4GB of RAM
- Some 3rd party doesn't support 64bit

Why is SQL Server so important?

- Stores content in SQL databases.
- SQL Server 2000 SP3a or SQL Server 2005 sp1
- Basic install installs DB engine
  - MOSS - SQL Express 2005 - 4 GB database limit
  - WSS – Windows Internal Database – No limits

Email Servers

- Outgoing email – Any SMTP Server
  - Common issues:
    `Port 25 is blocked (some AV products do this)`
    `Relaying is prohibited on the email server`
- Incoming email
  - Receive email and route to document libraries
  - Requires: Installing SMTP service on SP server
  - Integrates nicely with Exchange Server

Need to move up from v2?

- There are 3 major options for upgrading
  - In place, gradual, and db migration
- Upgrade difficulty is based on
  - Use of FrontPage to modify pages (unghosting)
  - # of custom site definitions
  - Amount of data

Agenda

- Farm topologies
- Install roadblocks
- Accounts and permissions

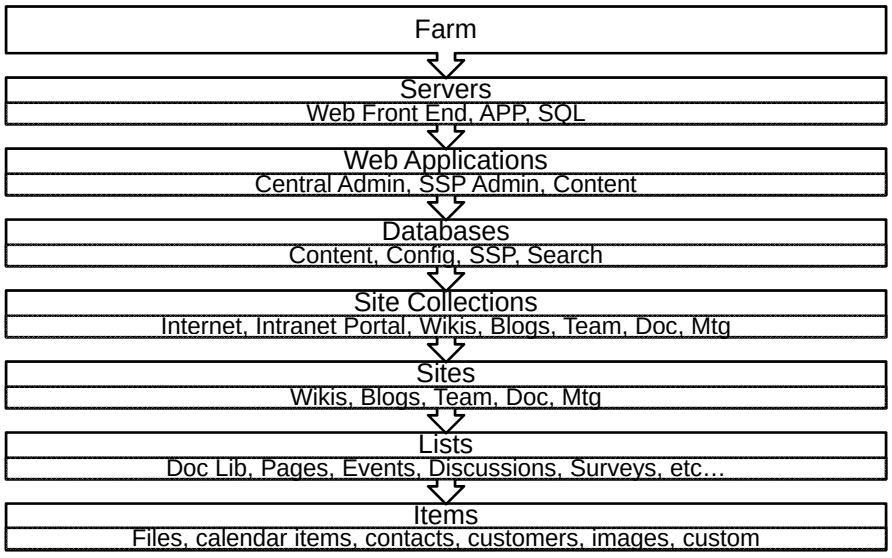
Topologies

- SharePoint scales from a single server install all the way to very large farms of servers
- Uses assignment of roles to span multiple servers

Keep in mind

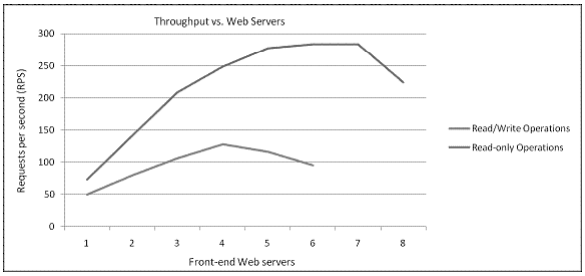
- Servers have roles
  - Web
  - Query, Index, Calculation
  - DB Server
- Farms have relationships
  - Authoring
  - Publishing
  - Dev, Test, Production
  - SSP

SharePoint Containment



Web Front End Role

- Called WFE
- Provides the web interfaces for the users
- 1 to 8 servers with this role per farm
- Very little disk storage used
- Scaling seems to stop at 5 for collab

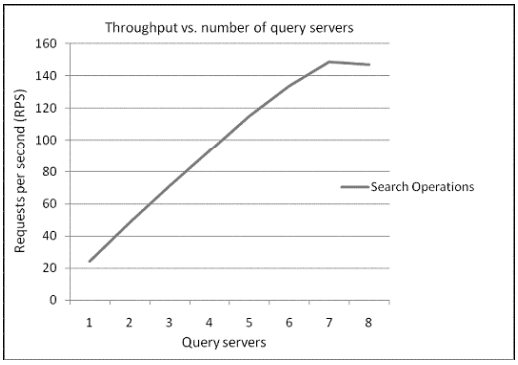


Index Role

- Crawls and indexes the content
- 1 Index per Server
- 1 Index per SSP
- Index Files = 5% - 12% of crawled content
  - 1% - 5% typical if only crawling SharePoint
- Database Storage = 4 x Index Files
- 50 Million item tested limit

Query Role

- Server that responds to user Search request
- Physical storage = 2.8 x Index
- No hard limit on number of servers
- Scale stops at 7



Excel Calculation Role

- In MOSS Enterprise farm this server handles calculating Excel Workbooks
- Also called Application Server
- Rendering components live on WFEs
- Calculation engine moved to own server
- No limit to number of servers
- Sizing is very complex

Topologies

- Spread the roles out across as many servers as you need and have at it.
- No restrictions

Single Server Farm

MOSS
WFE
Index
Query
Excel

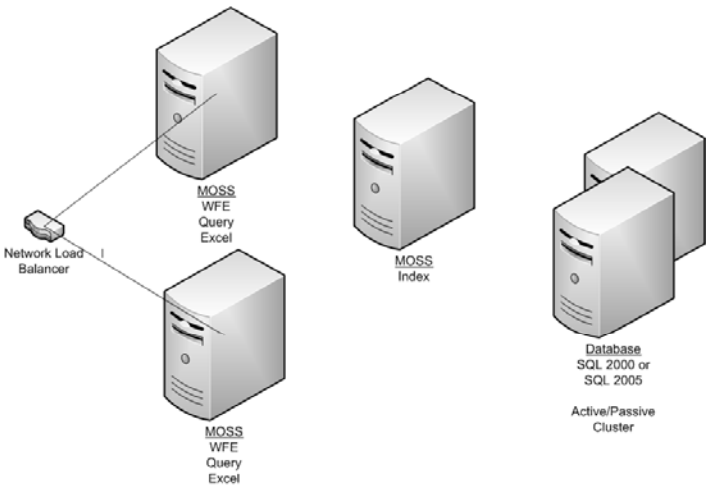
Database
SQL 2000, 2005
Or
SQL Express

Small Farm

MOSS
WFE
Index
Query
Excel

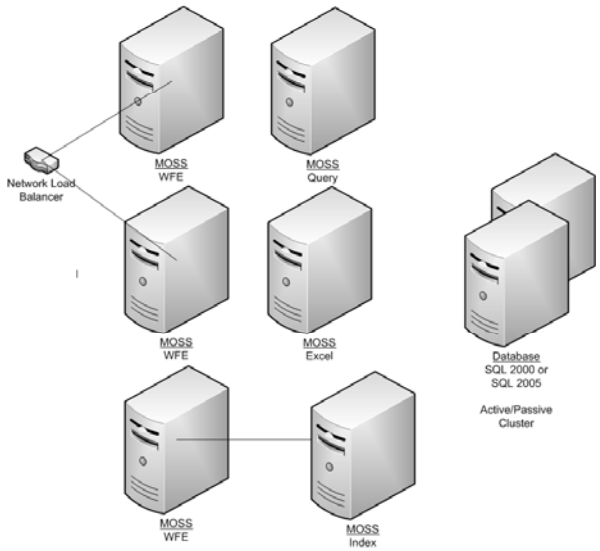
Database
SQL 2000 or
SQL 2005

"Medium Farm"



Considered Minimum High Availability Topology

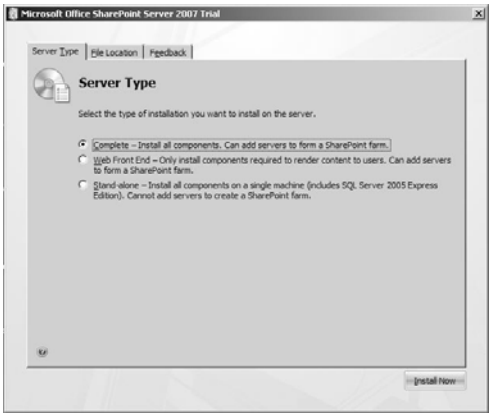
A Possible Large Farm



Don't choose Basic!

Unless you want to use SQL Express and Local System Account

Server Type



- Complete – Used 99.9% of the time. Installs all components and gives you complete configuration flexibility.
- Web Front End – Only installs web components of MOSS. Doesn't give you the option of later hosting other roles. No Flexibility = bad.
- Stand-alone – Exact same as previous slide choosing basic. Refer to that slide if you are tempted to use.

Install Accounts

- First choice – 1 account for everything or account isolation
  - Account isolation has lots of challenges
- Second Choice – NTLM or Kerberos

NTLM vs. Kerberos

- Kerberos is generally preferred
  - No double hop problem
  - More secure
  - Less authentication traffic
- Downside
  - Requires extra work to setup
  - Domain needs to be in order (Server time off by > 5 minutes and auth fails)

Accounts you will need (MOSS)

- Setup User Account * – Used for running install and to admin server
- Server Farm Account * – Central Admin App Pool Account, Timer Service Account
- SSP App Pool Account
- SSP Service Account – All SSP services and jobs
- MOSS Search Account – Used by search service. Also become default content access account for search. You can change from the SSP level

* Account needed for WSS

More accounts (MOSS)

- WSS Search Service Account * – Used by the help system crawler
- WSS Search Content Account * – Used to access the data by the help system crawler
- Application Pool Identities * – The account used to access the content databases for the web app. Also account for w3wp.exe

* Account needed for WSS

SetSPN.exe

- Used to define Service Principal Names (SPN)
- An SPN is a multi valued attribute stored in AD for users.
- Services only know how to use them to request a ticket
- Example SPN = HTTP/server.domain.com

Account Setup Before Install

- Single account install – Make account local admin on all boxes
- Secure multi account Install
  - Setup Account – Domain User, Local admin on all servers you install MOSS on, SQL Server login with SecurityAdmin and dbcreator roles.
  - All other accounts – Domain User. Setup/config will automatically grant necessary rights.

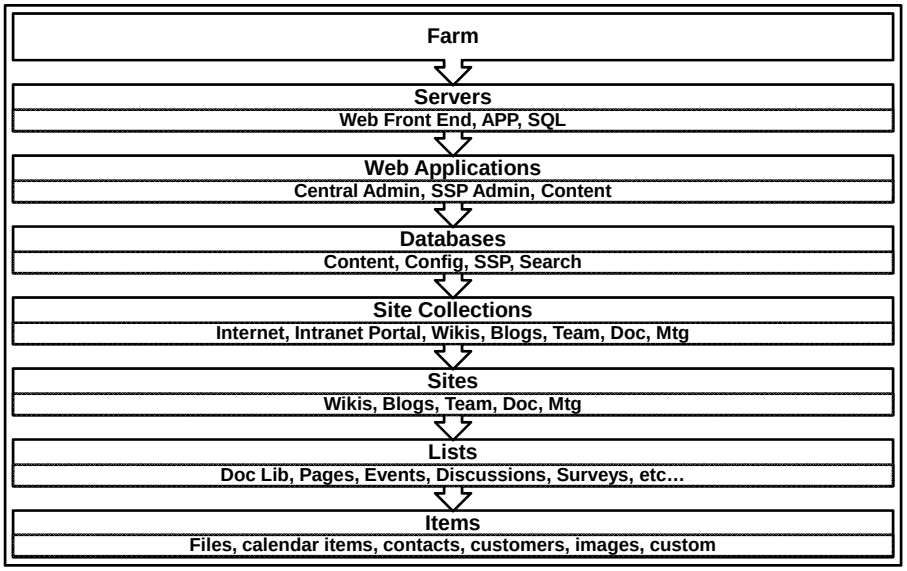
Service Pack 1

- Available as of December 2007
- For more information on how to deploy it
  - http://msmvps.com/blogs/shane/archive/2007/12/14/how-to-install-wss-and-moss-sp1.aspx

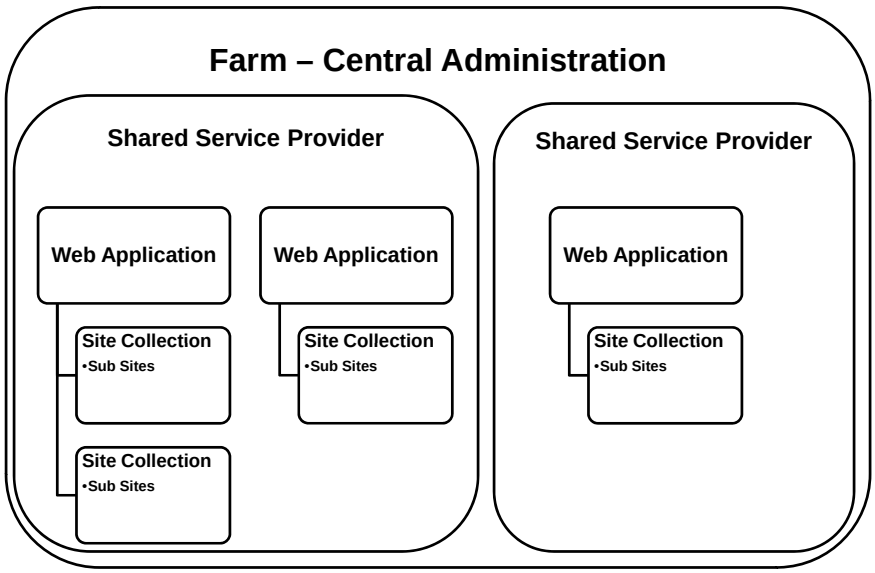
Agenda

- Welcome to Central Administration
- Starting with that first SSP
- Other admin tools

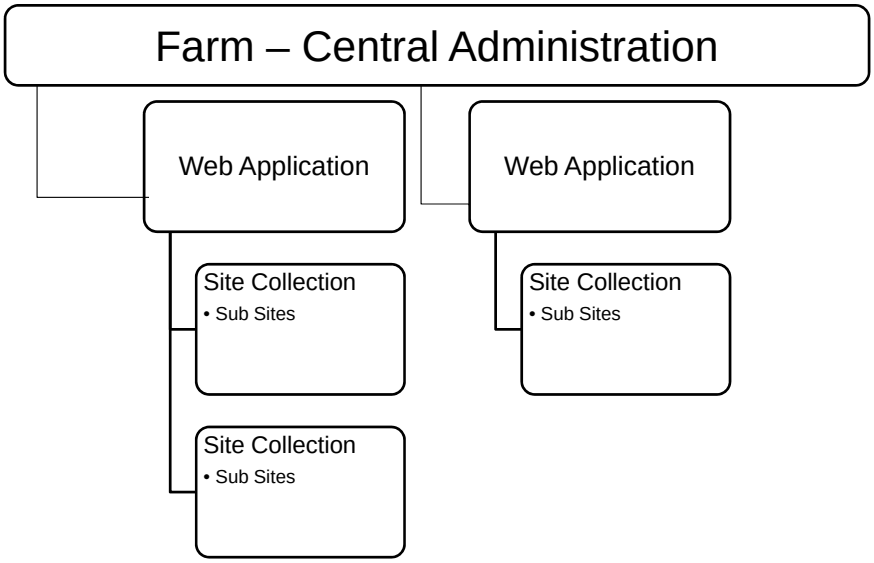
SharePoint Containment



MOSS Logical Architecture



WSS Logical Architecture



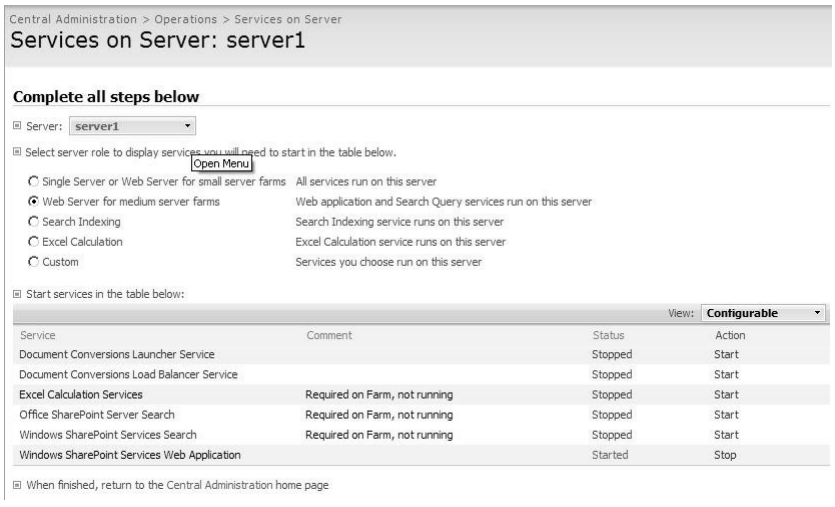
Welcome to Central Administration

- The site for Administrators to make farm wide settings.

Enabling Services

- Based on the servers role you have chosen you will start specific services.
  - Web, Query, Index, Excel, Etc
- Don't be confused by Server role selection portion. Only a helper.

MOSS Services



WSS Services

Starting Services

- As you hit Start you are taken to configuration screen for service.
- Make appropriate settings
- Plug in security accounts
- Search and Document conversion services correspond to actual server services.

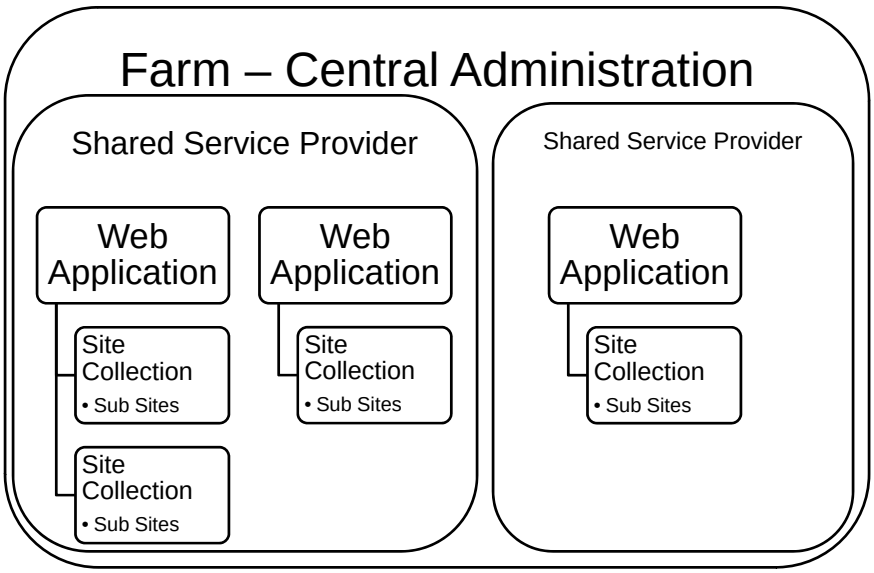
Set Outgoing Email

- SharePoint just needs a SMTP server to relay through.
- Make sure
  - Server is setup to allow relay from SharePoint's IP
  - No firewall blocking port 25
  - Antivirus Software not blocking outbound

DEMO!

- Tour Central Administration

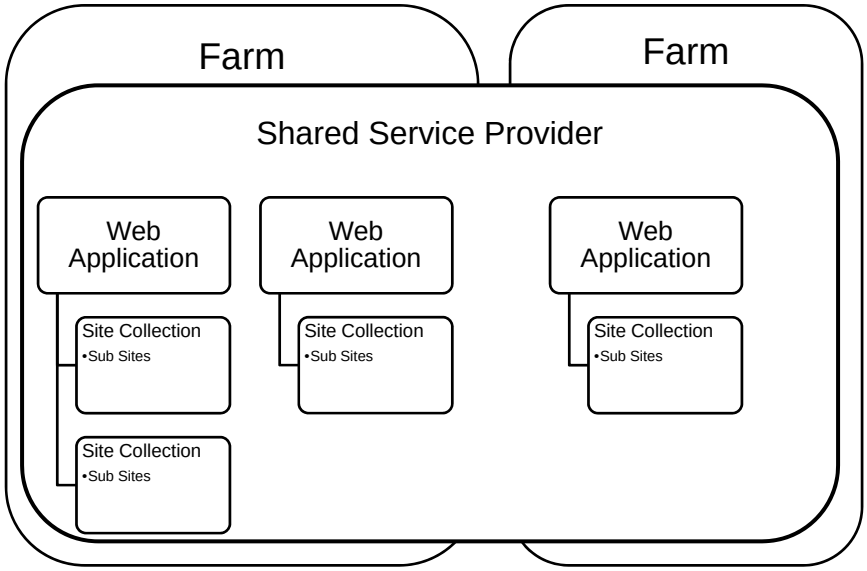
MOSS Logical Architecture



SSP = Reusable Services

- The Shared Services Provider (SSP) allows…
  - Service to be shared across
    `Web Applications`
    `SharePoint Farms`
- Think of a parent-child relationship.
- MOSS Only Feature

MOSS Logical Architecture



SSP Components

- SSP needs
  - A web application
  - Creates Site Collection at http://url/ssp/admin
  - Creates 2 databases – Search and everything else
  - Assign SSP to Index server
  - Service account that it runs as
  - Location of My Sites

DEMO!

- Creating an SSP

Planning number of SSPs

- For most companies the right answer is 1
- Reason's not to use 1
  - Don't want to share
  - Intranet vs. Extranet
  - Security concerns

DEMO!

- Tour of the SSP Admin interface

Separation of Powers

- Three tiers of administration available
- Farm Admins using Central Admin
- Role specific admins accessing SSP
- Site Collections Administrators taking care of business
- All can be mutually exclusive

Other Admin Tools

- Stsadm.exe
- SharePoint Configuration Wizard

Stsadm.exe

- Anything you can do in the GUI stsadm.exe can do better
- Located at c:\program files\common files\Microsoft shared\web server extensions\12\bin
- Has 184 different options available
  - Backup/restore, Import/export, create sites, add web parts, execute timer jobs, and 177 other things
- Extensible – Add your own functionality

DEMO!

- Can't talk about the coolest tool on the block without showing it off.

SharePoint Configuration Wizard

- GUI available from the Start menu
- Allows you to
  - Detach/reattach a server to a farm
  - Allows you to change what server hosts central admin
- Also available in command line form
  - Psconfig.exe in same directory as stsadm.exe
- Will stop IIS Web Services so be careful when you run this
- Most admins forget about this tool. Crucial when fixing major screw ups. ☺

Databases

- SharePoint_Config
- SharePoint_AdminContent_{GUID}
- WSS_Search_Litwareserver
- WSS_Content_SSP
- Primary_SSP_DB
- Primary_SSP_Search_DB
- WSS_Content_MY

Farm wide security

- Farm administrators group for central admin
  - Does not give you full access to all sites
- Need full access to all sites
  - Policy for web application

    Full Control
    Full Read
    Deny Write
    Deny All

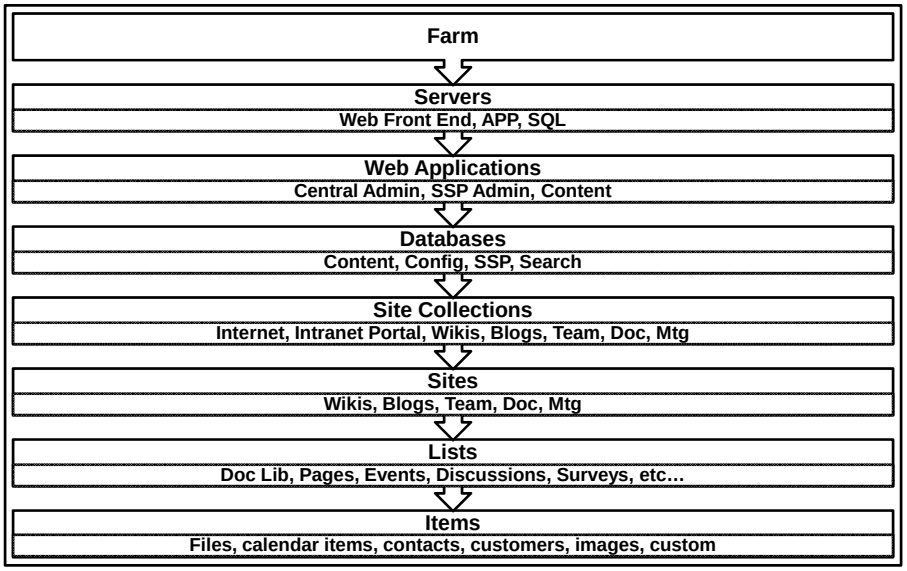
A note on My Sites

- Choose their host location wisely
  - Same Web app as your SSP
  - Their own Web app
  - Same Web app as your portal

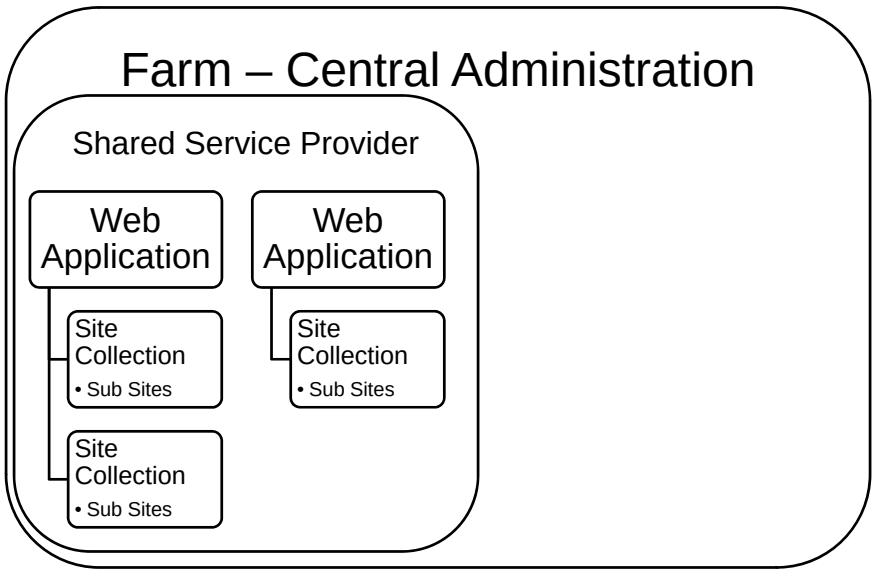
Agenda

- Logical Architecture
- Web Applications
- Templates
- Site Security

SharePoint Containment

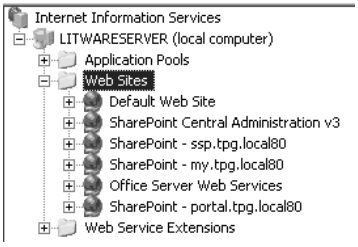


MOSS Logical Architecture



Create Portal Web App

- Determine “friendly” URL
- Determine account
- Determine authentication method
- Crucial Terminology: Web Application = IIS Web Site or IIS Virtual Server



More Web App

- New web app = new content database
- Web App’s can not share databases
- DB is default location of new site collections
- Want SSL?
  - Manually configure through IIS
  - Don’t forget Alternate Access Mappings (AAM)

What is AAM?

- Maps incoming request to Web Apps
- Then tells SharePoint what URL to respond with
- Crucial in reverse proxy scenarios
- Very common source of support calls
  - Search results link to wrong URL
  - User redirected to different URL on login

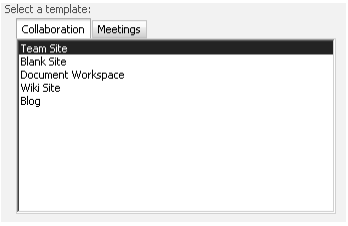
Creating your first Site Collection

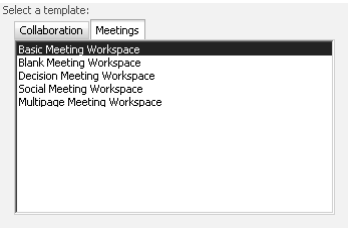
- Why are they important?
  - Separation of security
  - Level of ownership
  - Administration
  - Can have quotas
  - Smallest unit for controlling storage database
  - Sharing between sites confined to
  - Level of backup

Assign a template

- Site Collection is just a container
- Needs to have a template applied
- Different SKUs = Different OOTB Templates

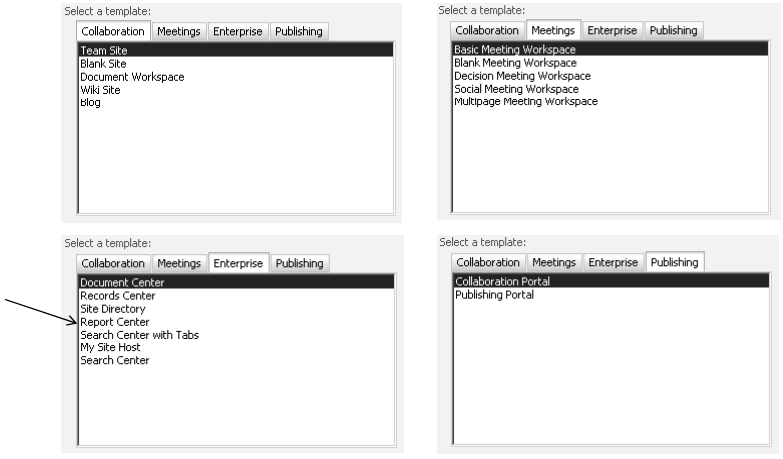
WSS Templates





MOSS Standard Templates

MOSS Enterprise Templates



Getting Started

- Intranet/Portal = Collaboration Portal
- Internet Site = Publishing Portal
- Project/Department Work Site = Team Site

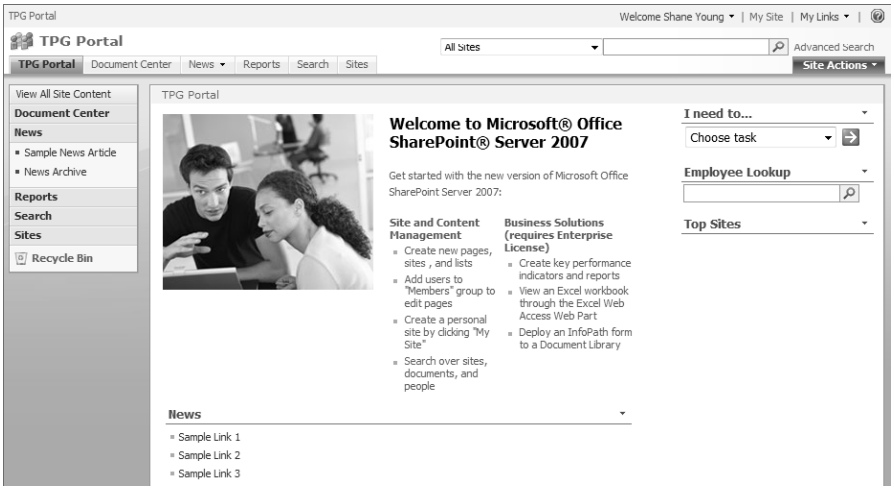
- Not required just the usual choices

The Collaboration Portal

- Great for those intranets
- Many readers/few contributors
- Publishing features great for static slow to change sites
- Search center is ready to go
- Built-in Web Parts focused on targeting and ease of use

Demo!

- Tour of collaboration portal

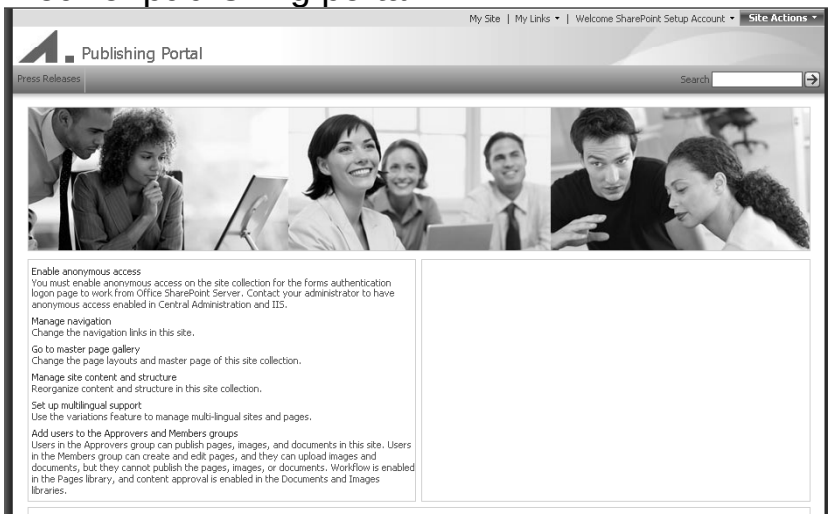


Publishing Portal

- Starting place for building lots of pages
- Publishing features put you in control of content
- Has approval workflow setup on pages
- Add your custom master page and ready to go

Demo!

- Tour of publishing portal

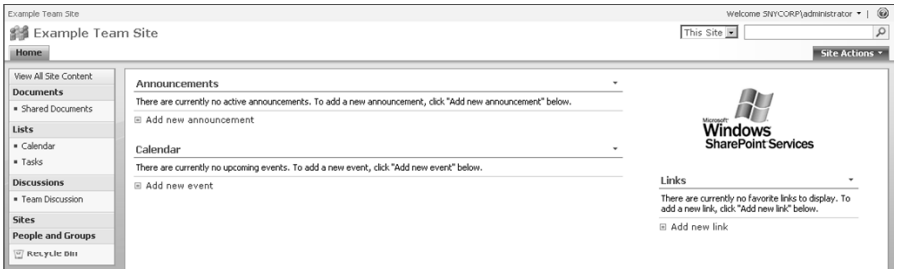


Team Site

- Start collaborating now
- Edit the page, see the results
- Ready for lots of contributors

Demo!

- Tour of team site



Site Security

- Can be broad or granular
- Inheriting permissions makes admin life easy
- Granted by applying permission levels to groups
- Can use AD groups directly
- Can use SharePoint Groups
  - AD groups can be assigned to SP groups
- Can assign permissions directly to an AD user
  - BAD! Management nightmare

Permission Levels

- 9 available OOTB (MOSS) 5 (WSS)
- Set default list permissions
- Set site and personalization permissions not available otherwise
- Don’t modify instead create your own

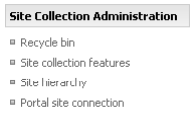
SharePoint Groups

- 3 main groups to consider
- Owners – Can do everything on the site
- Member – Can add/edit/delete in existing list
- Visitors – Read access only

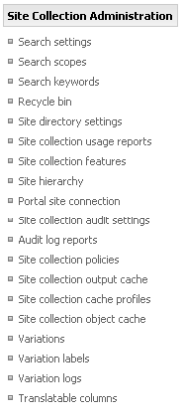
Site Collection Administrators

- Separate group for full control of the entire collection
- Site Collection Owners automatically added
- Special administrative menu

Team Site Collection

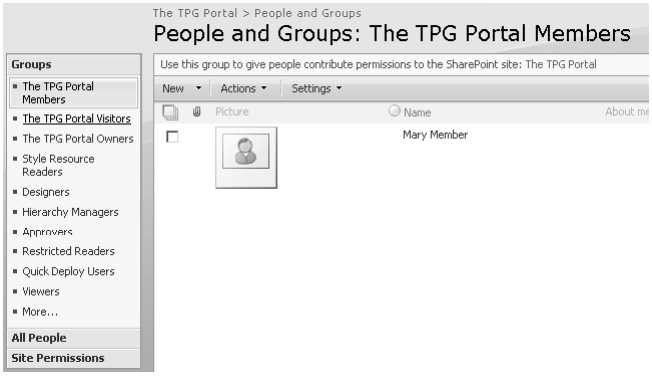


Collab Portal Collection



Demo!

- Security walk through time



Core Features of SharePoint

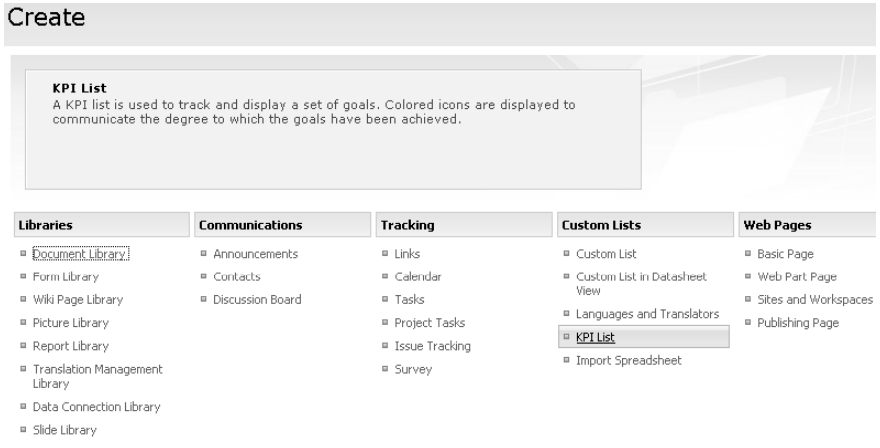
- Everything is a list
- Web Parts
- Navigation
- Branding basics
- Advanced: Information Rights Management

Everything is a list

- List are used to store information
- Think of them kind of like a database table

Types of list

- Varies by site template and SP SKU



What makes list great

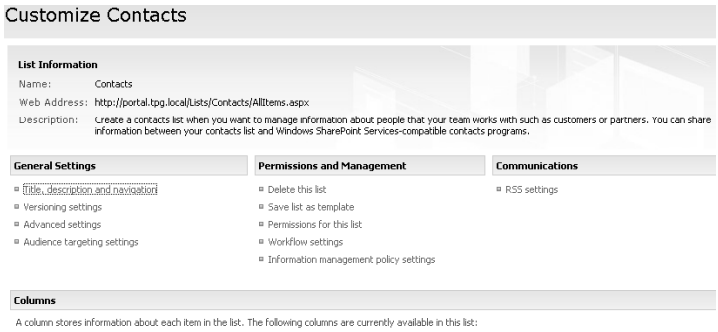
- They are very easy to customize
- Experience is always the same
- Want more metadata?
  - Add a column
- Views
  - Filtering, sorting, grouping, styling…
- Security
  - Set at list or item level

Metadata vs. Folders

- A fun debate
- Folders
  - Traditional way of organizing content
  - Very easy for users
- Metadata
  - New hip way to organize
  - Requires users to input data
  - Allows better search relevance
  - More flexible for creating views
- SharePoint lists support both

Demo!

- Manipulate out of the box list
- Folders & Metadata
- Create a view
- Create a custom list

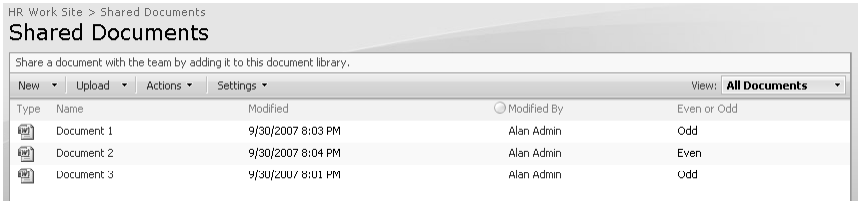


Web Parts

- The basis of building the user experience
- Control that can be added to a page
- 2 “types” of Web Parts
  - List view Web Parts
  - Functional Web Parts

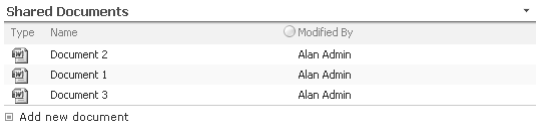
List View Web Parts

- List view WPs display SharePoint Lists
- Every time you create a new list you get a new Web part



List

Web Part



Functional Web Parts

- They Do Work
- Examples
  - Display data from a database, RSS feed, or user input
  - Transform the look of the page
  - Perform a search
- Lots of 3rd party and free web parts available
- Different SharePoint SKUs = different WPs

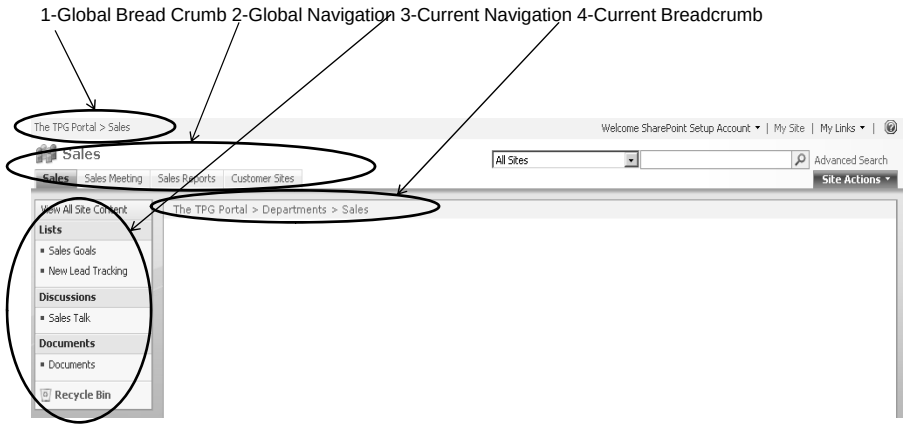
Demo!

- List Web Parts
- Functional Web Parts

Navigation

- The key to finding things on the site
- Very flexible
  - Targeting
  - Security trimming
  - Open in new window
  - Flyouts
- Navigation Elements
  - Global Navigation
  - Current Navigation
  - Global Breadcrumb
  - Current Site Breadcrumb

Picture worth 1000 words?



Global Navigation

- Also called Horizontal Nav
- Should make this as consistent as possible
- Inherits from parent by default
- Modify
  - Site Actions > Site Settings > Modify Navigation

Current Navigation

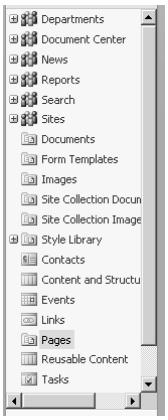
- Called Quick Launch bar and Left hand Nav
  - Important since products can change the name
- Provide links that are relevant to current site
- Customizable same as Global
- Can be disable thorough site admin

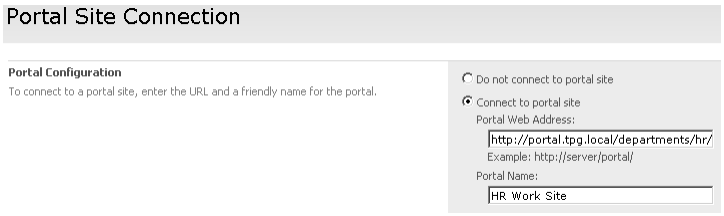
Breadcrumbs

- Both self maintaining
- Global is updated when you break global nav
- Current just shows your path on the site

Other nav

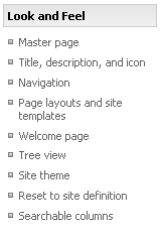
- Tree view
  - Looks cool
  - No settings
- Portal site connection (up to portal)
  - Key for connecting separate Site Collections
  - Site Collection Administrator setting

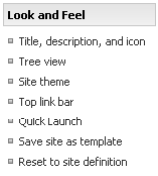




No Publishing Feature – Nav Changes

- Instead of Site Settings > Navigation use
  - Site Settings > Top link bar
  - Site Settings > Quick Launch





Demo!

- Walkthrough navigation

Change the look

- Called branding
- Themes
- Master Pages

Themes

- Change the colors and images used
- Rely heavily on modifying CSS
- Does effect all of the pages in a site
- Relatively easy to develop your own

Demo!

- Apply some beautiful out of the box themes!

Master Pages

- Page made up of 2 parts
  - Master Page
  - Page layout
- Actually can modify the structure of the page
- Three types
  - Site
  - System
  - Application

Site Master

- Site Master
  - Set at the site level
  - Affects web part pages
- System Master
  - Set at the site level
  - Affects list view pages
- Application Master
  - Set at the farm level
  - Affects files in /_layouts
  - Stored on file system, do not modify

Demo!

- Change a site theme
- Change the master pages for the site
- Open a master page with SharePoint Designer

IRM

- Information Rights Management
- Relies on Rights Management Server (RMS)
  - Free add on to W2k3 Server
  - Works OOTB with Office 2003 and later
  - Free IE add-in available
- Provides you with portable security
- Integrates with SharePoint

IRM Rights

- Full Control
- Edit, Copy, and Save
- Read
- Print

Agenda

- Site Templates
- Feature feature
- WSS Solution Packages
- Web Parts
- Web.config

Reusing Sites

- Save site as template
- Available from Site Settings
- Works for all sites except publishing sites
- Can choose to include content or not
- Default template limit 10 MB
  - Change via command line
  - Change to max of 500 MB

```
Stsadm.exe –o setproperty – pn max-template-document-size –pv 524288000
```

- Does not save security

Site Templates Usage

- Save Site as template
- Saved to Site Template Gallery
  - 1 per Site Collection
- Now the template is available to all sites in collection

Use Template Globally

- Deploy via command line
- Add Template

```
Stsadm –o addttemplate –filename YourFile.stp –
title YourTitle –description YourDesc
```

- Delete Template

```
Stsadm –o deletetemplate –title YourTitle
```

- List Templates

```
Stsadm –o enumtemplates
```

- After running Add/Delete IISReset required

List Templates

- Just like sites you can save list as template
- Choose to include content or not
- Add to list template gallery to make reusable
- No option for deploying globally

The Feature feature

- Building blocks of SharePoint Sites
- Package of functionality
  - Define and create site elements
  - Deploy and implement new functionality
- Can be turned on or off even after site is created
- Use feature “stapling” to modify default behavior of new sites

What can Features do?

- Deploy site columns and content types
- Define & deploy list templates
- Create list instance from templates
- Define & Deploy page templates
- Deploy web parts
- Deploy custom workflow templates
- Deploy event receivers to lists
- Create new menu items with site

Using Features

- Deploy to the farm
  - Copy files to all servers
  - \12\templates\features
- Install Feature
  - Stsadm.exe –o install feature
- Activate/Deactivate based on scope
  - Farm
  - Web Application
  - Site Collection
  - Site
- Can be hidden
- Feature deactivation
  - Removes functionality
  - Does not remove data created by feature

Demo!

- Copying feature files into place
- Installing feature
- Activating feature
- Open feature.xml

A better way - WSP

- WSS Solution Package
- FileName.wsp is a deployable package (CAB)
- May include
  - Site definitions
  - Feature definitions
  - Images, scripts, files, InfoPath Forms etc
  - Assemblies for bin or GAC
  - Custom Code Access Security (CAS) policy

You want an WSP

- Developer creates WSP
- Farm Administrator adds solution
  - Stsadm.exe –o addsolution
- Farm Administrator deploys solution
  - Stsadm.exe –o deploysolution
  - OR Central Admin > Operations > Solution Management
- Functionality available

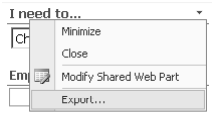
Demo!

- Deploy a solution

Fun with Web Parts

- Comes packaged as .cab
- Deploy to web application or entire server
  - Stsadm –o addwppack -url
  - Or
  - Stsadm –o addwppack –global
- Downloads have many flavors.
- Ask for the WSP

Export Web Part Settings



- With page in edit mode
- Creates a .dwp or .webpart file
- XML file with all configuration settings

- Now upload this file to
  - Web Part Gallery
  - Single file import from add web parts menu

Demo!

- Configure and export web part
- Reuse the web part

Web.config

- Not just for developers
- XML configuration file
- 1 per web application
- Lots of other web.config files, leave them alone
- What is it?
  - .NET configuration file
- Generally updated by Central Admin
- File is case sensitive
- Don’t edit with WordPad!

What is in web.config

- Safe Controls
- Cache configuration
- Security Level (Code Access Security)
- Authorization (anonymous, etc)
- User Store (AD, Forms Based, Etc)
- And a whole bunch more

Code Access Security

- Similar to setting permission on users except for code
- Default SharePoint runs with Minimal trust
- Raising level in web.config affects everything
- Better – Create custom policy file, specify permissions for particular web part

Setting trust level

- <trust level="WSS_Minimal" originurl="" />
- Options
  - WSS_Minimal (default)
  - WSS_Medium
  - Full (built in .NET Policy)

```
<securityPolicy>
  <trustLevel name="WSS_Medium" policyFile=…
  <trustLevel name="WSS_Minimal" policyFile=…
</securityPolicy>
```

Getting better error messages

- Edit Web.config for your web app
  - In <SharePoint> section

```
<SafeMode MaxControls="200" CallStack="true"
DirectFileDependencies="10"
TotalFileDependencies="50"
AllPageLevelTrace="false">
```

  - In <system.web> section

```
<customErrors mode="Off" />
```

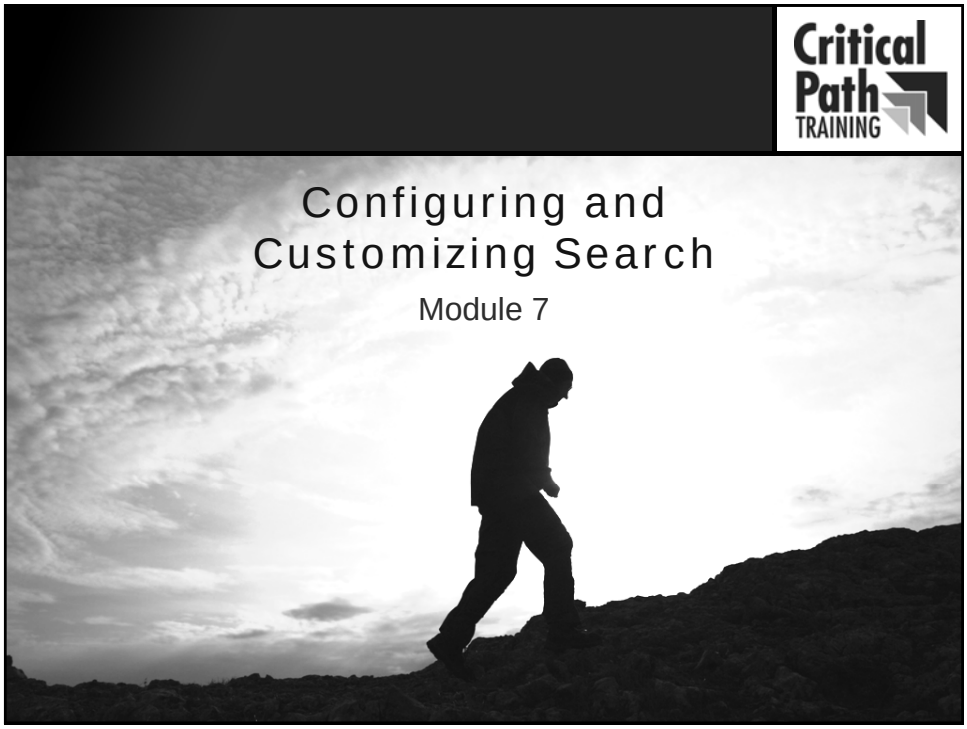
- Now you get detailed error messages

Demo!

- Open up the Web.config
- Enable custom errors

Featured Download

- In the lab you will be using the Free add on:
  - R.A.D. Editor for SharePoint 2007
  - http://sharepointcontrols.com/products/overview.aspx
- Provides rich text editor to non IE browsers



Agenda

- WSS vs. MOSS
- OOTB Search
- Administrate Search
- Customize Search Options

MOSS Search is Awesome!

- WSS Search is cool too!
- Same technology behind both
- WSS Search only works within the site collection
- MOSS can crawl just about anything
- Biggest difference?
  - WSS Search just runs
  - MOSS Search has lots of configuration options
- Remember MOSS Search and SSP

How search works

- Locates content
- Loads protocol handler
- Loads necessary ifilter
- Word breaks the file
- Writes info to index (physical file)
- Writes property info to search db
- Search honors security!

ifilters

- Core Microsoft search technology
- Allows SharePoint to index other file types
- OOTB only indexes
  - Plain text files
  - Word, PowerPoint, Excel files
- Places to find ifilters
  - File Manufacturer
  - 3rd party web sites
  - www.ifilter.org has list of free ones

Adding a new file type

- Install appropriate ifilter
- Add to SSP > Search Settings > File Types
- Add custom icon file
  - ..\12\template\xml\docicon.xml
  - Upload to ..\12\template\images (16x16)
- Double check file type is not excluded for server
  - Central Admin > Operations > Blocked file types

Noise words

- These are words that have no search value
- Files located in two places
  - C:\program files\Microsoft Office Servers\12.0\data\applications\{guid}\config
  - C:\program files\Microsoft Office Servers\12.0\data\config
- WSS change to
  - C:\program files\common files\Microsoft Shared\web server extensions\12\
- Different version for each language
  - Noiseenu.txt for US English
  - Noiseneu.txt for neutral files

Thesaurus File

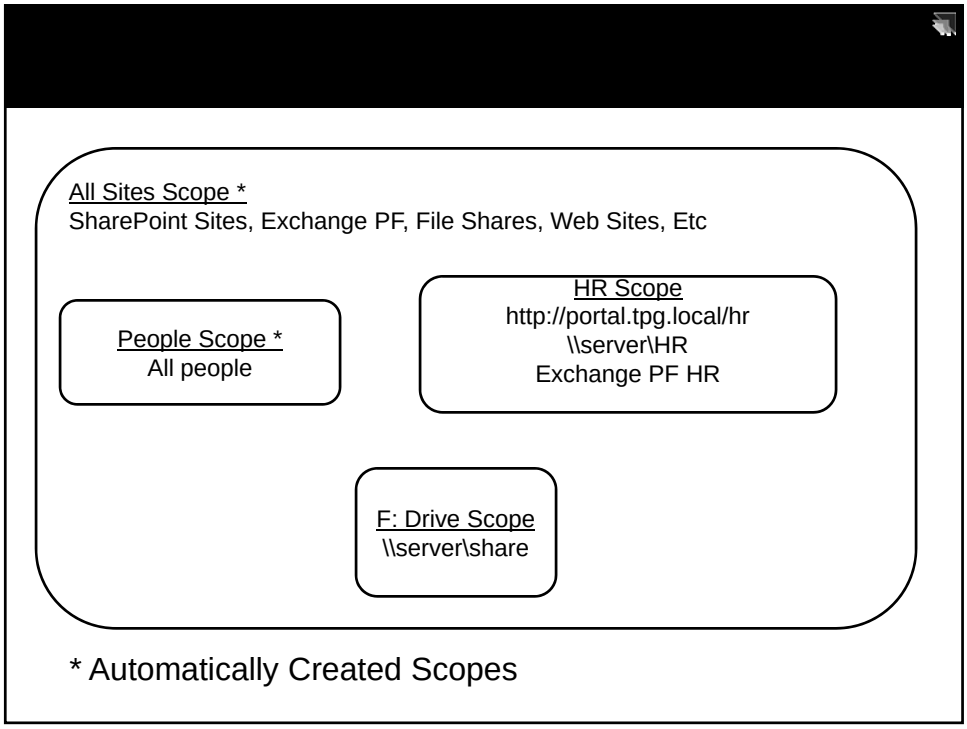
- Allows expansion and replacement on queries
- Can also effect search weighting
- Files located in two places
  - C:\program files\Microsoft Office Servers\12.0\data\applications\{guid}\config
  - C:\program files\Microsoft Office Servers\12.0\data\config
- WSS change to
  - C:\program files\common files\Microsoft Shared\web server extensions\12\
- Different version for each language
  - Tsenu.xml for US English
  - Tsneu.xml for all files

Feature Breakdown – Content Sources

- WSS – Just your SharePoint Site Collection
- MOSS Standard– All of your SharePoint Sites at once and add things like
  - Exchange Public Folders
  - Other Web Sites
  - File Shares
  - Other SharePoint Sites
- MOSS Enterprise – The BDC baby!

Feature Breakdown – Scopes

- WSS not really – MOSS for sure.
- What is a scope?



Feature Breakdown – Scheduling

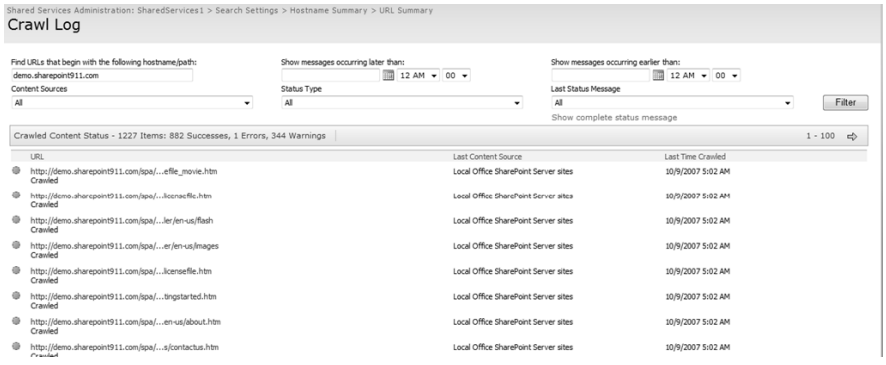
- Indexing is one of the most resource intensive things you can do with SharePoint. Controlling when it happens can be key.
- WSS – Does a full crawl once a day when you choose.
- MOSS – Complete scheduling control. Full and incremental options.

Other MOSS only features

- Detailed easy to use logs
- Control over relevancy
- Crawl Rules
- Easy to grow out farm and off load roles
- Management of properties and advanced search
- Keywords and best bets
- Search center and 11 search web parts
- Detailed search reporting

Gather logs

- The place to figure out why search isn't behaving
- SSP > Search Settings > Crawl Logs



MOSS Includes 11 Search Web Parts

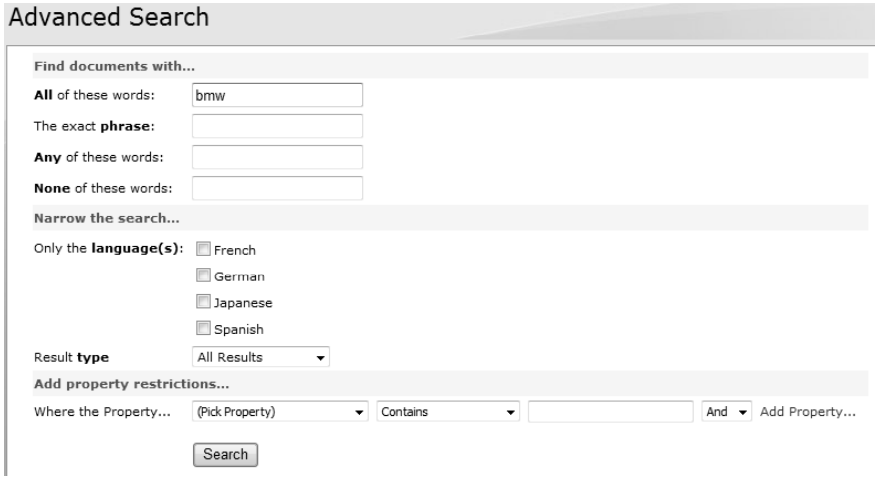
- Create custom search solutions
- Complete control over user search experience
- Search center provides starting point
  - Part of Collaboration Portal Template

Keyword/Best bets

- Highly under utilized
- Keyword is what your user is searching for
  - Can assign a definition to display
- Best bet is what you think they want
  - Links to any web url
- Administered by site collection admin

Advanced Search

- Built with configurable Web Parts



Customizing Advanced Search

- Add your own properties
  - SSP > Search Settings > Metadata Property Mappings
- Edit Advanced Search Box WP
  - Properties section is XML
  - Add property definition

    ```
    <PropertyDef Name="YourProperty" DataType="text"
    DisplayName="YourPropertyDisplayName"/>
    ```
  - Add property reference

    ```
    <PropertyRef Name="YourProperty" />
    ```

Other happy user features

- Hit highlighting
- Did you mean
- Duplicate collapsing

Administrating Search

- Central Administration
  - Define services/server roles
  - Proxy & Crawler impact rules
- Site Collection
  - Keywords/best bets
  - Local scopes
  - The UI
- SSP
  - Everything else

Search Reporting

- Available from the SSP
- Two types of reports
  - Search queries
  - Search results
- Great feature for understanding your environment

Need to customize more?

- Use XSLT and CSS to transform search results
- Write code against Object Model or Web Services

- Look to 3rd party
  - http://www.codeplex.com/FacetedSearch
    Free Community Tool
  - http://www.ontolica.com/
    Free Wild Card search/Pay full product
  - http://www.coveo.com
    Replaces SharePoint Search Engine
  - http://www.ba-insight.net
    Hit Highlighting, preview

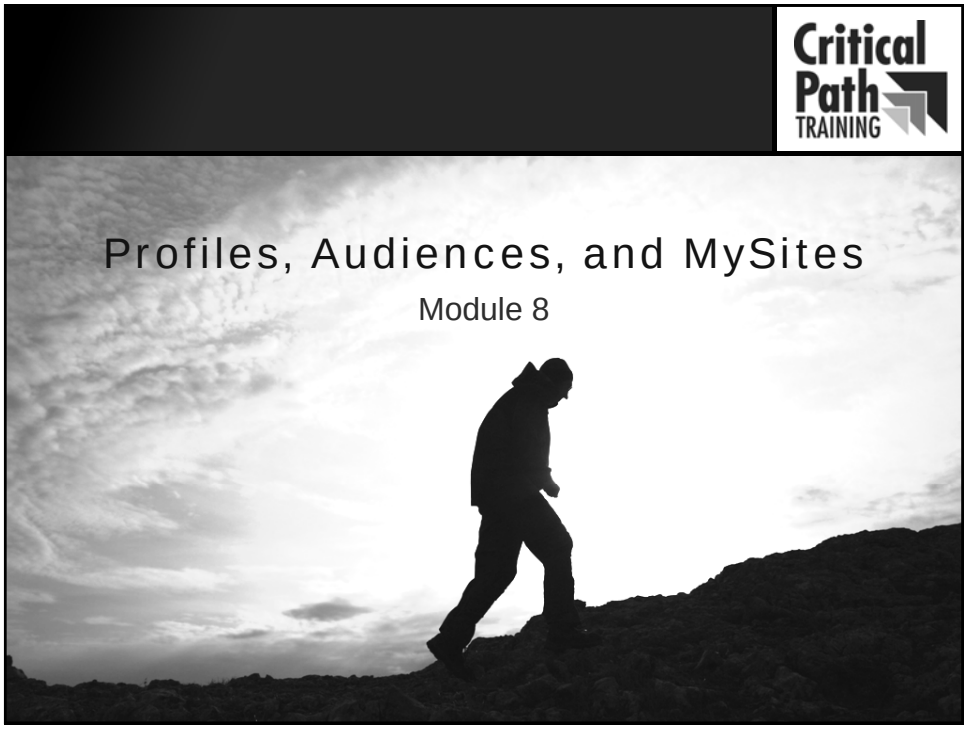
The MOSS Search Service

Indexer Performance Setting	Total # of threads	Maximum # of threads per host*
Reduced	# of CPUs	# of CPUs
Partially Reduced	4 times # of CPUs	# of CPUs plus 4
Maximum	16 times # of CPUs	# of CPUs plus 4

* Can be increased to 64 per host with crawl rule
** 64 is maximum amount of the threads index can have at one time

Demo!

- Everything search



Agenda

- Profiles
- Audiences
- Targeting
- My Sites

Importing profile information

- Pull users and profile information from
  - Active Directory – Also imports group membership
  - LDAP
  - BDC
- Import on schedule
- Accepts connection filters
- This information is now available for search
- Populates info on My Site
- Compile audiences based on info

Default Properties

- 46 properties OOTB
- 21 mapped to AD attribute
- Completely configurable
  - Mapping to ad
  - User editable
  - Privacy settings

More on profiles

- Profile information is pulled from AD on first site access
- Profile Sync job
  - Syncs changes from profile database to site
- Name change example

Demo!

- Look at profile import connections
- Look at profile properties & mappings

Global Audiences

- Compile based on account or profile properties
- Used to target
  - Links
  - Web parts
- Schedule compile for after profile import

Other Targeting

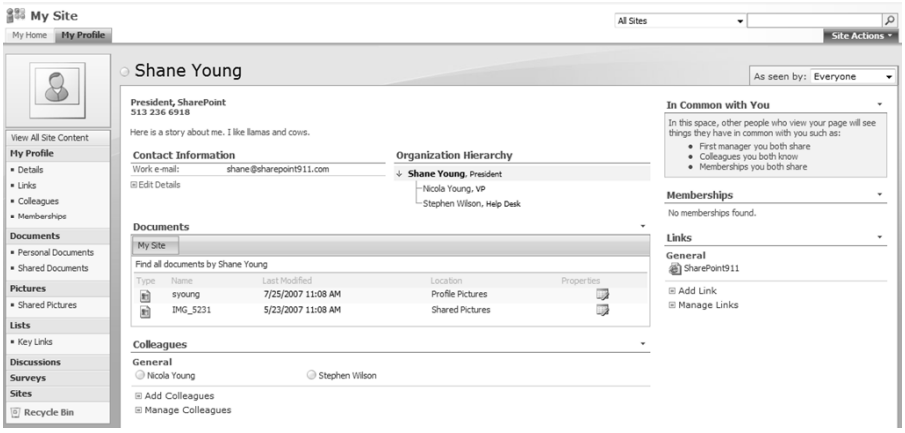
- All Web Parts
- Choose from
  - Global Audiences
  - Distribution/Security Groups
  - SharePoint Group
- Content Query Web Part/List filtering
  - List Enable audience targeting
    `Creates new column – Assign target`
  - CQWP has filter to use targeting

Demo!

- Creating a global audience
- Targeting Web Parts
- The Content Query Web Part

My Sites

- Sites allow users a personal SharePoint site
- Can be used to expand people networking



Personal Site

- Automatically created first time accessed
  - Creates a new site collection (set quotas)
- Allows user to edit profile information
- Provides tools for organization
- Provides both public and private storage
- Web Parts for accessing Exchange
- Can create additional lists and sub-sites

People networking

- Add a picture
- Colleague tracker
- Contact info
- Special, “In common with you” web part
- Memberships
- Information is available via search
  - People search tab in Search Center
  - Sort by social distance
  - Refine by Job Title or Department

Demo!

- Fun with My Sites
- Other personalization settings
  - Personalization site links
  - Published links to Office client applications
- Discussion of moving My Sites

Agenda

- WCM
- Authentication Providers
- FBA
- Proxies & SSL
- Firewall Ports

Web Content Management

- MOSS contains lots of publishing features allowing you to control the flow of information
  - Check in/out/versioning of pages
  - Approvals and workflows
  - Master Pages
  - Lots of plug-ins for developers (not us)
- Makes it practical to use for Internet/Extranet

What makes up a page?

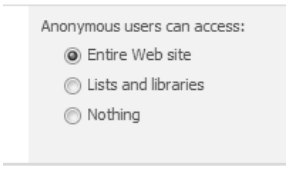
- Master page + Page layout + Content
- Master page sets structure (and some branding)
- Page layout defines Web Part zones and content place holders
- Content is all of the stuff you add

The Challenge – A public site

- Allow some anonymous access
- Don't use AD Accounts
- Support multiple host headers
- Possibly use a reverse proxy
- Secure communications (SSL)

Anonymous Access

- 1st enable in Central Admin
  - App Management > Auth Providers
- 2nd administer at Site
  - Advanced Permissions
  - Inherited
  - Cannot be set at item level



Other Authentication Providers

- ASP.NET 2.0's authentication provider model
- Setup SharePoint to use any LDAP repository
- SQL databases work too
- Then users login through forms based UI
- Hand modification of web.config
  - Specify connection settings
  - Specify membership provider
  - Specify role provider

Most Common Auth Provider

- SQL Database
- .NET 2.0 has wizard to create
  - **aspnet_regsql**
- Visual Studio has tool
  - Test web.config settings
  - Add users and roles

Demo!

- Create SQL Database to store FBA Users
- Use Visual Studio to create connections
- Use VS to create users and roles

Configure Site to use FBA

- Modify web app web.config with connection info
- Modify central admin the same
- Specify settings in authentication provider
- Grant access to FBA user
- Enjoy

Challenges

- OOTB no user or role manager interface
  - Write your own
  - Use 3rd party addin
- MOSS can not crawl FBA Site
  - Must have 2nd Web app configured to use Windows Auth
- Client Integration features not supported

Creating 2nd Web App

- Central Admin > Extend an existing Web app
- Creates new web app mapping it to existing
- Same Content
  - Different URL
  - Different Authentication provider

Want multiple host headers?

- http://www.sharepoint911.com and http://sharepoint911.com same site
- 1 Server
  - Just add HH to IIS directly, setup AAM
- Multiple Servers
  - Replication job will overwrite IIS edits
  - Either use multiple SharePoint Web apps
  - Or IIS Redirect site

Demo!

- Hook up FBA to Web App
- Extend Windows Auth Web App
- Show off some IIS tricks

Publish through proxy server

- Like ISA Server 2006
- Allows you to hide server information
- Use different external URL
- Supports
  - SSL Off Loading
  - Link translation
  - SSO Capabilities
  - Advanced routing “tricks”

Alternate Access Mappings

- AAM
- SharePoint sees URL requested by user
- Responds according to AAM table

Want SSL?

- Configure in IIS
- Setup AAM
- Consider IIS redirect site

SelfSSL

- Part of the IIS 6.0 Resource Kit
  - http://www.microsoft.com/downloads/details.aspx?FamilyID=56fc92ee-a71a-4c73-b628-ade629c89499&displaylang=en
- Allows you to create your own cert
- Downside?
  - Users don't trust the certificate by default
  - Add it to their certificate store
  - Or buy a trusted cert

Firewall Ports

Inbound/Outbound	From	Port	To
Inbound	ALL (as applicable)	TCP 80 or 443	ISA Web Pub or WFE
Inbound	TS Jump point	RDP (TCP 3389) For Remote Admin	APP (Central Admin /SSP Admin)
Inbound	All SharePoint Server (Depends on Central Admin config)	Office Server Web Services, TCP 56737, SSL 56738	App (Central Admin /SSP Admin)
Inbound	Index	TCP 80 or 443	WFE
Outbound	ALL SharePoint Svrs (Based on Auth)	DS (TCP 445) RPC (TCP 135) DNS (UDP 53) Kerberos (UDP 88) LDAP/S (UDP 389/636)	DC/DNS (LDAP)
Outbound/(Inbound if applicable)	WFE (alerts or mail enabled list)	SMTP (TCP 25)	SMTP/Exchange
Outbound	ALL SharePoint Svrs	SQL (TCP 1433) or SSL custom port	SQL
Outbound	WFE (Search Request)	Search Query, either NBT (TCP/UDP 137, 138,139) or Direct-hosted SMB (TCP/UDP 445)	Query
Outbound	Index (Propagation)	Search Query, either NBT (TCP/UDP 137, 138,139) or Direct-hosted SMB (TCP/UDP 445)	Query
Outbound	WFE (SSO)	RPC for SSO – (TCP 135), plus random high ports (Dynamic RPC) or restricted high ports (Static RPC)	APP Servers

Optimizing SharePoint 2007 Performance

Module 10

Capacity Planning

The art of evaluating a technology against the needs of an organization,

and making an educated decision

about the procurement of HW to meet the demands specific to a system being installed

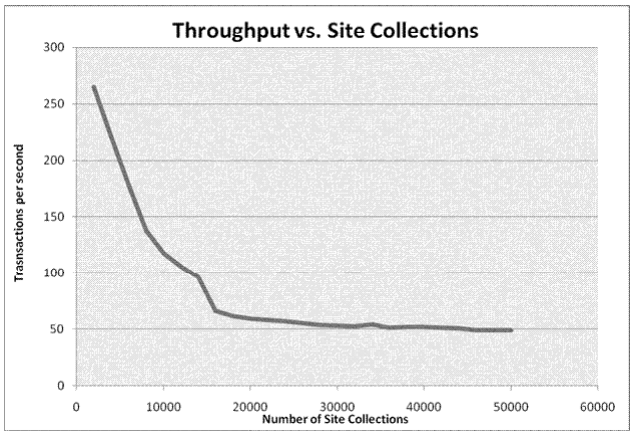
A 4 step program

- 1: Plan for Software Boundaries
- 2: Estimate Performance and Capacity Requirements
- 3: Plan Hardware and Storage Requirements
- 4: Test

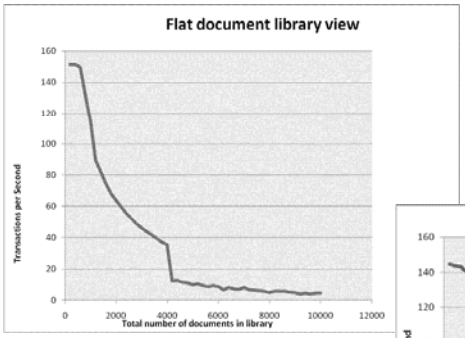
Software boundaries

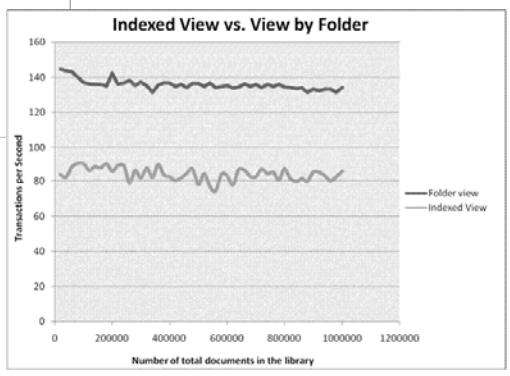
- Two types of limits
  - Recommend limits (performance)
  - Hard limits (built in maximums)

of Site Collections



Document Libraries



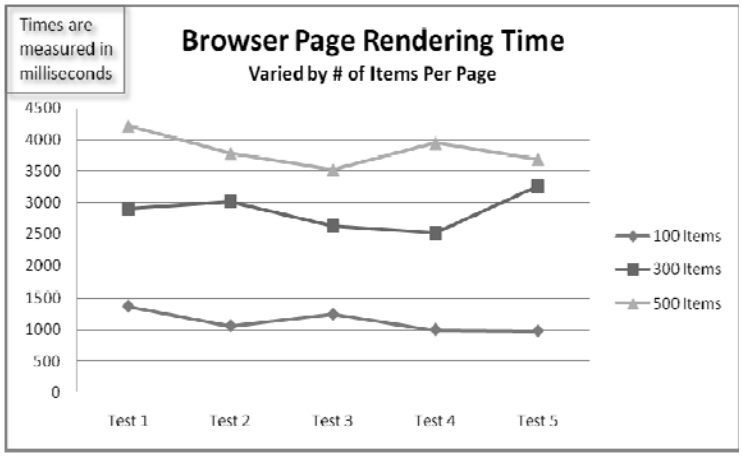


More Software Boundaries

Site Collections	50,000 per DB	
Site Collections	50,000 per Web App	
Content DBs	100 per web app	
Web Sites	250k per Site Collection	Use nesting
Sub Sites	2,000 per site	Very hardware dependent
Documents	5 million per library	Use nesting
Security objects	2,000 per site	Groups or users
Indexes	1 per SSP	20 SSPs per farm (Hard)
Indexed Docs	50 Million per index	Buy Hardware
SSPs	3 recommend	20 Hard Limit
App Pools	8 per server	
WFEs	3 per Domain Controller	

Remember Everything is Hardware Dependent!

Items displayed on page matters



Step 2: Estimate performance and capacity

- Usage Profiles
- Target performance levels

Usage Profiles

- Common profiles
  - Collaboration (Read/Write)
  - Portals (Everything)
  - Search (Search Server)
  - Business Intelligence (Calculations)
  - Internet (Read)
- Authentication vs. Anonymous

Determine usage profiles

- Existing solution? Data mining
  - IIS Log Parses 2.2
- Microsoft provides sample data

Target Performance

- Plan RPS for peak load not average
- Example
  - MSFT 1 farm average = 10 RPS Peak = 130 RPS
- Be careful what you read
  - Lots of # on the web but all have assumptions behind them

Demo!

- Take a closer look at Microsoft's Papers
  - Estimate performance and capacity requirements for Windows SharePoint Services collaboration environments (Office SharePoint Server)

Other performance factors

- Long running lock operations
  - Backups
  - Indexing
- Additions/Customizations
  - Page size
  - SQL Round trips (bad code)
- Permissions
  - Security trimming
- Cache?
  - MOSS brings huge performance increases

Output Cache

- Uses configurable profiles
- Keeps page from executing code
  - Lowers CPU load
- Stores page in memory
  - Consumes more RAM
- Multiple WFEs can cause varied results
  - Use persistence/affinity/sticky sessions
- .NET 2.0 Technology
- Set at collection/page/layout

Object Cache

- Caches
  - Page items
  - Cross list queries (CQWP)
- Configurable for site collection
- Used except when document is checked out

BLOB Caching

- Controlled via web.config
- Stores normally static files on disk
  - No more trips to the DB
- Disabled by default
- maxSize in GB
- Max-age can be added in seconds

```
</MergeAction>
<BlobCache location="C:\blobCache" path="\.(gif|jpg|png|css|js)$" maxSize="10" enabled="false" />
<RuntimeFilter Assembly="Microsoft.Office.Server, Version=12.0.0.0, Culture=neutral, PublicKeyToke
```

Demo!

- Setting MOSS to use Cache

Step 3: Hardware and Storage

- Servers
- Tuning
- Storage planning

32 bit vs. 64 bit

- Both supported and available
- 32 bit is generally faster
- Farm - Same role, same architecture
- New hardware?
  - Buy 64 bit hardware
  - Load 32 bit OS and SharePoint
  - V.next will only be 64 bit
- Use 64 bit if needed to support > 4GB of RAM
- Some 3rd parties do not support 64bit

Servers

- Network bandwidth is huge
  - Gigabit or vlan for farms
- Misconfigured network
- Geo solutions location important
  - Farm cannot be spread across WAN
  - Options

    Local SharePoint
    3rd party accelerators
    3rd party replication
- SLAs
- Understanding end to end usage

SQL Planning

- Database Storage 1.5:1 against file system
- Disk performance most important
- Plan DB needs sizing
  - Don’t forget about backups

Understand IIS

- Choose # of App Pools carefully
  - Each one consumes resources
  - Find balance
- IIS does compression
  - SharePoint automatically adds JS and CSS files
- Web gardens help scale
- Watch out for IIS logs on C: drive

Demo!

- Fun with IIS tuning

Random Tip

- Adjust server upload
  - 50 MB default upload max – configure central admin
  - Modify IIS property connection timeout (120 default)
  - Modify web.config

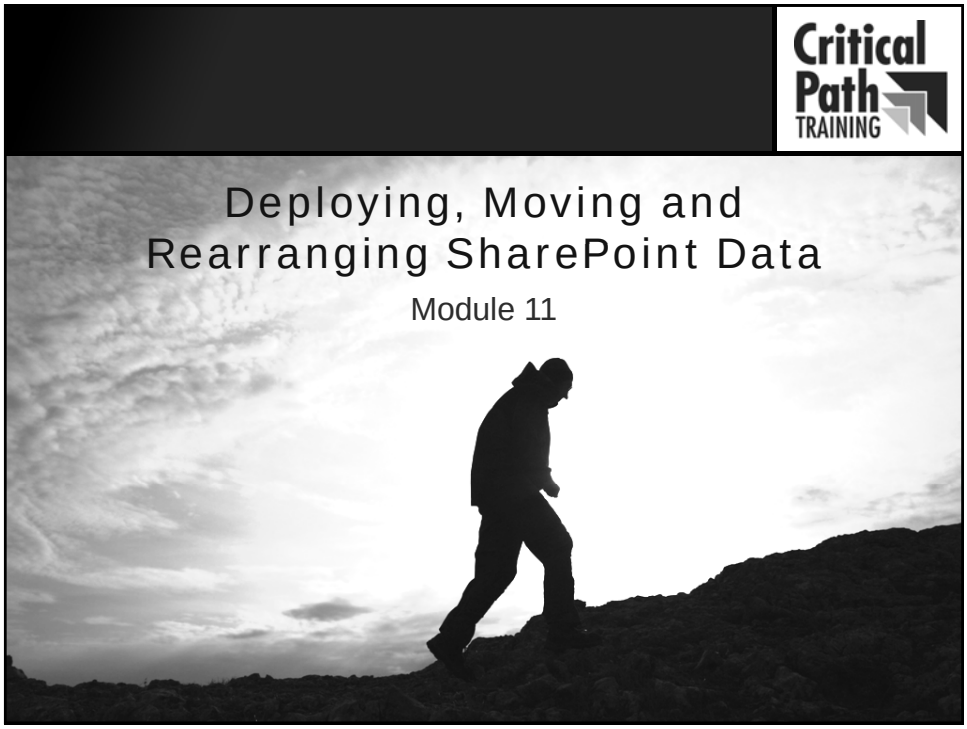
```
change C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\web.config
<location path="upload.aspx"> <system.web> <httpRuntime maxRequestLength="2097151" /> </system.web> </location>
ADD executionTimeout="999999"
```

Are you a fiddler?

- http://www.fiddlertool.com/fiddler/
- Web Debugging Proxy
- Translation –
  - Lets you see the raw traffic between browser and server. Great for running down strange behavior.

Tune Performance from Microsoft

http://technet.microsoft.com/en-us/library/cc298550.aspx



Options for moving content

- Bulk Uploads
- Save Site as Template
- Stsadm and SPD
- Manage Content and Structure
- Content Deployment Jobs

Uploading documents

- Upload
- Upload multiple files
  - Only if you have Office 2003 or later
- Explorer view
- Map a drive
  - \\fqdn\document library
  - Enable web client service

Demo!

- Uploading files to SharePoint

Reusing Sites

- Save site as template
- Available from Site Settings
- Works for all sites except publishing sites
- Can choose to include content or not
- Default template limit 10 MB
  - Change via command line
  - Change to max of 500 MB

    ```
    Stsadm.exe –o setproperty – pn max-template-document-size –pv 524288000
    ```
- Does not save security

Site Templates Usage

- Save Site as template
- Saved to Site Template Gallery
  - 1 per Site Collection
- Template is now available throughout the Site Collection

Use Template Globally

- Deploy via command line
- Add Template

```
Stsadm –o addttemplate –filename YourFile.stp –
title YourTitle –description YourDesc
```

- Delete Template

```
Stsadm –o deletetemplate –title YourTitle
```

- List Templates

```
Stsadm –o enumtemplates
```

- After running Add/Delete IISReset required

The command line

- STSADM.exe is your friend
- Import/Export

```
stsadm.exe -o import
           -url <URL to import to>
           -filename <import file name>
           [-includeusersecurity]
           [-haltonwarning]
           [-haltonfatalerror]
           [-nologfile]
           [-updateversions <1-3>
               1 - Add new versions to the current file (default)
               2 - Overwrite the file and all its versions (delete then insert)
               3 - Ignore the file if it exists on the destination]
           [-nofilecompression]
           [-quiet]
```

SPD?

- SharePoint Designer of course
- Gives backup restore option
- Same output at export/import
- Gives option for doing subsites
- Doesn't require command line access

Publishing sites give you more

- Manage Content and Structure
- Web based tools
- Allows
  - Moving/Copying/Deleting Sites
  - Allows moving some list items
  - Allows bulk operations (check in, publish, etc)

Demo!

- A casual stroll through Manage Content & Structure

Moving from dev to prod

- Content Deployment Jobs
- One-way process
- Multi-tier? No problem
  - Config doesn't change

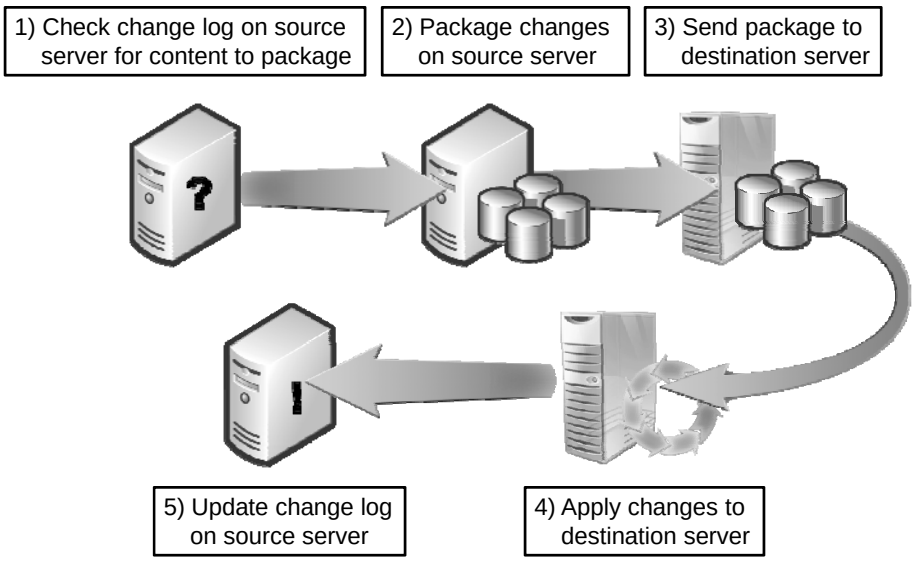
Paths & Jobs

- Paths
  - Connects two site collection
  - Same or different farm
- Jobs
  - When things get moved
  - What are those things
- Quick deploy jobs
  - Automatically created
  - Allows pushing of just an item when needed

Setup

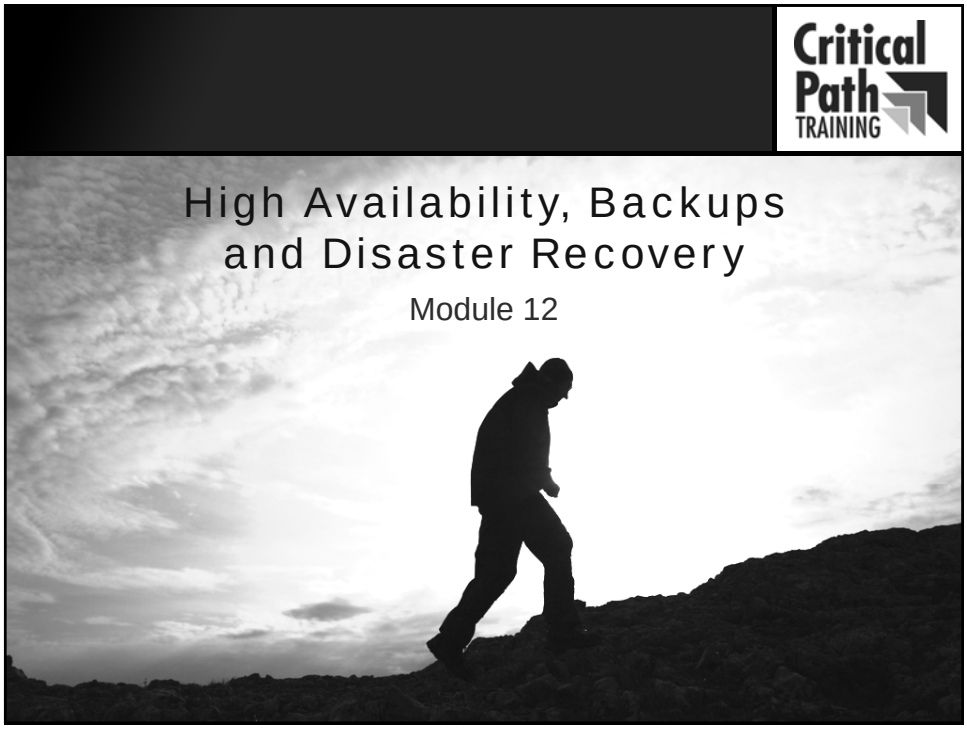
- Done through central admin
- Target should start as blank site template

Content Deployment Process



Demo

- Setup Content Deployment
- Deploy a portal



Agenda

- Protection
  - AV & ISA
- Recoverability
  - Versions, Recycle Bin, MSIT Tool
- High Availability Options
  - NLB, SQL Options
- Backups & Restores
  - STSADM, Central Admin, 3rd party

Protection

- Antivirus for SharePoint
  - All the normal reasons
- How does it work
  - SharePoint has APIs to attach to
  - Control if scan up or down or both
- Plan for some extra CPU overhead

Protection

- Application Firewall in front of SharePoint
- Most popular?
  - ISA Server 2006
- ISA does more than just lock down port
  - Packet inspection
  - Verb checking
  - Link translation
  - Advanced routing based on rules
  - And more
- This one time with ISA I…

Protection

- Thinking about both AV and ISA
- Look at Microsoft ForeFront
  - Suite of tools that combines both
  - Also allows for keyword scanning for compliance
  - Fully integrated

Recoverability

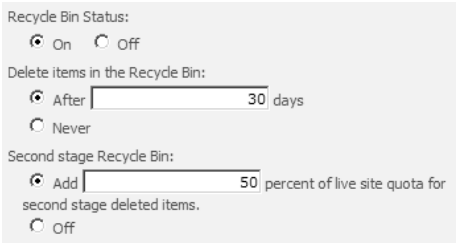
- Easy built in pieces
  - Versions
  - Two stage recycle bin
- Add a free piece
  - Microsoft IT Undelete tool

Versions

- Usually need to be turned on
  - Defined at the Library level
- Watch the added storage
  - Full version kept, not the delta
  - Consider limiting number

Two stage Recycle bin

- Good for Mother Earth and SharePoint
- Protects items and lists
  - Not Sites!
- Stage one
  - User recycle bin
  - View All Site Content
  - Easy to recover
- Stage two
  - Site Collection Administrator access only
  - Does not count against quota



MS IT Site Backup Tool

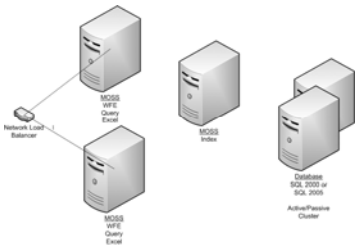
- Free add on
  - www.codeplex.com/governance
- Backups sites or site collections before they are deleted
  - If backup fails does not allow site to be deleted
- Notifies owner of site via email of delete
- A must have add on!

All of those nines

Acceptable uptime percentage	Downtime per day	Downtime per month	Downtime per year
95	72.00 minutes	36 hours	18.26 days
99	14.40 minutes	7 hours	3.65 days
99.9	86.40 seconds	43 minutes	8.77 hours
99.99	8.64 seconds	4 minutes	52.60 minutes
99.999	0.86 seconds	26 seconds	5.26 minutes

High Availability

- Build a high avail farm
- Technologies involved
  - Network Load Balancing
  - SQL failover



Network load balancing

- NLB
- Software or hardware supported
- W2k3 NLB performs well
- Hardware solutions are better (but not free)
- Couple of things to remember
  - Sessions must be persistent/sticky/single affinity
  - Kerberos has challenges with NLB
  - Windows NLB not intelligent

SQL Options

- SQL Snapshots
- SQL Mirroring
- SQL Log Shipping
- SQL Clusters

- Pick your poison

SQL Snapshots

- Takes a moment in time “snapshot” of your data
- Read only replica of the data
- Attach from separate SharePoint Farm
- Recover pieces of data

- KB929649 for details

SQL Mirroring

- Multiple configuration options
- Requires 2 or 3 SQL Servers
- If primary fails SQL can automatically failover
- SharePoint needs help with the move
  - Have to point DB connections to new SQL Server
- Considered warm backup
- Look to MSFT whitepaper for guidance

  http://go.microsoft.com/fwlink/?LinkId=83725&clcid=0x409

Mirror recovery options

- High Performance (Enterprise)
- High Availability (Enterprise)
- High Protection (Standard or Enterprise)

SQL Log Shipping

- Like mirroring except server is cold
- Target server is read only
- Allows multiple target databases
- Performs well over WAN
- Not well documented for SharePoint

SQL Cluster

- Hot backup
- Typical Active/Passive cluster
  - Two SQL Servers (physical)
  - Shared storage (SAN) for Databases
  - Active server goes down Passive picks up
  - Since storage is shared databases are already there
- Negatives
  - Complex
  - Expensive
  - Servers same data center
  - Storage is single point of failure

Backup GUI

- Central Admin > Operation > Backup & Restore
- Backups to UNC path
- Allows whole farm or granular
  - Web apps
  - Content DBs
  - SSP DBs
  - Search DBs
  - Search Index

Backup details

- Backups Config DB
  - Restoring not supported
- GUI has no schedule
- Does not backup
  - Files on file system
  - IIS settings
- Whitepaper help
  - http://technet2.microsoft.com/Office/en-us/library/288fecfb-53fb-4988-89d7-b7888f82bf961033.mspx?mfr=true

Backup Stsadm

- Stsadm.exe –o backup
- Backup site collection
- Backup whole farm
  - -directory

```
For site collection backup:
    stsadm.exe -o backup
        -url <url>
        -filename <filename>
        [-overwrite]

For catastrophic backup:
    stsadm.exe -o backup
        -directory <UNC path>
        -backupmethod <full | differential>
        [-item <created path from tree>]
        [-percentage <integer between 1 and 100>]
        [-backupthreads <integer between 1 and 10>]
        [-showtree]
        [-quiet]
```

- Can script to setup automatic backups
  - Don’t forget cleanup
- Performance intensive
  - Avoid running during usage hours

Other things to backup

- The 12 hive
- Inetpub folder
- C:\windows\assembly – GAC
- Alternate Access Mappings
- Anything you have ever installed on the server
  - Custom features and Web Parts
- All of your settings
  - Write the down. Sadly you can’t restore the config DB so it would be nice to have a reference of the accounts and settings you have used.

SQL Backups

- Use existing procedures
- Allows for content recovery
- Will take extra work to restore
- Can not backup the index
- Don’t bother backing up
  - Admin database
  - Config database
  - Search property database

Other backup gotchas

- Make sure you are at the same patch level
- Doesn’t write to tape so pick the files up in your nightly job
- Permissions needed
  - SQL Service account
  - App pool account
  - Timer service account
  - All need write to backup location
- Can’t backup/restore on same farm unless overwrite
  - No copies (Site GUIDS conflict)

3rd Party Options

- Microsoft Data Protection Manager
- Commvault
- AvePoint DocAve

Restore from backup

- Using Central Admin/Stsadm –directory
  - Rebuild server
  - Patch to same level
  - Configure central admin
  - Create same Web applications (no site collection)
  - Restore backup
  - Reconfigure IIS
  - Reconfigure AAM
  - Redeploy addon's (Features, etc)

SPA401: SharePoint Professional Administration

Student Lab Exercises

Lab 02: Setup and Configuration of SharePoint

Lab 03A: Configuring MOSS and Creating an SSP

Lab 03B: Granting Administrator Access

Lab 04: Creating a Collaboration Portal

Lab 05A: Using and Customizing SharePoint Sites

Lab 05B: Modifying Navigation

Lab 05C: Configuring Out-of-the-box Branding

Lab 06: Reusing, Installing, and Configuring Additional Components

Lab 07: Customizing SharePoint Search

Lab 08: Importing Profiles, Building Audiences and My Sites

Lab 09: Setting up a SharePoint Internet Site

Lab 11: Working with content deployment

Lab 12: Setup the Microsoft IT Site Delete Capture Tool

Revision: v3.0

Lab 02: Setup and Configuration of SharePoint

Lab Overview: In this lab you will be starting with a Windows 2003 Server with SP2. The name of server is LitwareServer.TPG.local. It has been configured with the Active Directory and DNS roles. The server also has SQL Server 2005 with SP2 installed. All Windows updates as of 10/11/2007 have been installed.

The goal of this lab is to successfully install and configure Microsoft Office SharePoint Server 2007 Enterprise Edition. You will need to first install the .NET 3.0 Framework. You will also need to define all of the active directory user accounts necessary, create the appropriate DNS entries for your web applications, and run various commands to configure Kerberos authentication. Once you have successfully prepared your environment you will then install SharePoint and configure the necessary services. Finally you will create a Shared Services Provider. This will have your server ready to create your first portal in the next lab. Lots of work ahead of you so let's start.

Exercise 1: Determine the accounts you will need.

For this lab you will be using the **Least-privilege administration requirements when using domain user accounts** method. For details of the method see the end of the lab. The most important thing to know about this method is you will be using a different account for each service and application pool as you configure MOSS. Below you will find the list of accounts you will need for this lab and a suggested account name followed by a brief explanation of anything special about this account. You will be creating the accounts in AD.

1) Setup Account – **SP_Admin** – This is the account that you will log into the MOSS server to do the install and when you wish to administer the server. This account will need to be a local administrator on the MOSS server and be given the securityadmin and dbcreator roles from within SQL Server.
2) Farm Account – **SP_Farm** – This is the account that your farm will connect to the SQL Server as. It should only be a domain user. When you tell MOSS to use this account it will automatically set the account up as a dbcreator, securityadmin, and db_owner for all SharePoint databases.
3) WSS Search Service – **SP_WSSSearch** – This account is a domain user. SharePoint will automatically assign it read access to the configuration database and the content database for central administration.
4) WSS Search Crawl – **SP_WSSCrawl –** This account is a domain user. SharePoint will automatically grant this account Full read to the farm.
5) MOSS Search – **SP_MossSearch –** This account is a domain user. SharePoint will grant access to read the configuration database and read access to all content databases hosted in the farm. This will become you default content access account for crawling.
6) SSP App Pool – **SP_SSPAppPool** – This account is a domain user. SharePoint automatically gives this account db_owner for the SSP content database, read & write to all content databases associated with its SSP, read access to the configuration database, and read access to the central administration database.
7) SSP Service – **SP_SSPService** – This account is a domain user. Same permissions as the SSP App Pool

8) MY App Pool – **SP_MyAppPool –** This account is a domain user. This account will be used as the identity for the My Sites application pool. It will be granted db_owner to that content database, read access to the config and central administration databases, and read access to the associated SSP database.

9) Portal App Pool – **SP_PortalAppPool –** This account is a domain user. This account will be used as the identity for the portal application pool in the Module 3 lab. It will be granted db_owner to that content database, read access to the config and central administration databases, and read access to the associated SSP database.

Exercise 2: Choosing our Web Application Settings

1) In this portion of the module we need to determine what URLs we will be using for our web applications.

   A) Central Administration – **http://Litwareserver:5555** – This is the site you will use to administer your farm. It will be created during the installation process.

   B) Shared Services Provider – **http://ssp.tpg.local** – This site is used to host the reusable shared services in the farm.

   C) My Site host Web Application – **http://my.tpg.local** – This site will be the host for our users personal sites. A powerful feature of MOSS.

   D) Portal Web Application – **http://portal.tpg.**local – This will be our main site for the users. Our intranet if you will.

2) Log into your server

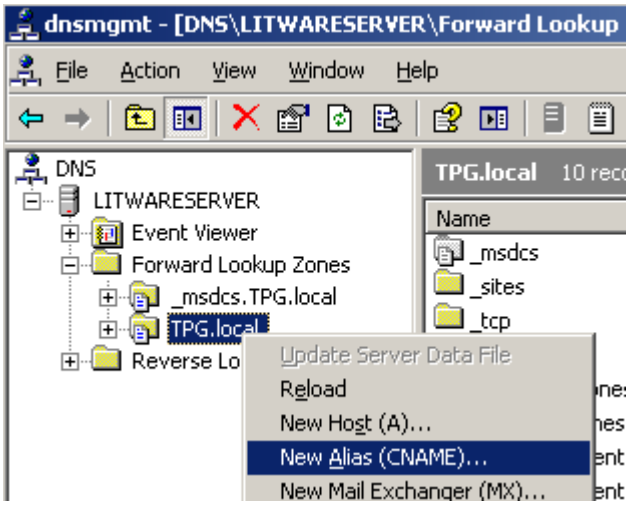
   A) Press the **right ALT** key and **delete** at the login prompt

   B) Username is **Administrator** and the password is **pass@word1**

3) Now we will need to setup these host headers in DNS.

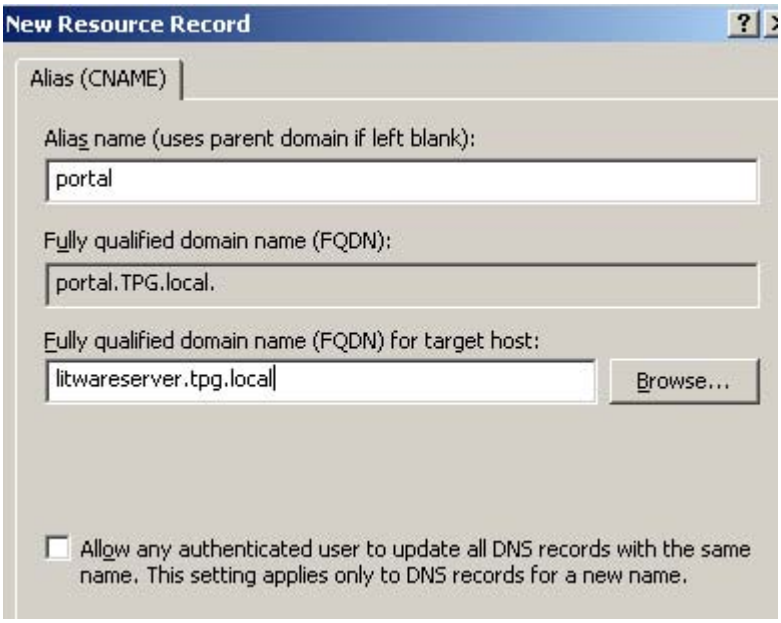
   A) Click Start > Administrative Tools > **DNS**

   B) Expand Litwareserver > Forward Lookup Zones > **TPG.local** then right click on TPG.local and choose **New Alias (CNAME)**



   C) For Alias name enter **Portal**

D) For FQDN enter **litwareserver.tpg.local**



E) Click **OK**

4) Repeat Step 5 for **My** and **SSP** as the alias name. The FQDN should stay the same for all 3.

5) Close **DNS management**

Exercise 3: Creating the necessary service and install accounts.

1) Click Start > Administrative Tools > **Active Directory Users and Computers**

2) Expand TPG.local

3) Click on the **Users** container

4) Click **Create a new user** 

A) First Name: **SharePoint**

B) Last Name: **Setup Account**

C) User logon name: **SP_Admin**

D) Click **Next**

E) Password: **pass@word1**

F) Uncheck **User must change password at next logon**

G) Click **Next**

H) Click **Finish**

5) Repeat step 4 for all of the users. Make their last name describe the account. Use the same password for all accounts.

A) **SP_Farm**

B) **SP_WssSearch**

C) **SP_WssCrawl**

D) **SP_MossSearch**

E) **SP_SspAppPool**

F) **SP_SspService**

G) **SP_MyAppPool**

H) **SP_PortalAppPool**

6) Now give administrator privileges to the SP_Admin account

A) Double click on user **SharePoint Setup Account**

B) Click **Member Of** tab

C) Click **Add**

D) Enter **Domain Admins**

E) Click **OK** and **OK**

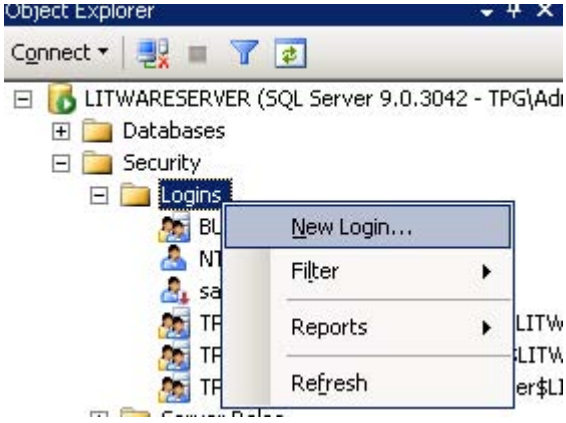
NOTE: Normally this account would NOT be a domain administrator. In our environment our MOSS Server is also a domain controller and domain controllers do not have a local administrators group. So we must make this account a domain administrator.

7) Now give SP_Admin its necessary SQL Roles

A) Click Start > All Programs > Microsoft SQL Server 2005 > **SQL Server Management Studio**

B) At the connect to server screen click **Connect**

C) Expand **Security** and then right click on **Logins** and click **New Login..**



D) For login name enter **TPG\SP_Admin**

E) Click **Server Roles** from the left column

F) Select **dbcreator** and **securityadmin**

G) Click **OK**

H) Close **SQL Management Studio**

NOTE: Technically this account is in the builtin\administrators group because we made it a domain administrator. You went through this step for completeness as normally in a farm install the setup account should not be a built in administrator of the SQL Server.

Exercise 4: Configuring our farm for using Kerberos Authentication.

This is optional in your environment back at the office. Kerberos authentication will allow you to avoid the dreaded double hop problem. (A nice explanation here http://blogs.msdn.com/knowledgecast/archive/2007/01/31/the-double-hop-problem.aspx) If you are going to use Excel Services or the built in RSS feeds/viewer this is almost a requirement. It is also a more efficient authentication process. If you have decided to configure Kerberos it can be a bit tricky so take this portion slow and steady. And of course for the lab you are going to do these steps. **Be very careful about typos.** It will accept any SPN you enter and you will not realize you have errors until later.

1) Using setspn.exe to create the ServicePrincipalNames necessary.
   A) Open a **command prompt**
   B) **Cd** to **c:\program files\resource kit**
   C) Run the command for setting the SPN for the FQDN of the server and the Farm Account
      ```
      setspn.exe –A http/litwareserver.TPG.local tpg\SP_Farm
      ```
   D) Run the command for setting the SPN for the Netbios Name of the server and the Farm Account
      ```
      setspn.exe –A http/litwareserver tpg\SP_Farm
      ```
   E) Run the command for setting the SPN for MY web app and app pool account
      ```
      setspn.exe –A http/my.tpg.local tpg\SP_MyAppPool
      ```
   F) Run the command for setting the SPN for the host name and the MY app pool account
      ```
      setspn.exe –A http/my tpg\SP_MyAppPool
      ```
   G) Run the command for setting the SPN for the Portal web app and app pool account
      ```
      setspn.exe –A http/portal.tpg.local tpg\SP_PortalAppPool
      ```
   H) Run the command for setting the SPN for the host name and the Portal app pool account
      ```
      setspn.exe –A http/portal tpg\SP_PortalAppPool
      ```
   I) Run the command for setting the SPN for the SSP web app and app pool account
      ```
      setspn.exe –A http/ssp.tpg.local tpg\SP_SspAppPool
      ```
   J) Run the command for setting the SPN for the host name and the SSP app pool account
      ```
      setspn.exe –A http/ssp tpg\SP_SspAppPool
      ```
   K) Close the command prompt by typing **exit**
2) Now return to AD Users and Computers and define which accounts are trusted for delegation. In a real environment you would need to run the following steps on the following items.
   I) All SharePoint Servers
   II) SQL Server
   III) SP_Farm
   IV) SP_MyAppPool
   V) SP_SspAppPool
   VI) SP_PortalAppPool
   A) Find **SP_Farm**, right click and choose **properties**
   B) Click the **Delegation** tab
   C) Select **Trust this user/computer for delegation to any service (Kerberos)**
   D) Click **OK**

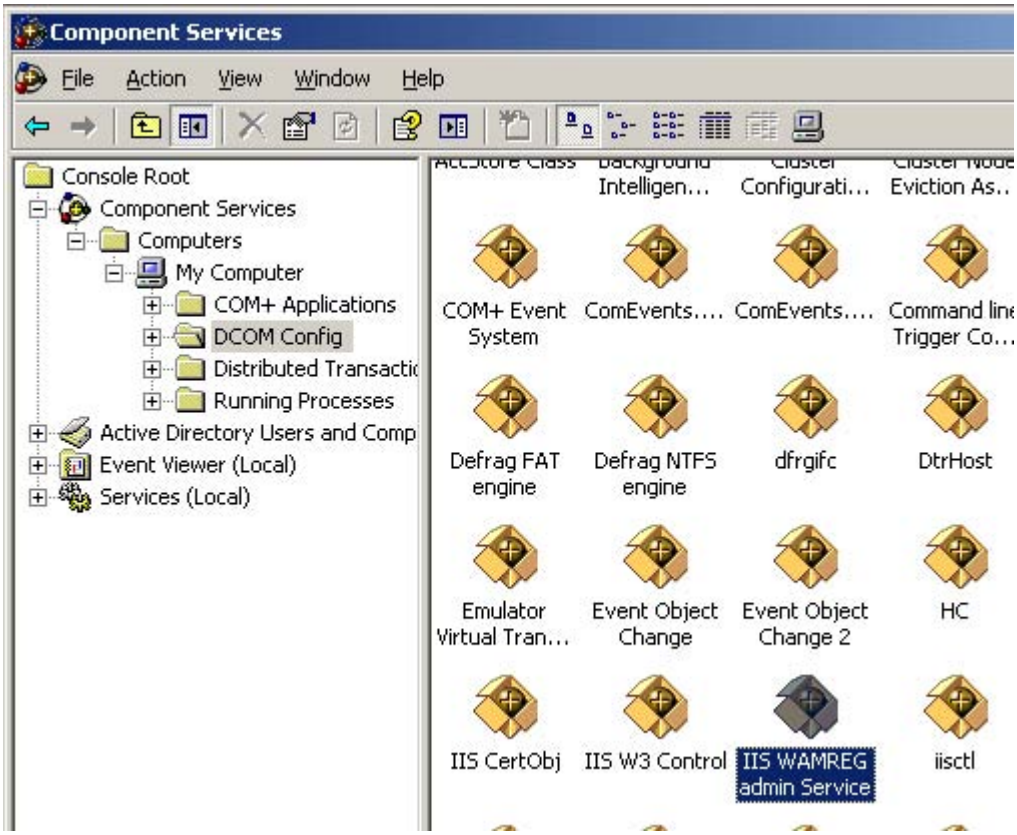
E) Repeat A-D for all of above accounts(III – VI).

F) Close **Active Directory Users and Computers**

3) Make some changes to Component Services

A) Click Start > Administrative Tools > **Component Services**

B) Drill down to component services > computers > my computer > DCOM Config > **IIS WAMREG admin Service**



C) Right click **IIS WAMREG admin Service** then click **properties**

D) Click the **Security** tab

E) **Launch and activation permissions** > click **edit**

F) Click **Add**

G) Add **sp_farm; SP_SspAppPool; SP_MyAppPool; SP_PortalAppPool**

H) Click **OK**

I) Set **Local Launch and Local Activation** to all for all **4 accounts**

J) Click **OK** twice

K) Close **Component Services**

This saves you from an annoying DCOM error message in the event log later on.

Exercise 5: Install .NET Framework 3.0

1) Switch to the SP_Admin user
   A) Click Start > **Log Off**
   B) Click **Log Off**
   C) Press **right ALT** and **Delete**
   D) Change the username to **SP_Admin**
   E) Use the password **pass@word1**
2) Navigate to **c:_Student Files\Module 2**
3) Run **dotnetfx3.exe**
4) Click **Run**
5) Read the EULA and then check **I have read and ACCEPT the terms..** and click **Install**
6) Click the **icon in the tray** so you can watch the progress (usually takes 4 minutes)
7) Click **Exit** when the install completes

Exercise 6: Slipstreaming Service Pack 1

Microsoft has released SP1 for SharePoint as of December 2007. This means that for fresh installs going forward you have two options. Either you can do the RTM install and then after completing installation run the service pack separately or you can update the install files to include SP1. In this exercise you will update the install files using the slipstream method.

If you would like more information on how to install SP1 please check out Shane Young's blog.
http://msmvps.com/blogs/shane/archive/2007/12/14/how-to-install-wss-and-moss-sp1.aspx

1) Open a **command prompt**
2) Change directories to the location of the patches
   A) Type the command below and press **enter**

```
cd "C:\_student files\service packs"
```

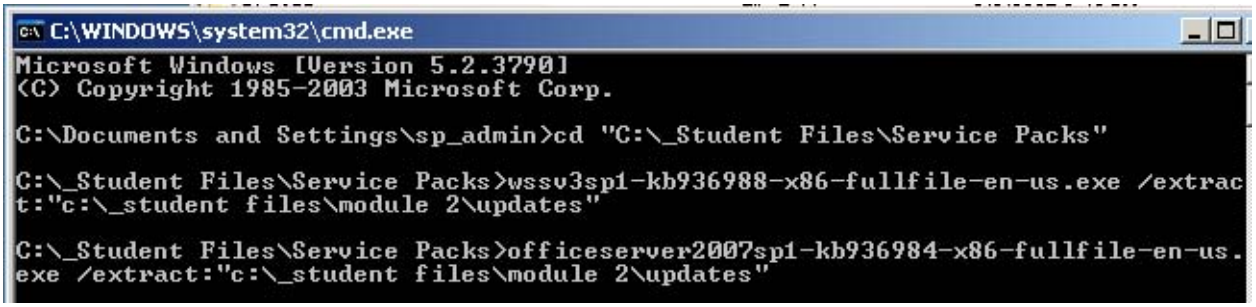
3) Extract WSS SP1
   A) Type the command below and press **enter**

```
Wssv3sp1-kb936988-x86-fullfile-en-us.exe /extract:"C:\_Student files\module
2\updates"
```

   B) Read the EULA, check **Click here to accept…**, and click **Continue**
4) Extract MOSS SP1
   A) Type the command below and press **enter**

```
OfficeServer2007sp1-kb936984-x86-fullfile-en-us.exe /extract:"C:\_Student
files\module 2\updates"
```

   B) Read the EULA, check **Click here to accept…**, and click **Continue**



Exercise 7: Install MOSS 2007 Enterprise Trial Edition

Finally. After all of this prep work it is finally time to get your hands dirty and install MOSS.

1) Navigate to **c:_Student Files\Module 2**
2) Run **setup.exe**
3) Enter the trial key **F2JBW-4PDJC-HKXTJ-YCKRP-T2J9D** (This is a 180 day trial key)
4) Click **Continue**
5) Read the EULA, check **I Accept**, and click **Continue**
6) Choose **Advanced** (Common Mistake is choosing Basic here)
7) Choose **Complete** (Common Mistake is choosing stand-alone)
8) Choose **Install Now** (5 Minutes or so)
9) Click **Close**
10) Configuration Wizard should automatically open, at the welcome screen click **Next**
11) At the popup click **Yes**
12) Click **No, I want to create a new server farm**
13) Click **Next**
14) Specify Configuration Database Settings
    A) Database server: **LitwareServer**
    B) Database name: **SharePoint_Config** (default)
    C) Username: **tpg\SP_Farm**
    D) Password: **pass@word1**
    E) Click **Next**
15) Configure SharePoint Central Administration Web Application
    A) Specify port number: **5555**
    B) Choose **Negotiate (Kerberos)**
    C) Click **Next**
16) Click **Yes** at the warning
17) Confirm your settings and click **Next** (6 minutes)

18) At Configuration Successful click **Finish**

End of Lab

Least-privilege administration requirements when using domain user accounts

From:

http://technet2.microsoft.com/Office/en-us/library/f07768d4-ca37-447a-a056-1a67d93ef5401033.mspx?mfr=true

Server farm-level accounts

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
SQL Server service account	Use either a Local System account or a domain user account. If a domain user account is used, this account uses Kerberos authentication by default, which requires additional configuration in your network environment. If SQL Server uses a service principal name (SPN) that is not valid (that is, that does not exist in the Active Directory directory service environment), Kerberos authentication fails, and then NTLM is used. If SQL Server uses an SPN that is valid but is not assigned to the appropriate container in Active Directory, authentication fails, resulting in a "Cannot generate SSPI context" error message. Authentication will always try to use the first SPN it finds, so ensure that there are no SPNs assigned to inappropriate containers in Active Directory. If you plan to back up to or restore from an external resource, permissions to the external resource must be granted to the appropriate account. If you use a domain user account for the SQL Server service account, grant permissions to that domain user account. However, if you use the Network Service or the Local System account, grant permissions to the external resource to the machine account (*domain_name\SQL_hostname$*).	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.

Setup user account	• Domain user account.
	• Member of the Administrators group on each server on which Setup is run.
	• SQL Server login on the computer running SQL Server.
	• Member of the following SQL Server security roles:
	  • **securityadmin** fixed server role
	  • **dbcreator** fixed server role
	If you run Stsadm commands that affect a database, this account must be a member of the **db_owner** fixed database role for the database.
		Server farm standard requirements with the following additions or exceptions:
		• Use a separate domain user account.
		• This account should NOT be a member of the Administrators group on the computer running SQL Server.

Server farm account	• Domain user account. • If the server farm is a child farm with Web applications that consume shared services from a parent farm, this account must be a member of the **db_owner** fixed database role on the configuration database of the parent farm. Additional permissions are automatically granted for this account on Web servers and application servers that are joined to a server farm. This account is automatically added as a SQL Server login on the computer running	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account. • NOT a member of the Administrators group on any

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
	SQL Server and added to the following SQL Server security roles: • **dbcreator** fixed server role • **securityadmin** fixed server role • **db_owner** fixed database role for all databases in the server farm.	server in the server farm, including the computer running SQL Server. • This account does not require permissions to SQL Server before creating the configuration database.

SSP accounts

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
SSP application pool account	No manual configuration is necessary. The following are automatically configured: • Membership in the **db_owner** role for the SSP content database. • Access to read from and write to the SSP content database. • Access to read from and write to content databases for Web applications that are associated with the SSP. • Access to read from the configuration database. • Access to read from the Central Administration content database. • Additional permissions to front-end Web servers and application servers are automatically granted.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account. • For security isolation, use a separate service account for each SSP.
SSP service account	• Use a domain user account. • No manual configuration is necessary. The same permissions as the SSP application pool account are automatically granted. • This account should not be a member of the Administrators group on any computer in the server farm.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.
Office SharePoint Server Search Service account	• Must be a domain user account. • Must not be a member of the Farm Administrators group. The following are automatically configured: • Access to read from the configuration database	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.
Default content access account	• Must be a domain user account. • Must not be a member of the Farm Administrators group. • Read access to external or secure content sources that you	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
	want to crawl by using this account. • For sites that are not a part of the server farm, this account must explicitly be granted Full Read permissions on the Web applications that host the sites. The following are automatically configured: • Full Read permissions are automatically granted to content databases hosted by the server farm.	• By default, in a server farm environment, the Office SharePoint Server Search service account is used until a different account is specified. After completing Setup and running the configuration wizard, change this account to a domain user account. • Do not grant the default content access account access to the directory service. For added security, use a different default content access account for each SSP.
Content access account	• Read access to external or secure content sources that this account is configured to access. • For Web sites that are not a part of the server farm, this account must explicitly be granted Full Read permissions on the Web applications that host the sites.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.
Profile import default access account	• Read access to the directory service. • If Enable Server Side Incremental is selected for an Active Directory connection and the environment is Windows 2000 Server, the account must have the Replicate Changes permission in Active Directory. This permission is not required for Windows Server 2003 Active Directory environments. • Manage User Profiles personalization services permission. • View permissions on entities used in Business Data Catalog import connections.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account. • This account can be the same account as the default content access account, or you can use a separate account. • Read access to the directory service. • Manage User Profiles personalization services permission. • This account should not be a member of the Administrators group on any computer in the server farm.
Excel Services unattended service account	Must be a domain user account.	Must be a domain user account.

Windows SharePoint Services Search accounts

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
Windows SharePoint Services Search service account	• Must be a domain user account. • Must not be a member of the Farm Administrators group. The following are automatically configured: • Access to read from the configuration database and	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
	the SharePoint_Admin Content database. • Membership in the **db_owner** role for the Windows SharePoint Services Search database.	
Windows SharePoint Services Search content access account	• Same requirements as the Windows SharePoint Services Search service account. The following are automatically configured: • Added to the Web application Full Read policy for the farm.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account.

Additional application pool identity accounts

Account	Server farm standard requirements	Least-privilege using domain user accounts requirements
Application pool identity	No manual configuration is necessary. The following are automatically configured: • Membership in the **db_owner** role for content databases and search databases associated with the Web application. • Access to read from the configuration and the SharePoint_AdminContent databases. • Access to read from and write to the associated SSP database. • Additional permissions for this account to front-end Web servers and application servers are automatically granted.	Server farm standard requirements with the following additions or exceptions: • Use a separate domain user account for each application pool. • This account should not be a member of the Administrators group on any computer in the server farm.

Lab 03A: Configuring MOSS and Creating an SSP

Lab Overview: Now that you have installed MOSS it is time to introduce you to Central Administration. After a little configuration you will then be ready to create your first SSP. With these two steps complete your farm is ready for business.

Exercise 1: Configuring MOSS

Now that configuration wizard is complete SharePoint Central Administration (central admin) should have automatically opened. Now there are a handful of steps you need to do. First things first, you need to configure the services on the server and define the email server.

1) Click the **Operations** tab

2) Under Topology and Services click **Services on server**

3) Look at the table of services. Click **Start** to the right of **Excel Calculation Services**. After a couple of seconds of processing it will bring you back to the same screen but now you should see Started next to Excel Calculation Services.

4) Click **Start** to the right of **Office SharePoint Server Search.**

   A) You are taken to the Configure Office SharePoint Server Search Service Settings on server litwareserver screen. Review the first section.

   B) Now before you continue consider what happens here. If you were building a farm these settings are important. If you wanted this server to be your index server then you would check the top box. Doing this will refresh the page and give you new configurations options. If you wanted this server to provide only search results then you would select the second box. This would then give you different options. For this environment you will **check both boxes** since this is a single server install.

   C) Configure the rest of the page as below.

   I) *Email = **admin@tpg.local***

   II) *Username = **tpg\SP_MossSearch***

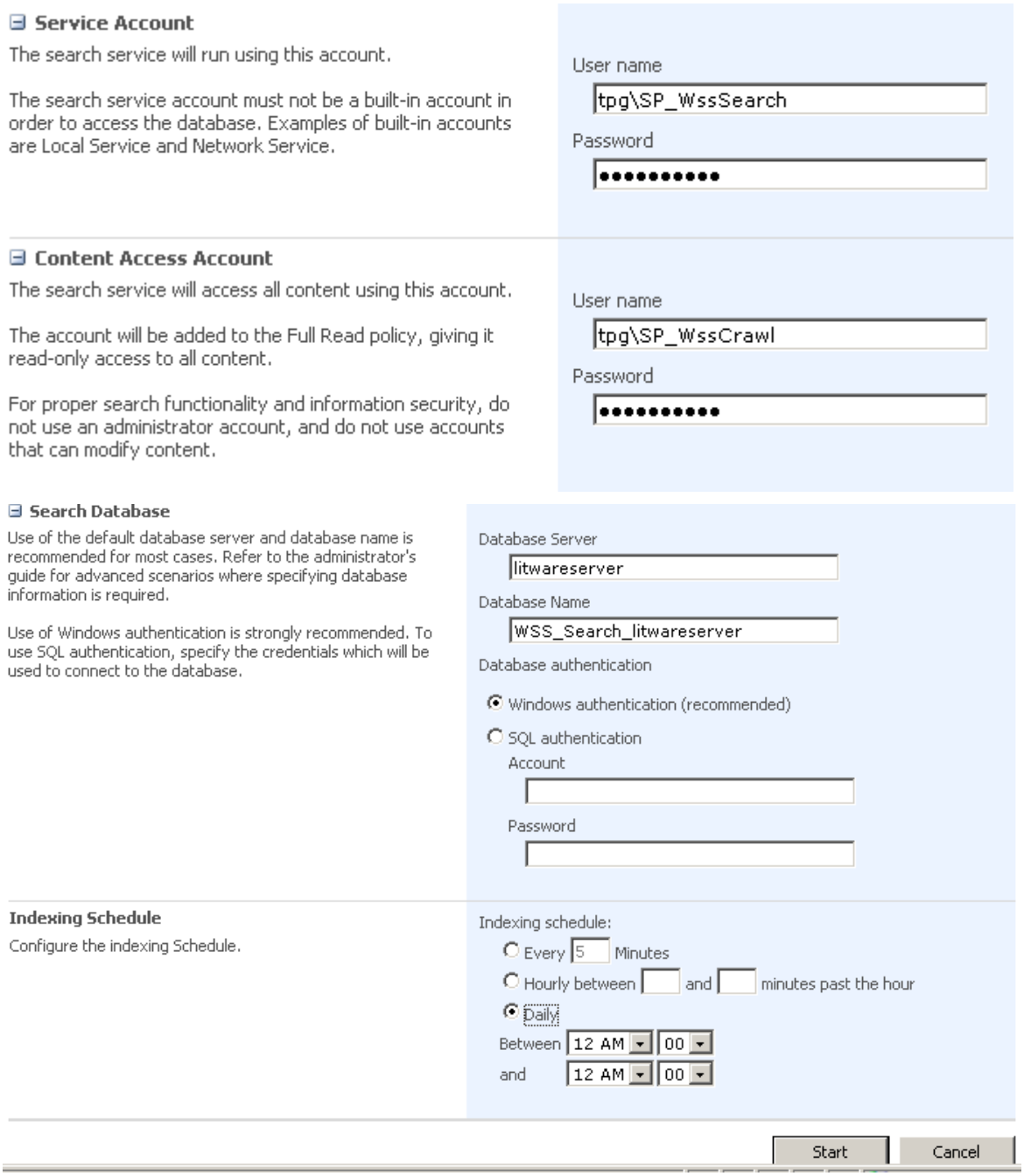
   III) *Password = **pass@word1***

   IV) *Take all other **defaults***

D) Click **Start**

5) You should be returned to the service on server page if you were successful. Click **Start** to the right of **Windows SharePoint Services Search**.

A) Fill out the screen as below. Password is always **pass@word1** and make sure to choose **Daily** in the last section.



B) Click **Start**

You are brought back to the Services screen again.

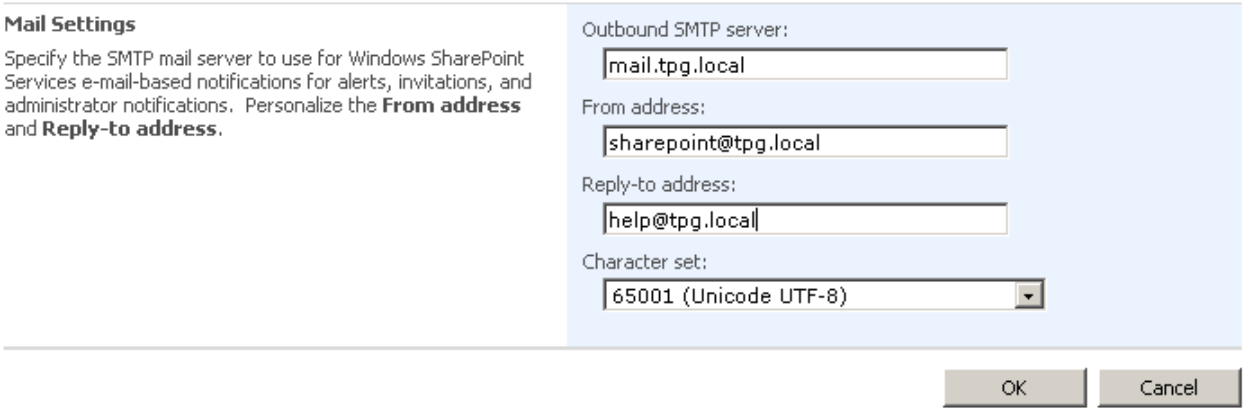
The Document conversions services were not started. They are not required and should only be started if you plan to implement the smart client authoring feature. More details on what the feature does is available here http://blogs.msdn.com/ecm/archive/2006/06/13/629525.aspx

6) Now you need to setup the outgoing email server

   A) Click the **Operations** tab

   B) Under Topology and Services click **Outgoing e-mail settings**

   C) Make the settings below



   D) Click **Ok**

   E) This step was done only for completeness. Outgoing email does not work on your virtual server.

Exercise 2: Creating a Shared Services Provider

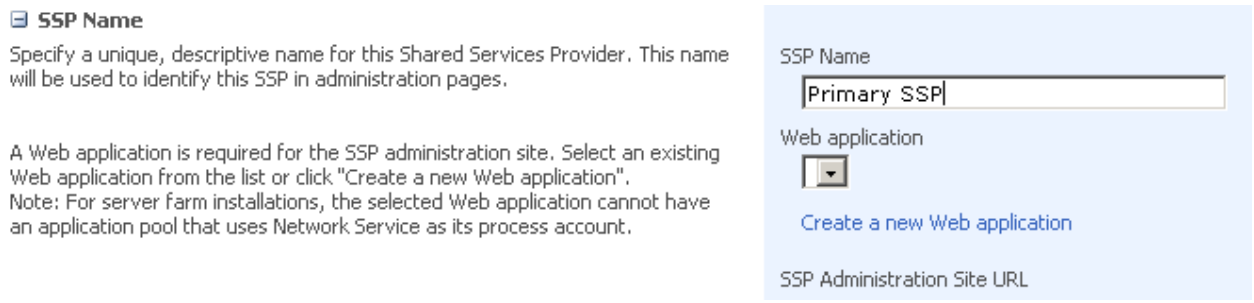
The next step is creating your first SSP. It will become your default SSP. To create the SSP you will need to create a web application to host the SSP and another web application that will host My Sites.

1) From the left hand column of the page (called the quick launch bar) click **Shared Services Administration**

2) Click **New SSP**

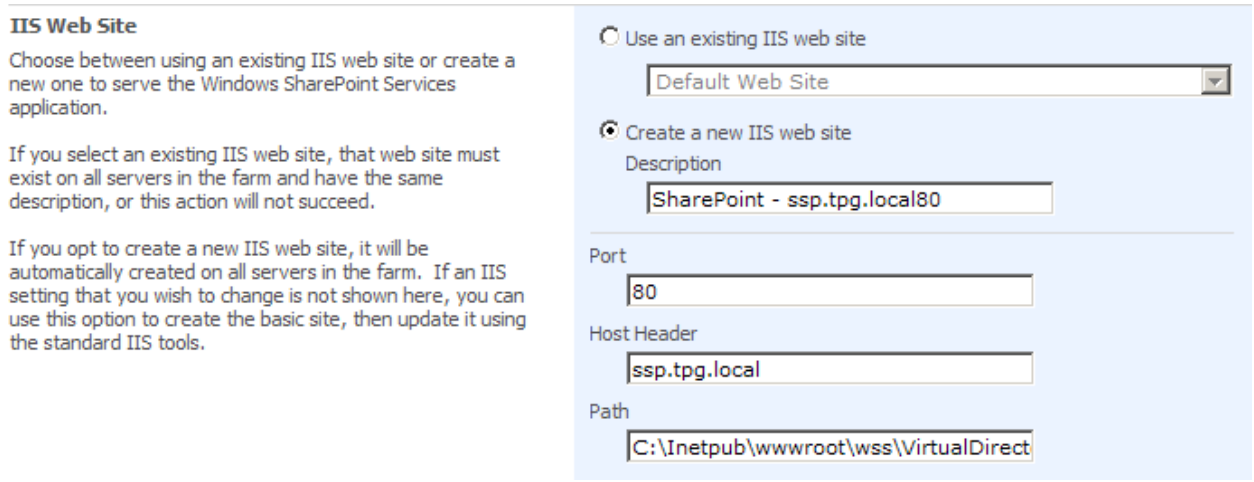
3) Set the SSP Name to **Primary SSP**

4) Click **Create a new Web application** from the SSP Name section.



5) Now you will be creating your first Web application, which is just a site in IIS. So instead of opening IIS Admin you can let SharePoint do all of the work by filling out this page.

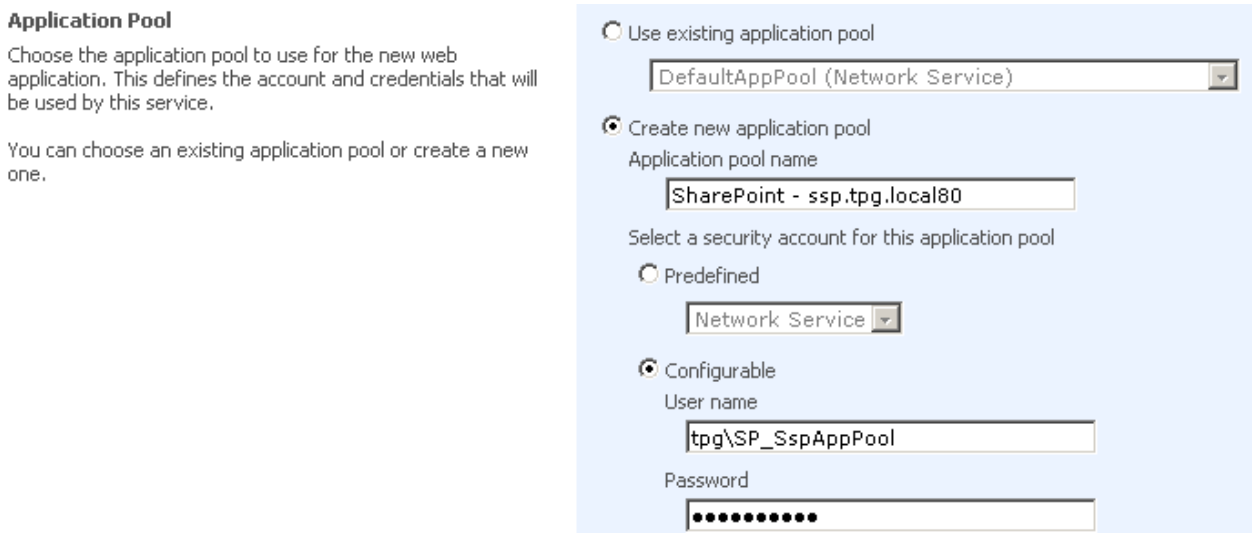
A) Update the IIS Web Site Section as below



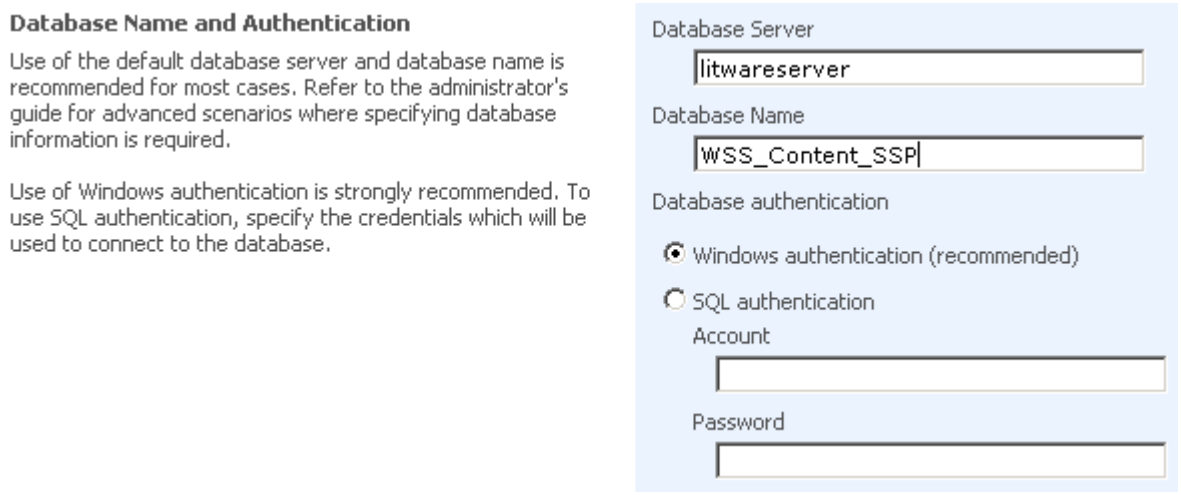
Here you are making an important deployment decision. There are two options here. You can either run the SSP on port 80 (Web default) with a host header to make it easy to access later by navigating to http://ssp.tpg.local/ssp/admin. Or you can just specify an uncommon port like 7777 and not use a host header. Then you would access the site by going to http://litwareserver:7777/ssp/admin . Either works fine and it is just your preference. Remember if you decide to use a host header it will need to be defined in DNS. For the lab use the host header method as pictured above.

B) The only change under Security Configuration necessary is choosing **Negotiate (Kerberos)**

C) Accept the defaults until you get to Application Pool. Now make the changes below. Password is always **pass@word1**



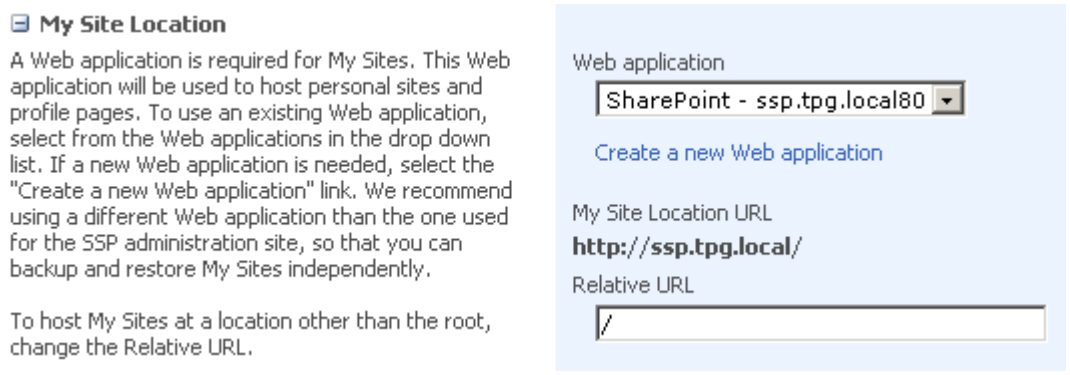
D) Under Database Name change it from WSS_Content to **WSS_Content_SSP** this makes it easier to identify in SQL Manager.



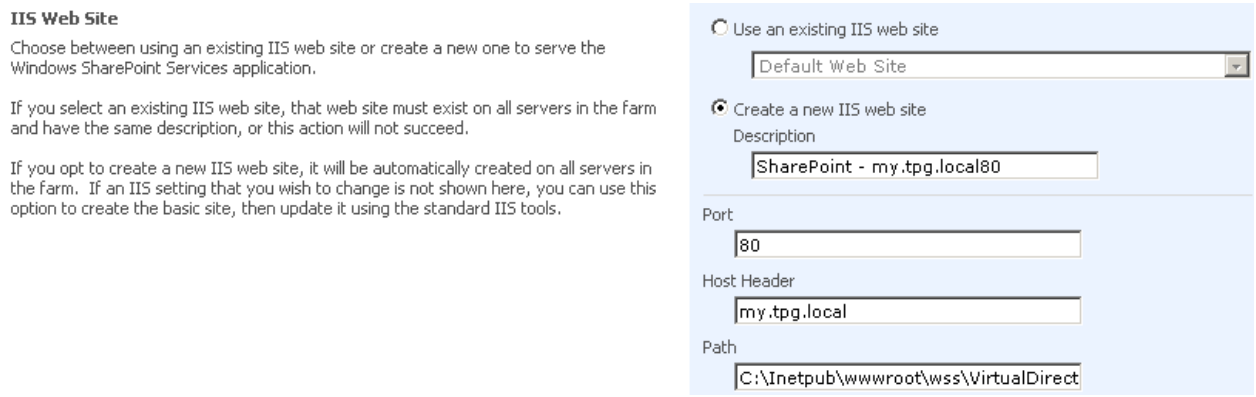
E) Click **OK** and **OK** at the Kerberos popup warning.

6) You are now returned to the New Shared Services Provider page. You will see lots of warning in red. You can ignore them for now. You have more work to do.

7) Scroll down to the My Site Location section and click **Create a new Web application**



A) Make the changes below



Once again you have came to a place to make a choice. You can a) choice to host My Sites on the same web application as the SSP b) you can create a new web application and host My Sites in their own environment or c) you can host My Sites on the same web application as you host your portal.

If you choose option a) you will get a warning that Microsoft recommends against this practice. For one reason you cannot backup or restore my sites and the SSP independently using the built in tools. This can make recovery a pain and is generally just not a good idea.

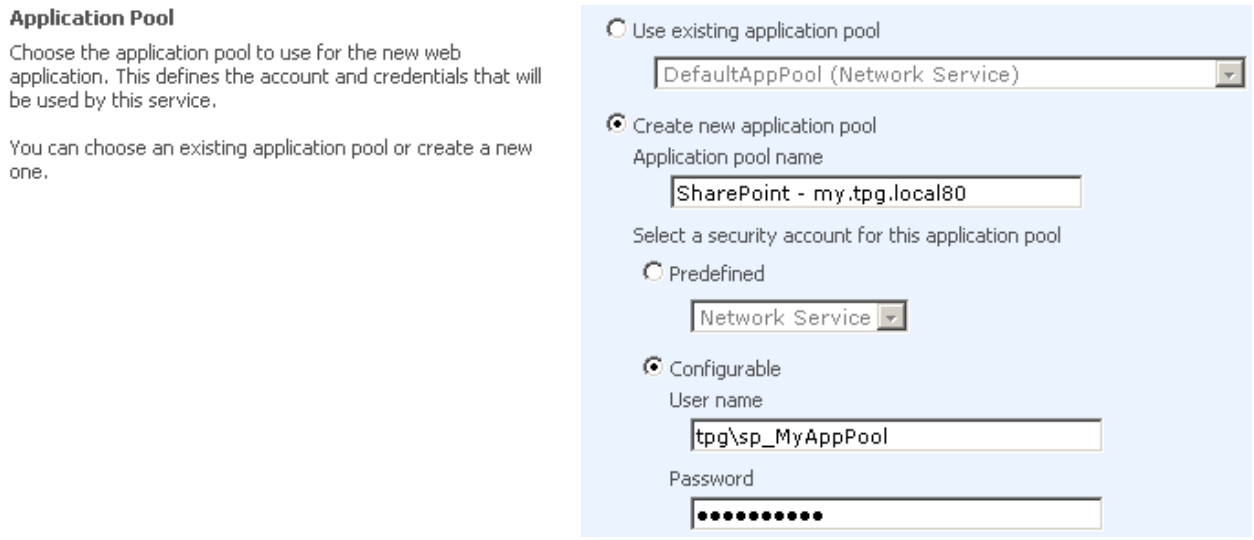
If you choose option b) this is considered the best practice according to Microsoft. Being an independent web app gives you the most flexibility for recoverability. But this approach can cause unnecessary headaches. If you are using HTTPS you will need a separate certificate for my.tpg.local and portal.tpg.local. If you are behind a proxy (like ISA Server) you will need two separate publishing rules. Also, if your users browsers are not set to automatically logon to SharePoint they will enter username/password to access portal.tpg.local. Then when they click the link to their My Site they will be prompted again.

If you choose option c) and host them at http://portal.tpg.local/mysites this seems to be the easiest approach for your users. And if you are using a 3rd party backup tool then you don't have to worry about the ability to easily recover a specific site.

For the lab we use option b as in the screen shot.

B) The only change under Security Configuration necessary is choosing **Negotiate (Kerberos)**

C) Accept the defaults until you get to Application Pool. Now make the changes below. Password is always **pass@word1**



D) Under Database Name change it from WSS_Content to **WSS_Content_MY** this makes it easier to identify in SQL Manager.

E) Click **OK** and **OK** at the Kerberos popup warning.

8) You are now returned to the New Shared Services Provider page. You will see lots of warning in red. You can ignore them for now. You still have more work to do.

9) For SSP Service Credentials enter **TPG\SP_SspService** and **pass@word1**

10) For SSP Database change SharedServices1_DB to **Primary_SSP_DB**

11) For Search Database change SharedServices1_Search_DB to **Primary_SSP_Search_DB**

12) Take the rest of the defaults and click **OK** (3 minutes)

13) If a Success! Screen comes back this lab is done. Click **OK** and close any extra windows you may still have open.

End of Lab

Lab 03B: Granting Administrator Access

Lab Overview: Time to give away the keys to the kingdom. In this lab you will learn how to make someone a farm administrator and what rights that gives them. Then you will grant access to the SSP and the different options available there, including how to disable My Sites in your farm.

Exercise 1: Granting farm administrator access

1) Open up **Central Administration**
2) Click the **Operations Tab**
3) Under Security Configuration click **Update farm administrator's group**
4) Click **New > Add Users**
5) For username enter **TPG\Bob**
6) Deselect **Send welcome e-mail to the new users**
7) Click **OK**
8) Now Bob Farmer has Farm Admin access log in as him and see what options he has available.
   A) In the top right corner click on **Welcome SharePoint Setup Account**
   B) Click **sign in as Different User**
   C) Username **tpg\bob**
   D) Password **pass@word1**
   E) Click **OK**

   If you start clicking around you will see Bob has access to Central Admin now. But because he is not a local administrator on the server he does not have access to:

   - Operations > Services on Server
   - Operations > Incoming e-mail settings
   - Applications > Create or extend Web application
   - STSADM.exe
9) Still logged in as Bob click on **Primary SSP** on the quick launch bar.
10) Enter **tpg\bob** and **pass@word1** and click **OK**
11) Error: Access Denied – This is because SharePoint does a good job of security isolation.

Exercise 2: Grant access to the SSP

Because Bob is a farm admin he could give himself access to the SSP but that isn't what we want. Instead log back in as SP_Admin and take a look at how to grant access to the SSP.

1) Log in as SP_Admin
   A) Click **Sign in as a different user**

B) Username **tpg\sp_admin**

C) Password **pass@word1**

D) Click **OK**

2) Add Bob to the SSP Site Collection as a viewer

A) Click Site Actions > **Site Settings**

B) Under Users and Permissions click **People and groups**

C) Click **New**

D) For users/groups: enter **tpg\bob**

E) Deselect **Send Welcome email** and click **OK**

F) Click **Shared Services Administration: Primary SSP** in the breadcrumb to return to the home page.

Now Bob can log into the SSP and manage search settings, the Excel Service Settings (if you have Enterprise edition), and can view the various links list. But there is still a lot of stuff Bob cannot do. What is even stranger? Bob can now give himself the additional permissions he wants

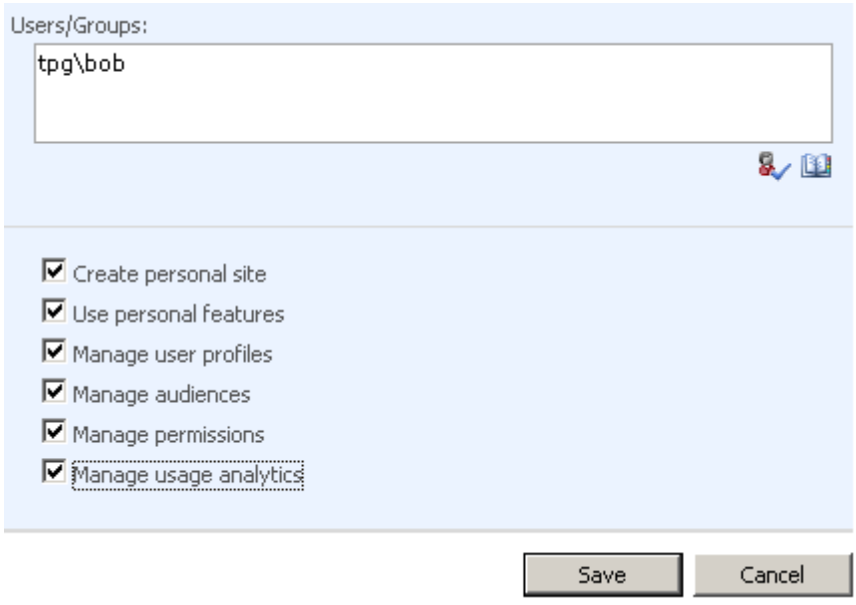
3) Give Bob more permissions

A) Under User Profiles and My Sites click **Personalization services permissions**

B) Click **Add Users/Groups**

C) For Users/Groups: enter **tpg\bob**

D) **Select all of the boxes** and click **Save**



4) What are all of these different permissions? Glad you asked.

A) **Create personal site** gives the user the capability to create and use a My Site. Going deep here will have to be saved for another day but if you want to make that My Site link disappear take away this right from the users. But you didn't give it to them. Why do they have it? Go back to the manage permission screen. All authenticated users were given this right by default.

B) **Use personal features** is another topic for another day. Essentially though this provides the My Links functionality and allows users to manage their Colleagues.

C) **Manage user profiles** this allows your user to do just that. Get in there and modify the profiles for this SSP. Give them this right and now they can access the links: User profiles and properties, Profile services policies, and My Site Settings.

D) **Manage audiences** you guessed it but now you can click that handy little Audiences link. Once you are there you can set the schedule or define the rules for building those global audiences.

E) **Manage permissions** this will let that user modify Personalization services permissions (the stuff we are doing right now).

F) **Manage usage analytics** this gives the user access to make changes to Usage reporting. Small bug here but if the user doesn't have this right they can still open up the screen. Then if they make a change and hit ok they get a 403 forbidden error.

So now if you have given the user all of those permissions they should be a happy camper? Depends. If you have MOSS Enterprise (which in the lab you do) then one more thing to do.

5) Giving Bob control of the BDC.

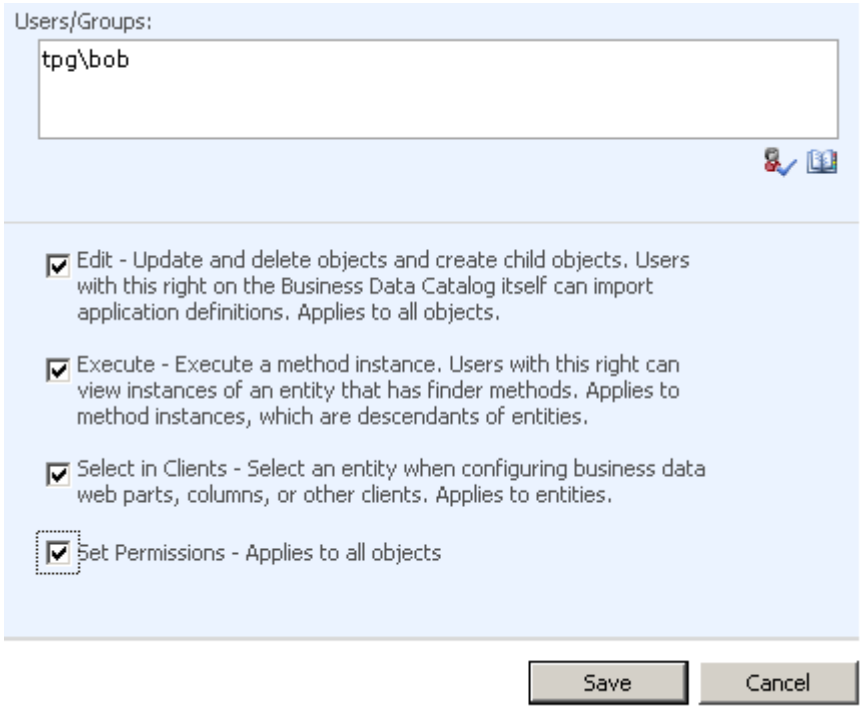
A) Click **Shared Services Administration: Primary SSP** from the breadcrumb

B) Under Business Data Catalog click **Business Data Catalog permissions**

C) Click **Add Users/Groups**

D) Enter **tpg\bob**

E) **Select all permissions** and click **Save**



Now Bob can do everything in the SSP.

Exercise 3: Disable My Sites for all users

My Sites are personal sites that users are automatically created the first time a user click the My Site link at the top of the page. They are a great tool for expanding social networks internally, allowing users to easily share information, and for allowing them to have a private SharePoint site. My Sites are very powerful and with power comes risk. For most corporations they should not be implemented without a carefully thought out strategy. By default they are enable. When you first setup a farm if you have not planned for My Sites the recommendation is to disable them until you are ready.

1) Disable My Sites for all authenticated users

   A) Return to the home page of the SSP by clicking **Primary SSP** in the breadcrumb.

   B) Under User Profiles and My Sites click **Personalization services permissions**

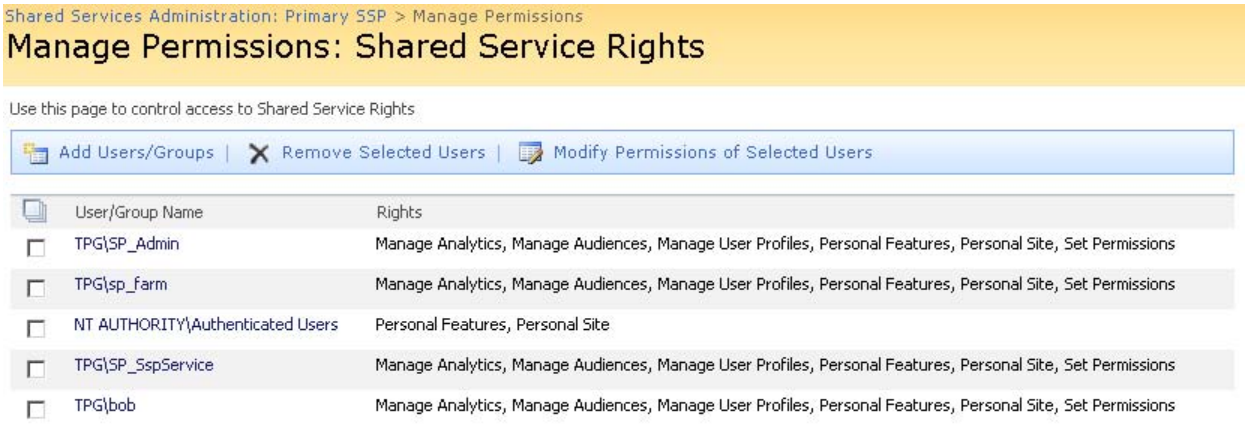
   C) Under User/Group Name click on **NT Authority\Authenticated Users**

   D) Deselect **Create personal site** and click **Save**

   Now you will notice that Bob and SP_Admin still have My Site links. That is because you have given them that right individually. You could simple remove it for them if you wanted to make sure they didn't use My Sites. You can leave the permission for now. In Module 8 you will learn more about My Sites and then re-enable them.

Pop Quiz Time

Take a look at the screen shot below. Can you explain why each account was automatically assigned permissions to the SSP?



End of Lab

Lab 04: Creating a Collaboration Portal

Lab Overview: In this lab you will create the web application portal.tpg.local. Then you will create the root site collection using the collaboration portal template. This will simulate what many companies do to start building their intranet.

Exercise 1: Creating the portal.tpg.local web application

1) Open Central Administration by clicking **Start > All Programs > Microsoft Office Server > SharePoint 3.0 Central Administration**
2) Click the **Application Management** tab
3) Under SharePoint Web Application Management click **Create or extend Web application**
4) Click **Create a new Web application**
5) Change the port to **80**
6) Enter **portal.tpg.local** for the host header
7) Change the authentication provider to **Negotiate (Kerberos)**
8) Under Create a new application pool select **Configurable**
9) For user name enter **tpg\SP_PortalAppPool**
10) For password enter **pass@word1**
11) Change Database Name to **WSS_Content_Portal**
12) Click **OK** twice

Exercise 2: Creating the Collaboration Portal site collection

1) When the Application Created screen appears click the blue link **Create Site Collection** in the middle of the page.
2) For Title enter **The TPG Portal**
3) Click the **Publishing Tab**
4) Choose **Collaboration Portal**
5) Enter **TPG\SP_Admin** for the Primary Site Collection Administrator
6) Click **OK**

Exercise 3: Setting Up Security

1) Open the new portal by clicking the **http://portal.tpg.local** link on the center of the page.
2) Username enter **tpg\sp_admin**
3) Password is **pass@word1**
4) Click **OK**

This now brings you to The TPG Portal. Take a moment to look around. Notice that it comes with several preconfigured sites and some sample data. This information is just to help get your thought processes started. When you go to build your actual environment you will delete most of the template information.

5) From the home page of the portal click the Site Actions > Site Settings > **Modify All Site Settings**

6) From the Users and Permissions section click **People and Groups**

   If you were to click through the groups you would see that only SP_Admin has any permissions right now. This is because you made that account the Site Collection Owner/Administrator.

7) Make Owen Owner a member of the The TPG Portal Owners

   A) Click New > **Add Users**

   B) For User/Groups enter **TPG\Owen**

   C) For Give Permission select Add users to a SharePoint group and choose **The TPG Portal Owners [Full Control]** group

   D) Deselect **Send welcome e-mail**

   E) Click **OK**

8) Now Owen has full control of this site but not necessarily of the site collection. Login as Owen and compare the options available to him compared to SP_Admin.

   A) Click **Welcome SharePoint Setup Account**

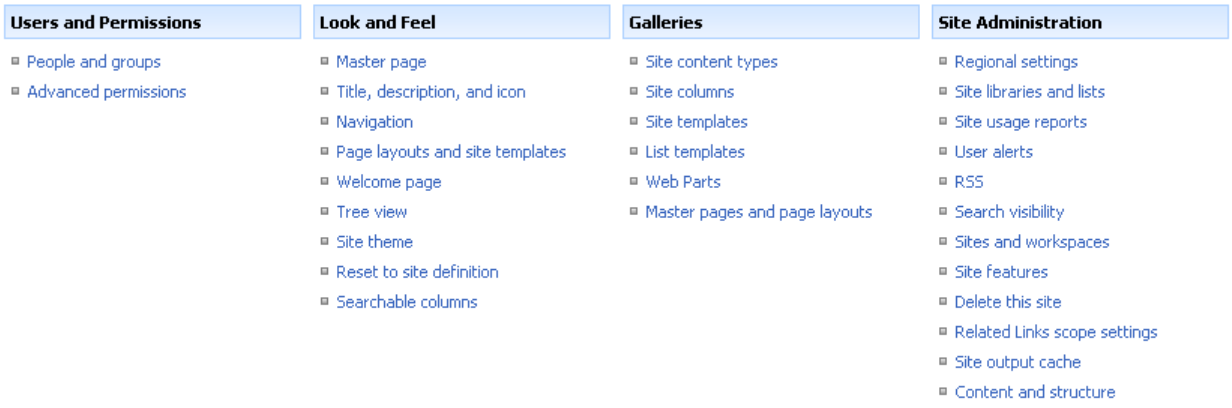
   B) Click **Sign in as Different User**

   C) Username is **tpg\Owen**

   D) Password is **pass@word1**

   E) Click **OK**

   F) Click Site Actions > Site Settings > **Modify All Site Settings**



   Compared to SP_Admin

Notice that SP_Admin has an extra column called Site Collection Administration. These are settings that affect the entire Site Collection not just the current site. Owen was set only to have Full Control of the current site The TPG Portal.

9) Everyone who will see the Site Collection Administration options are members of the Site Collection Administrators group. To view this group you will need to log back in as SP_Admin.

   A) Click **Welcome Owen Owner**

   B) Click **Sign in as Different User**

   C) Username is **tpg\sp_admin**

   D) Password is **pass@word1**

   E) Click **OK**

   F) Click Site Actions > Site Settings > **Modify All Site Settings**

10) Under users and permissions click **Site collection administrators**

11) From this screen you can see that only SharePoint Setup Account is in the group. Enter **tpg\alan** to make Alan Admin a member also and click **OK**.

12) Add Mary Member as a member of the The TPG Portal Members group using the browse functionality

   A) Under Users and Permissions click **People and Groups**

   B) Click New > **Add Users**

   C) Click the **browse icon** below Users/Groups:

   D) In the Find box enter **Ma** and click the **magnifying glass**

   E) Select **Mary Member** and click **Add ->**

   F) Click **OK**

G) For Give Permission select Add users to a SharePoint group and choose **The TPG Portal Members [Contribute]** group

H) Deselect **Send welcome e-mail**

I) Click **OK**

13) Add Domain Users to the The TPG Portal Visitors group

A) Click New > **Add Users**

B) For User/Groups enter **TPG\Domain Users**

C) For Give Permission select Add users to a SharePoint group and choose **The TPG Portal Visitors [Read]** group

D) Deselect **Send welcome e-mail**

E) Click **OK**

Exercise 4: Testing Security Trimming

Security trimming is a beautiful thing. The goal is to never show a user a link to things they cannot access.

1) Click **The TPG Portal** link to be taken to the home page of the portal

2) Login as Ricky Read and see what his experience is like

A) Click **Welcome SharePoint Setup Account**

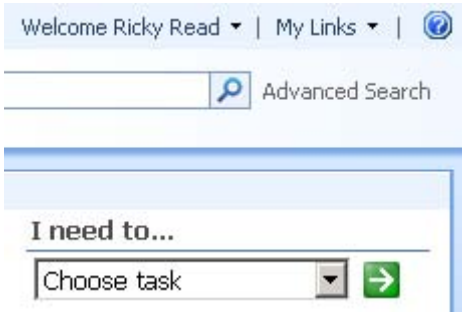
B) Click **Sign in as Different User**

C) Enter **tpg\Ricky**

D) Password **pass@word1**

E) Click **OK**

F) Notice on right side of the screen the Site Actions menu is not present.



G) Ricky has only read access to the portal because he is a member of domain users.

3) Login as Mary Member and see what her experience is like

A) Click **Welcome Ricky Read**

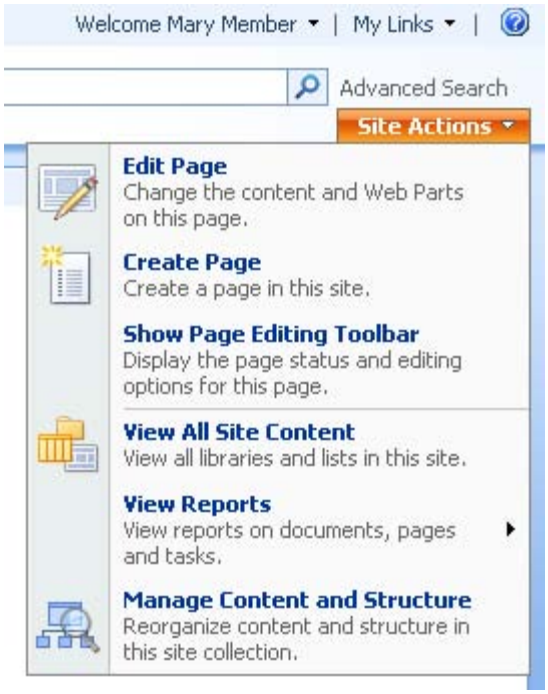
B) Click **Sign in as Different User**

C) Enter **tpg\Mary**

D) Password **pass@word1**

E) Click **OK**

F) Click **Site Actions** and review her options



G) Notice Mary has some page options. This is because she is in the Members group that has the contribute permission level.

4) Login as Owen Owner and see what his experience is like

A) Click **Welcome Mary Member**

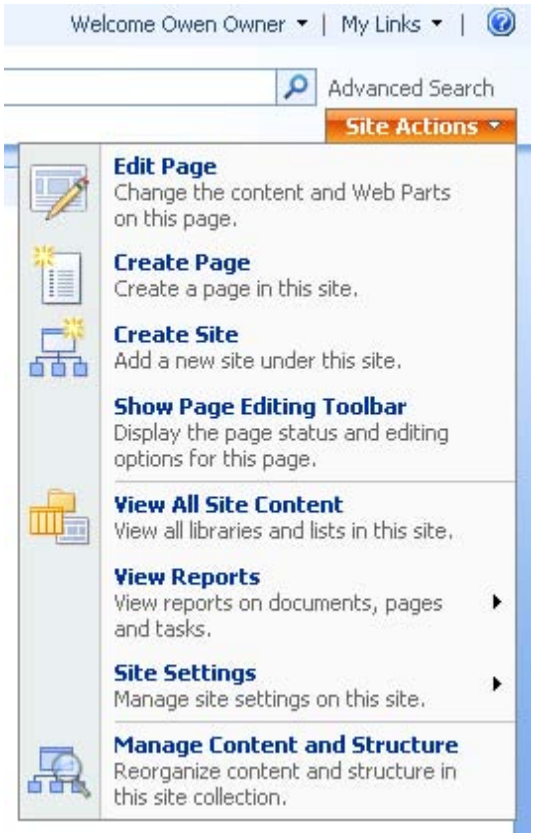
B) Click **Sign in as Different User**

C) Enter **tpg\Owen**

D) Password **pass@word1**

E) Click **OK**

F) Click **Site Actions** and review his options.



G) These options are available because Owen is a member of the Owners group which has Full Control.

Exercise 5: Looking at Security Inheritance

Now if you were to take one of your new users and click around the portal you would notice they have the same access in all of the sub sites throughout the portal. This is because all of the sub sites are setup to inherit permissions. So what permissions you assign to a user at the Portal level will propagate down. This makes for an easy to manage portal. But sometimes you don't want this. Try setting up unique permissions on an existing site.

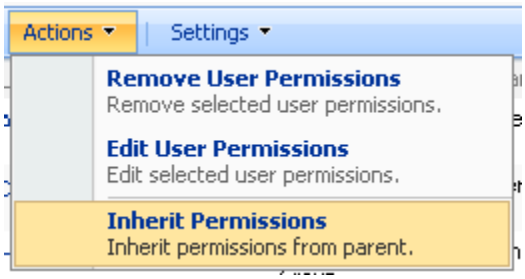
1) Still logged in as Owen click the **Document Center** tab
2) Click Site Actions > **Site Settings**
3) Under Users and Permissions click **People and groups**
4) Everything is the same as the top level portal. Click **Site Permissions** in the quick launch.
5) Notice now there are no check boxes beside the groups or accounts. Click **Actions**

You have two options. Either manage the permissions of the site it is inheriting from or edit permissions. If you choose edit permissions it will copy the existing permissions and break the inheritance.

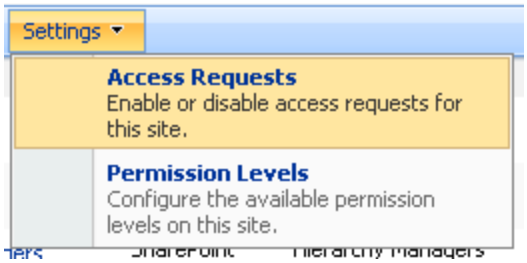
6) Click Actions > **Edit Permissions**

7) Click **OK** at the warning

8) Click that **Actions** menu now. Notice your choices have changed.



9) There is also now a Settings menu. Click **Settings** and see your other options.



10) Remove access to the Document Center for the Visitors group

A) Select the box next to the **The TPG Portal Visitors** group

B) Click Actions > **Remove User Permissions**

C) Click **OK** at the warning message

11) Set the Members group to only have read access to the Document Center.

A) Click **The TPG Portal Members** group from the list of permissions

B) In the Choose Permissions section deselect **Contribute** and select the link to **Read**

C) Click **OK**

12) Go back to the home page of the portal by click **The TPG Portal** tab

13) Login in as **Ricky Read**. If you need help use exercise 4 step 2 above to login as Ricky Read.

A) Notice he no longer see's the document center in the global navigation (The tabs across the top of the page).

B) If he enters http://portal.tpg.local/docs in the address bar of the browser he gets Error: Access Denied

14) Go back to **the home page** of the portal

15) Login in as **Mary Member**. If you need help use exercise 4 step 3 above to login as Mary.

A) Click on the link to the **Document Center**

B) Notice that she does not have a Site Actions menu. This is because she can now only read the site.

Exercise 6: Permission Levels

1) Login as Alan Admin

A) Click **Welcome Mary Member**

B) Click **Sign in as Different User**

C) User name: **tpg\Alan**

D) Password: **pass@word1**

E) Click **OK**

2) Click **The TPG Portal** tab to return to the home page

3) Click Site Actions > Site Settings > **Modify All Site Settings**

4) Under Users and Permissions click **Advanced Permissions**

5) Click Settings > **Permission Levels**

6) Click the **Contribute Permission**

This is the permission level the The TPG Portal Members use. After you review these permissions you have decided that you do not want that group to be able to delete items by default. Now from this screen you could modify the Contribute Permission level to meet your needs. But that is not the best practice. You will always run that risk that an upgrade or service pack may reset the permission level back to the default. A better solution is to create a new permission level.

7) Scroll to the bottom of the page and click **Copy Permission Level**

8) Now you have a replica of contribute. Set the name to **TPG Contribute.**

9) Set the description to **The same as contribute except no delete permission.**

10) Deselect **Delete Item**

11) Click **Create**

12) Now assign the Members group this permission level

A) Click **Permissions** from the breadcrumb

B) Click **The TPG Portal Members** group from the list

C) Deselect **Contribute**

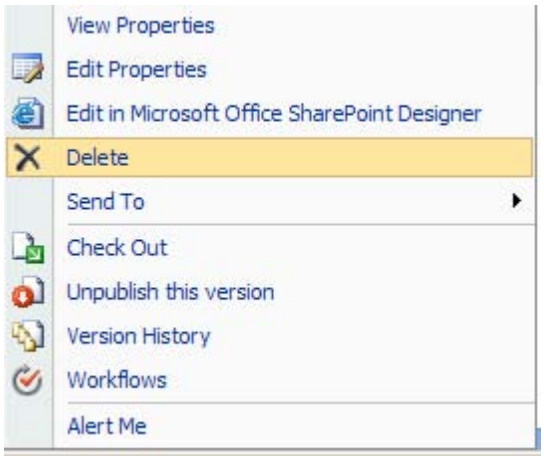
D) Select **TPG Contribute**

E) Click **OK**

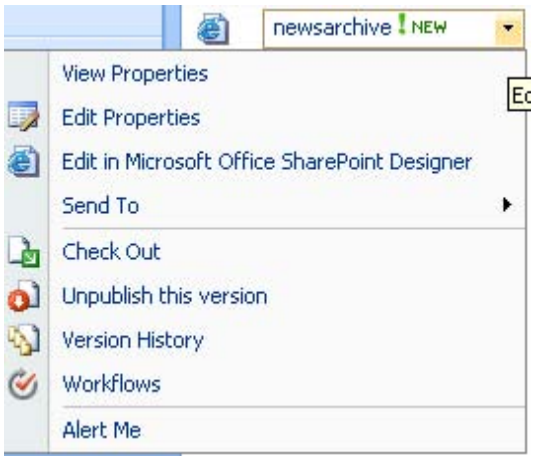
Notice you could give a group multiple permission levels if that was a need.

Now if you were to go into a list or library and click the drop down menu you would notice Delete is missing.

Contributor Permission



TPG Contributor Permission



Screen shots from the Pages Library in the News site.

Exercise 7: Creating Sub Sites

Now that you have setup security it is time to grow out your portal a little. In this section you are going to create a departments site and then several departments below it. One of those sites the HR site you are going to grow out that site tree also.

1) Still logged in as Alan navigate back to the **home page** of the portal.
2) Create the Departments Site
   A) Click Site Actions > **Create Site**
   B) Title = **Departments**
   C) URL = **departments**
   D) Click the **Publishing** tab
   E) Choose **Publishing Site**
   F) Accept the other **defaults** and click **Create**
3) When the site is created you are taken to the home page of the Departments site. Click the **Publish button**.
4) Create the HR, IT, Sales, and Accounting sub sites.
   A) Click Site Actions > **Create Site**
   B) Title = **HR**
   C) URL = **hr**
   D) Click the **Publishing** tab
   E) Choose **Publishing Site**
   F) Accept the other **defaults** and click **Create**
   G) Click **Publish**

H) Navigate back to **Departments**

I) Now repeat this step for **IT**, **Sales**, and **Accounting**

5) Create the HR Work Site

A) Hover over **Departments** and click **HR**

B) Click Site Actions > **Create Site**

C) Title = **HR Work Site**

D) Description = **Site for the HR team to work together privately.**

E) URL = **hrwork**

F) Choose **Team Site**

G) Select **Use unique permissions**

H) Click **Create**

6) Set the unique permissions for the HR Work Site

A) For Visitors to this Site select **Create a new group**

B) Take the **default name** and leave the users field **blank**

C) For Members of this Site add **TPG\HR Users**

D) For Owners of this Site take the **default**

E) Click **OK**

7) Check out unique permissions

A) Click Site Actions > **Site Settings**

B) Click **People and groups**

C) Click **Site Permissions**

D) You should see three groups only. Notice that The TPG Portal groups don't have any permissions. So that means Owen Owner who has so many permissions up in TPG portal has no access at all to this site. But SP_Admin who you did not give any permissions to this site can still access it with full control. Because he is a Site Collection Administrator all sites created in this Site Collection he has complete control of the collection.

Exercise 8: Creating a New Site Collection

As you just discovered there are some potential security headaches with Site Collections. The HR team has requested a private site where they can work on confidential documents without having to worry about SharePoint Administrators "accidently" accessing the site. To do this you will create a HR Site Collection. Using Managed paths you will place the site at http://portal.tpg.local/sites/hr. The /sites/ is a container called a managed path.

1) Open Central Admin by clicking Start > All Programs > Microsoft Office Server > **SharePoint 3.0 Central Administration**

2) Click the **Application Management** tab

3) Under SharePoint Site Management click **Create Site Collection**

4) Make sure your Web Application says **http://portal.tpg.local**

5) Title = **HR Team**

6) Description = **A secure place for HR to work**

7) URL = **http://portal.tpg.local/sites/hr**

8) Choose the **Team Site** template

9) Primary Site Collection Administrator = **tpg\betsy**

10) Click **OK**

11) At the Successfully Created message click the link to **http://portal.tpg.local/sites/hr**

12) When it tries to automatically log you in as Alan you will get access denied. You can try to login as any of the admin accounts sp_farm, sp_admin, Owen, etc. None of them have access to the site only Betsy.

13) Login as Betsy

   A) Click **Sign in as a different user**

   B) Username **tpg\betsy**

   C) Password **pass@word1**

   D) Click **OK**

14) Now you could build out an environment where the HR people can work without worry of other site collection administrators seeing their site. You could also assign this site collection a quota or put it in its own database.

Exercise 9: Creating Your Own Managed Path

Some companies place a great deal of emphasis on proper URLs. To them using the default container sites is unacceptable. Try creating a managed path for project sites called projects. Then create a basic meeting site as the root site collection. When you create the projects managed path it will be a wildcard inclusion. Like sites it will allow you to create multiple site collections. Example /projects/project1 and /projects/project2

The other type of type of managed paths are explicit inclusions. These are managed paths you can only use for one site. These are powerful because you can create a URL of http://portal.tpg.local/blogs and have a site collection at this URL instead of a sub-site of the portal site collection.

Finally, in this lab you will examine how Site Collection quotas work.

1) Open **Central Admin**

2) Create your managed paths

   A) Navigate to the **Application Management** tab

   B) Under SharePoint Web Application Management click **Define managed paths**

   C) Make sure you are in the proper Web Application **http://portal.tpg.local**

   D) For Path: enter **/projects**

E) Click **OK**

F) The page reloads and you will see Projects in the Included Paths

G) For Path: enter **/blogs**

H) Change type to **Explicit inclusion**

I) Click **OK**

3) Click the **Application Management** tab

4) Create a Project site collection

A) Click **Create Site Collection**

B) Title = **Windows Server 2008**

C) URL change the drop down from blogs to **projects**

D) URL = **http://portal.tpg.local/projects/win2k8**

E) Click the **Meetings** tab

F) Choose the **Basic Meeting Workspace**

G) Primary Site Collection Administrator = **tpg\alan**

H) Click **OK**

5) You probably noticed in the quota section at the bottom of the screen that you choose no quota. Take a look at quota management.

A) Click the **Application Management** tab

B) Under SharePoint Site Management click **Site Collection quotas and locks**

C) Click Site Collection > **Change Site Collection**

D) Click **/projects/win2k8**

E) Click **OK**

F) Select **Individual quota**

G) Check **Limit site storage** and set it to **200** MB

H) Check **Send warning e-mail** and set it to **175** MB

I) Click **OK**

Now if the site collection reaches 175 MB in size Alan (the primary site collection owner) will receive an email warning him. If he ignores the warning and lets the site get to 200 MB then they will no longer be able to add data.

6) Create a quota template

A) Under SharePoint Site Management click **Quota Templates**

B) Click **Create a new quota template**

C) Start from **[new blank template]**

D) New template name = **Blog site quota**

E) Limit site = **500**

F) Send warning = **450**

G) Click **OK**

7) Create the blog site collection

A) Under SharePoint Site Management click **Create site collection**

B) Title = **Company Blog**

C) URL = **http://portal.tpg.local/blogs**

D) Choose the **Blog template**

E) Primary Site Collection Administrator = **tpg\alan**

F) Select a quota template = **Blog Site quota**

G) Click **OK**

Exercise 10: Giving Admin Access to the Entire Web Application

After all of your efforts creating multiple site collections to separate security and lock out the other administrator from things like the HR site you have upset Bob. Bob Farmer is the owner of SharePoint and a control freak. He needs full access to all SharePoint sites all of the time. Luckily instead of going and adding him all over the place to security you can give him full control of the entire Web Application with a couple simple steps.

1) Navigate to **Central Admin**

2) Go to the **Application Management** tab

3) Under Application Security click **Policy for Web application**

4) Make sure the web application says **http://portal.tpg.local**

5) Click **Add Users**

6) Click **Next**

7) For users enter **tpg\bob**

8) Select **Full Control**

9) You could select Account operates as System. Then every time Bob makes a change to the site it will reflect as System instead of as Bob Farmer. You do not want to select this for the lab.

10) Click **Finish** – Now Bob is happy.

Exercise 11: A Quick Peek at Excel Services

While you were clicking around the portal you may have noticed that you got Access Denied from the Sample Dashboard under the Reports site. This is because Excel Services needs a security change before it can render Excel Workbooks even from within the portal.

1) Check out the Access Denied error

A) Open the **portal** logged in as **Alan**

B) Click the **Reports** tab

C) From the Quick Launch bar on the left click **Sample**

Once the page loads you will see Access Denied – You do not have permissions to open this file on Excel Services.

2) To correct this error you need to navigate back to the SSP

   A) Open **Central Administration**

   B) Click **Primary SSP**

   C) User name **tpg\sp_admin**

   D) Password **pass@word1**

   E) Click **OK**

3) Setting up the Trusted File Locations in Excel Services

   A) Under Excel Services Settings click **Trusted File Locations**

   B) This is the list of location Excel Services trust. Only files located in these location can be displayed and calculated by Excel Services. As you might notice the list is empty. For now you will set the entire portal to be trusted.

   C) Click **Add Trusted File Location**

   D) Address = **http://portal.tpg.local**

   E) Click **Trust Children**

   F) Take the other **defaults** and click **OK**

   You could specify only a certain document library or file share as trusted if you wanted.

4) Now return to the sample dashboard window and refresh the page. Now you can get a quick peek at some of the power of Excel Services.

   End of lab – Now would be a good time to reboot your virtual machine.

Lab 05A: Using and Customizing SharePoint Sites

Lab Overview: In this lab you will get some hands on experience with some of the standard, out of the box functionality of SharePoint. Not a lot of SharePoint administration going on here but still good things to know, how to work with the actual sites.

Exercise 1: Adding a Web Part to the page

1) Login to the **portal** as **Alan Admin**
2) Navigate to the HR Work Site
   A) Hover over **Departments**
   B) Click **HR**
   C) From the quick launch bar click **HR Work Site**
3) Click Site Actions > **Edit Page**
4) Add a Web Part for viewing list contents to the page
   A) In the **Left** Zone click **Add a Web Part**
   B) Check the box beside **Shared Documents**
   C) Click **Add**

   This has placed the Shared Documents Web Part at the top of the Left hand Column. This web part provides you a view of the list Shared Documents. Any time you create a new list you will automatically get this Web Part created for viewing the list. This is the same as the Announcements, Calendar, and Links Web Parts already present on the page.
5) Review the options available to all Web Parts
   A) Click **Edit** from the Shared Documents title bar
   B) From the drop down list choose **Modify Shared Web Part**

   Take a moment to notice the different option you have for modifying mostly how a Web Part displays.

   I) Changing the size

   II) Modifying the Chrome (border/title bar)

   III) Determine how users can interact with the Web Part (Minimize, Close, Hide)

   IV) Targeting (Only displaying for certain users/group/audiences)

   C) At the top of the web part zone you will see settings unique to the Web Part. For the list view web part you can control the view and the toolbar.

   D) Click **Cancel**
6) Add a functional web part to the page
   A) Click **Add a Web Part** from the **Left** zone

B) Scroll down the list, under the Miscellaneous section select the box beside **Content Editor Web Part**

C) Click **Add**

7) From the Web Part click **open the tool pane**

8) This Web Part allows you to enter Text to display on the page using a Rich Text Editor.

A) Click **Rich Text Editor…**

B) Add some text and try out some of the formatting options. You could insert a picture or hyperlink, add a table, and do most basic text formatting options. Once you are finished click **OK**.

C) Click **OK** to close the tool pane.

9) This Web Part also allows you to directly enter HTML code (including <Scripts>) using the Source Editor

A) Click **Edit** from the toolbar

B) Click **Modify Shared Web Part**

C) Click the **Source Editor…**

D) It will show you the HTML that was generated previously by the Rich Text Editor. **Delete all of the text and tags.**

E) Insert the following code

```
<script>alert("Changing title to red")</script>
<style>
.ms-sitetitle a
{
Color:red;
}
</style>
```

F) Click **Save**

G) As the page reloads you will get a popup message click **OK**

H) Now notice the title HR Work Site is red. Very powerful little tool.

10) Once you are done playing with the content editor web part delete it from the page.

A) Click **Edit** from the toolbar

B) Click **Delete**

C) Click **OK** at the warning

Exercise 2: Adding documents to a document library.

1) Upload a single document

A) From the home page of the HR Work Site click **Shared Documents**

B) Click **Upload**

C) Browse to **c:_Student Files\Module 5**

D) Select **Document 1.docx**

E) Click **Open**

F) Click **OK**

2) Navigate back to the home of the HR Work Site by clicking the breadcrumb

   You can see now that your document is automatically displayed in the Shared Documents Web Part you added earlier.

3) Upload a document using the Web Part

   A) Right below Document 1 click the link **Add new document**

   B) Browse to **c:_Student Files\Module 5**

   C) Select **Document 2.docx**

   D) Click **Open**

   E) Click **OK**

   Now you are returned to the home page where you see both documents displayed. You just used the shortcut Add new document to add the document instead of navigating back to the list.

4) Add a column of metadata

   A) Click **Shared Documents**

   B) Click Settings > **Document Library Settings**

   C) These are all of the settings that are unique to this list. Scroll down the page and under Columns click **Create column**

   D) Column name = **Even or Odd**

   E) Type of column = **Choice (menu to choose from)**

   F) Require that this column contains information = **Yes**

   G) Choices = **Even Odd**

   H) Clear out the **Default value**

   I) Click **OK**

5) Upload another document

   A) Click **Shared Documents** from the bread crumb

   B) Click **Upload**

   C) Browse to **c:_Student Files\Module 5**

   D) Select **Document 3.docx**

   E) Click **Open**

   F) Click **OK**

   G) This time you are prompted for the required information Even or Odd. Select **Odd** and click **Check In.**

6) Notice now in the Document Library there is a new column that contains your entered metadata. Also, notice that Document 1 and 2 are blank. You need to add their metadata.

   A) Hover over **document 1**

B) Click the dropdown and select **Edit properties**

C) Set Even or Odd to **Odd**

D) Click **OK**

E) Repeat for **Document 2** setting it to **even**

Exercise 3: Creating a view

Now you will create a custom view. Views are used to display only the items and the metadata that you want. They are very flexible and powerful.

1) Click Settings > **Document Library Settings**
2) Scroll to the bottom of the page and click **Create view**
3) Choose the **Standard View**
4) View Name = **Odd Documents**
5) Scroll down to Filter and select **Show items only when the following is true:**
6) Show the item when column **Even or Odd**
7) **Is equal to**
8) **Odd**
9) Take a moment to notice the other options you have available when creating views
10) Click **OK**

    Now you will see that you are only displaying the documents marked Odd.

11) To change the view back you can click View: and select All Documents. (To the right of Settings)

    Keep in mind all of these settings are universal across all list. What is a list? Just about everything in SharePoint. Examples: Document Libraries, Page Libraries, Calendars, Announcements, Discussion Boards, and even Surveys.

Exercise 4: Create a custom list

Custom list allow you to create your own list. Think of every time you have ever created an Access database or Excel Spreadsheet just to track or collect some basic information. You can now do that in a custom SharePoint list and use all of the power of SharePoint. In this example you will create a custom list for tracking spending in the HR department.

1) Click Site Actions > **Create**
2) From the Custom Lists column choose **Custom List**
3) Name = **Budget Tracking**
4) Click **Create**

    This will create you a new blank list with only the Title column. You will need to grow out the list.

5) You cannot delete the Title column from a custom list, so you must rename it to make it work for your scenario.

A) Click Settings > **List Settings**

B) Under Columns click **Title**

C) Change the Column name from Title to **Purchased Item**

D) Click **OK**

6) Create a Date Purchased column

A) Under Columns click **Create column**

B) Name = **Date Purchased**

C) Type of column = **Date and time**

D) Click **OK**

7) Create an Amount column

A) Under Columns click **Create column**

B) Name = **Amount**

C) Type of column = **Currency**

D) Click **OK**

8) Create a Quantity column

A) Under Columns click **Create column**

B) Name = **Quantity**

C) Type of column = **Number**

D) Click **OK**

9) Create a Budget Category column

A) Under Columns click **Create column**

B) Name = **Budget Category**

C) Type of column = **Choice**

D) Choices = **Supplies, Hiring, Travel**

E) Set the **Default** value to blank

F) Click **OK**

10) Create a Total Spent column

A) Under Columns click **Create column**

B) Name = **Total Spent**

C) Type of column = **Calculated**

D) Formula = **[amount]*[quantity]**

E) Type of value to return = **Currency**

F) Click **OK**

11) Fill out the list

A) Click **Budget Tracking** in the breadcrumb

B) Repeat steps C – E for each item in the table

Purchased Item	Date	Amount	Quantity	Category
Red Staplers	10/1	12.00	3	Supplies
Staples	10/1	3.25	3	Supplies
Monster Ads	9/15	450.00	2	Hiring

C) Click **New**

D) Fill in the information

E) Click **OK**

Notice that the Total Spent column is automatically filled out.

End of Lab

Lab 05B: Modifying Navigation

Lab Overview: In this lab you will manipulate SharePoint's Navigation options. You will explore how you can use Global Navigation to provide a consistent and expected environment for users as they navigate your portal. Also, you will manipulate the Current Navigation to modify the per site experience. Strong navigation is a key to every good web experience.

Exercise 1: Modifying the Global Navigation bar

1) Open the **home page** of the portal logged in as **Alan**
2) Click Site Actions > Site Settings > **Modify All Site Settings**
3) Under Look and Feel click **Navigation**

   Because this site is the root site the options here are limited. As you can see the Global Navigation bar is currently showing all of the sub-sites of the Portal and all pages (except default.aspx) from the pages libraries of these sites.

4) Add the www site to the Global Navigation
   A) Click **Add Link**
   B) Title = **Public Web**
   C) URL = **http://www.tedpattison.net**
   D) Select **Open link in new window**
   E) Click **OK**
   F) Click **OK**

   Now there is a tab for Public Web. If you click the tab it will open a new browser window and take you to the web site.

5) Hide the Reports tab
   A) Click **Navigation**
   B) Click **Reports**
   C) Click **Hide**
   D) Click **OK**
6) Remove the pages from the drop down below News
   A) Click the **News** tab
   B) Click Site Actions > Site Settings > **Modify All Site Settings**
   C) Click **Navigation**

   Notice now you have several new options. You can choose to use Global Navigation of the parent or not, also you can choose to show the Current Navigation of the parent or this site.

   D) In the Subsites and Pages section deselect **Show pages**
   E) Click **OK**

Notice under News now there are no drop downs. Whenever you want to affect a tab you should always need to go to that sites Navigation options to make the change.

7) Navigate to HR Work Site

   A) Click the **Departments** tab

   B) Click **HR** from the Current Navigation

   C) Click **HR Work Site** from the Current Navigation

8) The HR Work Site is an area just for the HR Team. As they build out this area they will have many sub-sites and would like to have their own Global Navigation from this site down. You need to setup HR Work Site to use its own Global Navigation.

   A) Click Site Actions > **Site Settings**

   B) Click **Navigation**

   C) In the Global Navigation section click **Display the navigation items below the current site**

   D) Click **OK**

   E) Click the **HR Work Site** tab

   Notice now there is only one tab in the Global Navigation. You can now build out the HR Global Navigation. Also, if you look in the top left hand corner of the screen you will see The TPG Portal > HR Work Site. This is giving you a global breadcrumb for getting back to the portal above.

Exercise 2: Build out the HR site Structure

From here Betsy would like to start building out her own structure and navigation. She currently only has contributor access to the site. Add her to site owners group. Then she will create an HR managers meeting sub-site and add a tab for the HR site collection created earlier.

1) Add Betsy as a site owner

   A) Click Site Actions > **Site Settings**

   B) Click **People and Groups**

   C) Click **New**

   D) Users/Groups = **tpg\Betsy**

   E) Add users to a SharePoint group = **HR Work Site Owners [Full Control]**

   F) Deselect **Send Welcome e-mail**

   G) Click **OK**

2) Sign in as Betsy

   A) Click **Welcome Alan Admin**

   B) Click **Sign in as Different User**

   C) User name = **tpg\betsy**

   D) Password = **pass@word1**

   E) Click **OK**

3) Create the Manager Meeting Site

   A) Click Site Actions > **Create**

   B) Under Web pages click **Sites and Workspaces**

   C) Title = **Manager Meeting Site**

   D) URL = **/managermeeting**

   E) Choose the **Meetings** tab

   F) Select **Decision Meeting Workspace**

   G) Click **user unique permissions**

   H) Click **Create**

   I) Take the defaults

   J) Click **OK**

4) The Meeting site automatically used it is own Global Navigation. Switch it to use the HR Work Site navigation

   A) Click Site Actions > **Site Settings**

   B) Click **Navigation**

   C) Under Global Navigation choose **Display the same navigation items as the parent site**

   D) Click **OK**

5) Now set the HR Work Site to show sub sites

   A) Click the **HR Work Site** tab

   B) Click Site Actions > **Site Settings**

   C) Click **Navigation**

   D) Select **Show subsites**

   E) Click **OK**

   Now if you look at the Global Navigation bar you will see that the Manager Meeting Site automatically was added.

6) Add a link to http://portal.tpg.local/sites/hr

   A) Click **Navigation**

   B) Click **Add Link**

   C) Title = **HR Private Site**

   D) URL = **http://portal.tpg.local/sites/hr**

   E) Click **OK**

   F) Click **OK**

7) Test Navigation

   A) Click the **HR Work Site** tab

B) Sign in as **Amy**

*I) Click **Welcome Betsy Ross***

*II) Click **Sign in as Different User***

*III) User name **TPG\amy***

*IV) Password **pass@word1***

*V) Click **OK***

Take a look at the navigation bar. Because Amy doesn't have access to the Manager Meeting site that tab is hidden from her. But if she clicks on the link to HR Private Site she gets Accessed Denied. Why doesn't SharePoint security trim this tab also? Because the tab points to a different Site Collection. Since it is in another site collection SharePoint doesn't check the permissions. So it just shows the tab to everyone. Something to consider when using multiple site collections. You could have targeted the link using Audiences to hide it from Amy but you haven't learned that yet.

8) Log back in as Betsy

A) Click **Welcome Amy Pattison**

B) Click **Sign in as Different User**

C) User name **tpg\betsy**

D) Password **pass@word1**

E) Click **OK**

Exercise 3: Clean up current navigation

Current navigation has many names. Quick launch and left hand nav are the most common names. Often users are confused by the extra links on the current navigation. In this exercise you will remove the extra links and the add a new heading with sub links.

1) Remove some quick launch links

A) Click Site Actions > **Site Settings**

B) Click **Navigation**

C) In Navigation Editing and Sorting find **Current Navigation**

D) Click **Sites**

E) Click **Delete**

F) Click **People and Groups**

G) Click **Delete**

H) Click **Manager Meeting Site**

I) Click **Hide**

J) Click **OK**

2) Click the **HR Work Site** and review your changes

3) Now add Insurance sites with a heading

A) Click Site Actions > **Site Settings**

B) Click **Navigation**

C) In Navigation Editing and Sorting Click **Current Navigation**

D) Click **Add Heading…**

E) Title = **Insurance Sites**

F) Click **OK**

G) Click **Insurance Sites**

H) Click **Add Link**

I) Title = **Anthem**

J) URL = **http://www.anthem.com**

K) Select **Open link in new window**

L) Click **OK**

M) Click **OK**

4) Click **HR Work Site** tab and check out your changes.

Exercise 4: A couple more quick launch tricks

Two more things with the quick launch bar. It is possible to remove it all together if it is cluttering up your site. Also, SharePoint has a built in Tree view control you can enable on the quick launch bar.

1) Turning on the Tree view

   A) Click Site Actions > **Site Settings**

   B) Under Look and Feel click **Tree view**

   C) Select the box **Enable Tree View**

   D) Click **OK**

2) Click the **HR Work Site** tab

   Now below the current navigation you can see the Site Hierarchy. You can expand the various sections of the site to see its sub information. Unfortunately there are no settings for the Tree view. You cannot manipulate what it shows or if a section is expanded or not. This limits the Tree views usefulness.

3) Disable the current navigation

   A) Click Site Actions > **Site Settings**

   B) Under Look and Feel click **Tree view**

   C) Deselect **Enable Quick Launch**

   D) Click **OK**

4) Click the **HR Work Site** tab

   Now all that remains is View All Site Content and the Tree view

5) Disable the **Tree view**

   A) Click Site Actions > **Site Settings**

   B) Under Look and Feel click **Tree view**

   C) Deselect **Enable Tree View**

   D) Click **OK**

6) Click the **HR Work Site** tab

   All gone. Nothing but wasted blue space.

Exercise 5: Looking at navigation in a separate Site Collection

Because the private HR site is a separate site collection it has no options for using the portals navigation. Also, by default it does not have a link for navigating to the portal. Finally, it doesn't exactly have the Navigation option because that site collection does not have the publishing features activated. Sounds like it needs a little investigating.

1) Click the **HR Private Site** tab

2) Add the connection back to the HR Work Site in the global breadcrumb

   A) Click Site Actions > **Site Settings**

   B) Under Site Collection Administration click **Portal site connection**

   C) Click **Connect to portal site**

   D) Portal web address = **http://portal.tpg.local/departments/hr/hrwork**

   E) Portal Name = **HR Work Site**

   F) Click **OK**

3) Under Look and Feel notice there is no Navigation option. Instead click **Top link bar**

   This interface will only allow you to add new tabs and change their order. There are no options for using headings, displaying pages, or sub-sites. Just add and remove tabs.

4) Click **Site Settings** in the bread crumb

5) Under Look and Feel click **Quick Launch**

   Another limited interface. Though here you can use headings. These difference are important to understand as they do cause user question from time to time.

   Also, Tree view is exactly the same as in Publishing sites.

End of lab

Lab 05C: Configuring Out-of-the-box Branding

Lab Overview: In this lab you will explore some simple things you can do to make your site not look so much like SharePoint. First you will apply an out of the box theme and upload a custom graphic to give the site a quick make over. Then you will change the master page to get an idea of what is involved in the process.

Exercise 1: Setting HR to use a different theme

Betsy has called and she would like to change the look of the HR Private site. For some reason she wants a flag theme.

1) Navigate to the HR Private site logged in as Betsy
   A) Open **http://portal.tpg.local/sites/hr**
   B) **tpg\betsy**
   C) **pass@word1**
   D) **OK**
2) Create a picture library called images
   A) Click Site Actions > **Create**
   B) Under Libraries choose **Picture Library**
   C) Name = **Images**
   D) Display the picture library on the Quick Launch? = **No**
   E) Click **Create**
3) Upload the custom graphic
   A) Click **Upload**
   B) Click **Browse…**
   C) Navigate to **c:_Student Files\Module 5**
   D) Click **USA.png**
   E) Click **Open**
   F) Click **OK**
   G) On the properties screen take the default and click **OK**
4) Change the theme
   A) Click Site Actions > **Site Settings**
   B) Under Look and Feel click **Site theme**
   C) All of the themes have preview images. Browse the collection to get an idea of what is available. Once you are done looking around choose the **Classic theme** and click **Apply**

5) Notice the colors changed right away. Now you need to change the people logo beside HR Team

A) Under the Look and Feel column click **Title, description, and icon**

B) Change the URL to **/sites/hr/images1/usa.png** Notice the 1 in images1. This is because there is already and images folder so SharePoint is smart enough to change the name of the folder when you created the images list.

C) Click **OK**

D) Click the **Home** tab

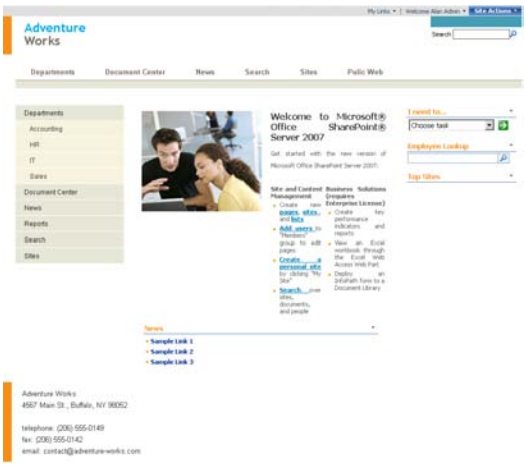
Betsy now has a decent looking site without too much work.

Exercise 2: Changing the master page

Site themes are great for changing the way that a site looks quickly but sometimes you need to change the physical structure of the page. This is where master pages come into play.

1) Navigate to the home page of the TPG portal by entering the URL **http://portal.tpg.local**
2) Sign in as **Alan**
   A) Click **Welcome Betsy Ross**
   B) Click **Sign in as Different user**
   C) **TPG\alan**
   D) **pass@word1**
   E) Click **OK**
3) Click Site Actions > Site Settings > **Modify All Site Settings**
4) Under Look and Feel click **Master page**
5) There are 3 changes you can make from this page. The Site Master Page, the System Master Page, and the CSS file. Try changing just the Site Master Page to see what happens.
   A) For Site Master Page change default.master to **OrangeSingleLevel.master**
   B) Scroll down the page and click **OK**
   C) Notice the page you are on has not changed. Click the **The TPG Portal** tab to check out the home page.

   Completely different. You have a different color palette, the quick launch bar is visible, and if you scroll down the page you will see a footer with the address. What hasn't changed though? The content and web parts.



6) Click Site Actions > **View All Site Content**

7) This page hasn't changed. Now click **Documents**

8) Still looks the same. Try changing the system master to see what happens.

   A) Click Site Actions > Site Settings > **Modify All Site Settings**

   B) Under Look and Feel click **Master page**

   C) Set System Master Page to **OrangeSingleLevel.master**

   D) Click **OK**

9) Site Settings page still the same. Click Site Actions > **View All Site Content**

10) All Site Content still the same. Click **Documents**

    Hooray! A page that has changed. System Master affects all of the list and library view pages. The reason that the other 2 pages have not changed is because they are driven by Application master. Application master affects all pages that are in the /_layouts folder. This is also where this file resides. The trouble with changing this file is it is NOT SUPPORTED and it will affect all sites on the whole server. A better solution would be to just brand the pages with a custom CSS file. This can be applied from the same screen you changed the default and system master.

11) Set the site back to the way it was.

    A) Click Site Actions > Site Settings > **Modify All Site Settings**

    B) Under Look and Feel click **Master page**

    C) Set Site Master Page to **default.master**

    D) Set System Master Page to **default.master**

    E) Click **OK**

    Now everything is back to normal.

End of lab

Lab 06: Reusing, Installing, and Configuring Additional Components

Lab Overview: In this lab you are going to implement all of the new ideas you have learned in the lecture.

Exercise 1: Site Templates

In this exercise you will create a New Customer site for the sales team. You will set the site up with the standard files used in setting up a new customer. Once, you complete the site setup you will save it as a template and make it reusable. Finally, you will make the site available globally by using stsadm.

1) Open the Sales site
   A) Navigate to **http://portal.tpg.local**
   B) Login as **tpg\alan**
   C) Hover over **Departments** and click **Sales**
2) Create a New Customer Template site
   A) Click Site Actions > **Create Site**
   B) Title = **New Customer Template**
   C) URL = **/new**
   D) Template = **Team Site**
   E) Navigation Inheritance = **Yes**
   F) Click **Create**
3) Add Necessary Documents
   A) Click **Shared Documents**
   B) Click **Upload Multiple Documents**
   C) Navigate to **c:_Student Files\Module 6**
   D) Select **all files**
   E) Click **OK**
   F) Click **Yes**
4) Add Shared Documents to home page
   A) Click **New Customer Template** in the breadcrumb
   B) Click Site Actions > **Edit Page**
   C) Click **Add a Web Part** in the **Left** zone
   D) Select **Shared Documents** and click **Add**
   E) Click **Exit Edit Mode**
5) Change the theme

A) Click Site Actions > **Site Settings**

B) Under Look and Feel click **Site Theme**

C) Select a different theme and click **Apply**

6) Save Site as template

A) From the Site Settings screen under Look and Feel click **Save site as template**

B) Filename = **NewCustomer**

C) Template name = **New Customer Template**

D) Select **Include Content**

E) Click **OK**

7) At Operation Completed Successfully click **OK**

8) Click **Sales** from the Global Nav

9) Create a new site using the Template

A) Click Site Actions > **Create Site**

B) Title = **Acme Corp**

C) URL = **/acme**

D) Select a template = **Custom** tab, **New Customer Template**

E) Navigation inheritance = **Yes**

F) Click **Create**

Notice your Shared Documents are ready to go including the Web Part on the page. Also, your pretty theme is still intact.

Exercise 2: Using the template globally

If you were to navigate to the HR Private Site and tried to create a site using the New Customer Template it would not be an option. This is because when you saved the site as template you saved it to the site collection template gallery and HR Private is in a different site collection. In order for the template to be usable in the HR Private site collection you need to deploy the template using stsadm.

1) Make sure the template is not available in the HR Private site

A) Navigate to **http://portal.tpg.local/sites/hr**

B) Login as **tpg\betsy**

C) Click Site Actions > **Create**

D) Under Web Pages select **Sites and Workspaces**

E) Look at Select a template. Notice there is no custom tab available.

2) Download the template

A) Navigate back to **http://portal.tpg.local**

B) Sign in as **tpg\alan**

C) Click Site Actions > Site Settings > **Modify All Site Settings**

D) Under Galleries click **Site templates**

E) Click on **NewCustomer**

F) Click **Save**

G) Save it to **c:\newcustomer.stp**

3) Load the template globally

A) Open the **command prompt**

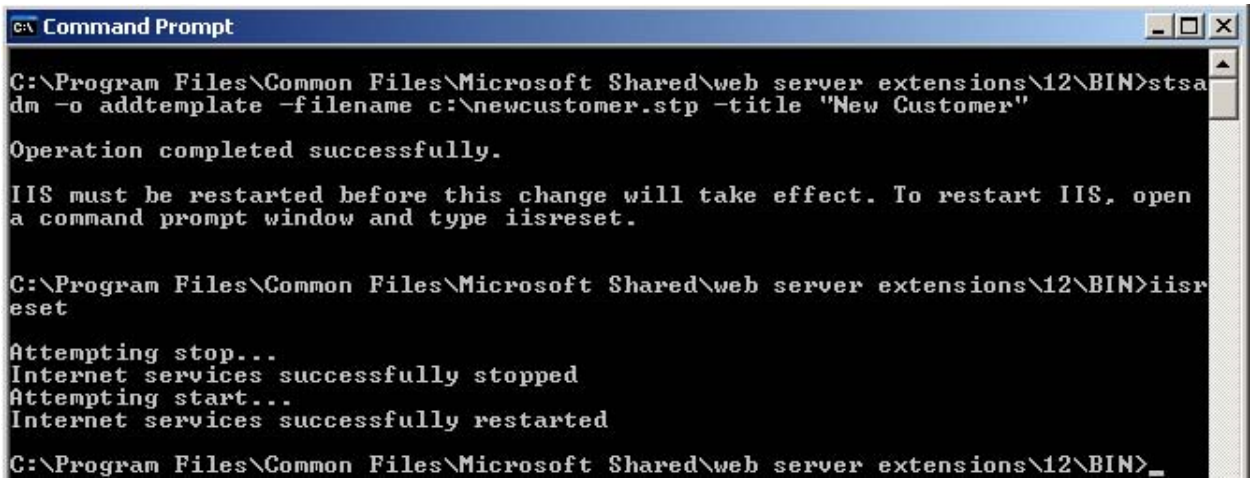
B) Navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\bin**

C) Run the command

```
Stsadm –o addtemplate –filename c:\newcustomer.stp –title “New Customer Template”
```

D) Run the command

```
IISreset.exe
```



E) Leave the command prompt open. You will use it later in the lab.

4) Navigate back to HR Site to check out the results

A) Navigate to **http://portal.tpg.local/sites/hr**

B) Login as **tpg\betsy**

C) Click Site Actions > **Create**

D) Under Web Pages select **Sites and Workspaces**

E) Look at Select a template. Notice there is now a custom tab. And on the tab is New Customer template.

Exercise 3: Add a feature

Your developers have just given you the files to deploy their new feature. They didn’t have time to package it properly so you will have to deploy it manually.

1) Copy the files into place

A) Open My Computer and navigate to **c:_student files\module 6**

B) Copy the **HelloWorld** folder

C) Open another instance of My Computer and navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\template\features**

D) Paste in the **HelloWorld** folder

2) Open the **command prompt**

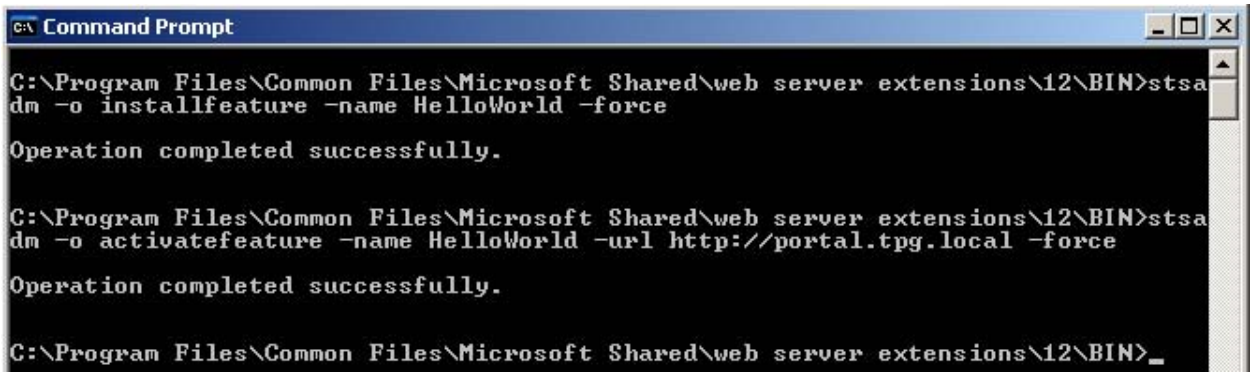
3) Navigate back to **12\bin** so you can run Stsadm

4) Run the command

```
Stsadm –o installfeature –name HelloWorld -force
```

5) Run the command

```
Stsadm –o activatefeature –name HelloWorld –url http://portal.tpg.local -force
```



6) Leave the command prompt open, you will be using it again.

7) Open **http://portal.tpg.local**

8) Sign in as **tpg\alan**

9) Click **Site Actions**

10) At the bottom of the menu you can see the new feature Hello World. If you click it you will be taken to the MSDN site.

You will also notice that if you went back to http://portal.tpg.local/sites/hr or to http://portal.tpg.local/departments you would not see the menu. This feature was deployed only to the http://portal.tpg.local site because it is scoped at the web level. You could deploy it to another site by rerunning the command and specifying the URL or using the web interface.

11) Add the feature to the Departments site using the web interface

A) Navigate to **http://portal.tpg.local/departments**

B) Click Site Actions > Site Settings > **Modify All Site Settings**

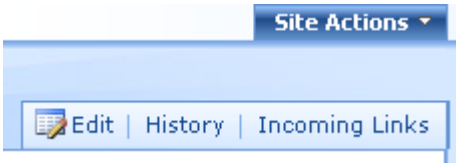
C) Under Site Administration click **Site features**

D) You should see **A Sample Feature: Hello World** click **Activate**

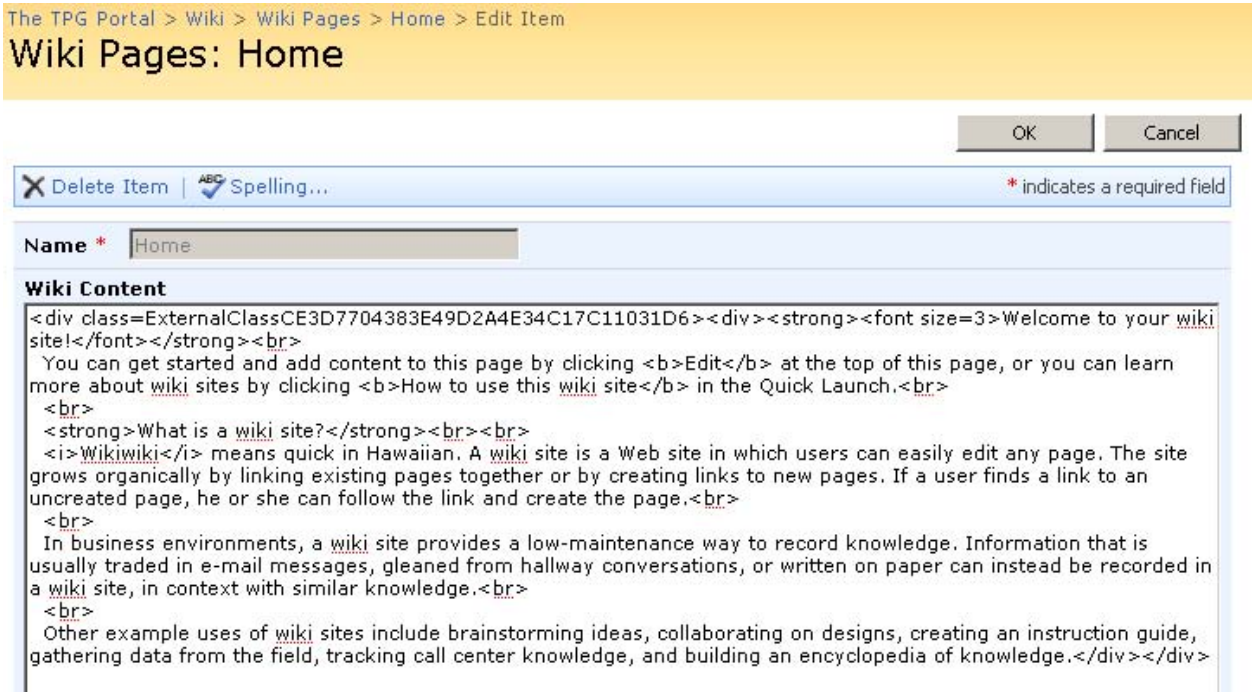
E) Now click **Site Actions** and notice Hello World is available

Exercise 4: Deploy a WSS Solution Pack

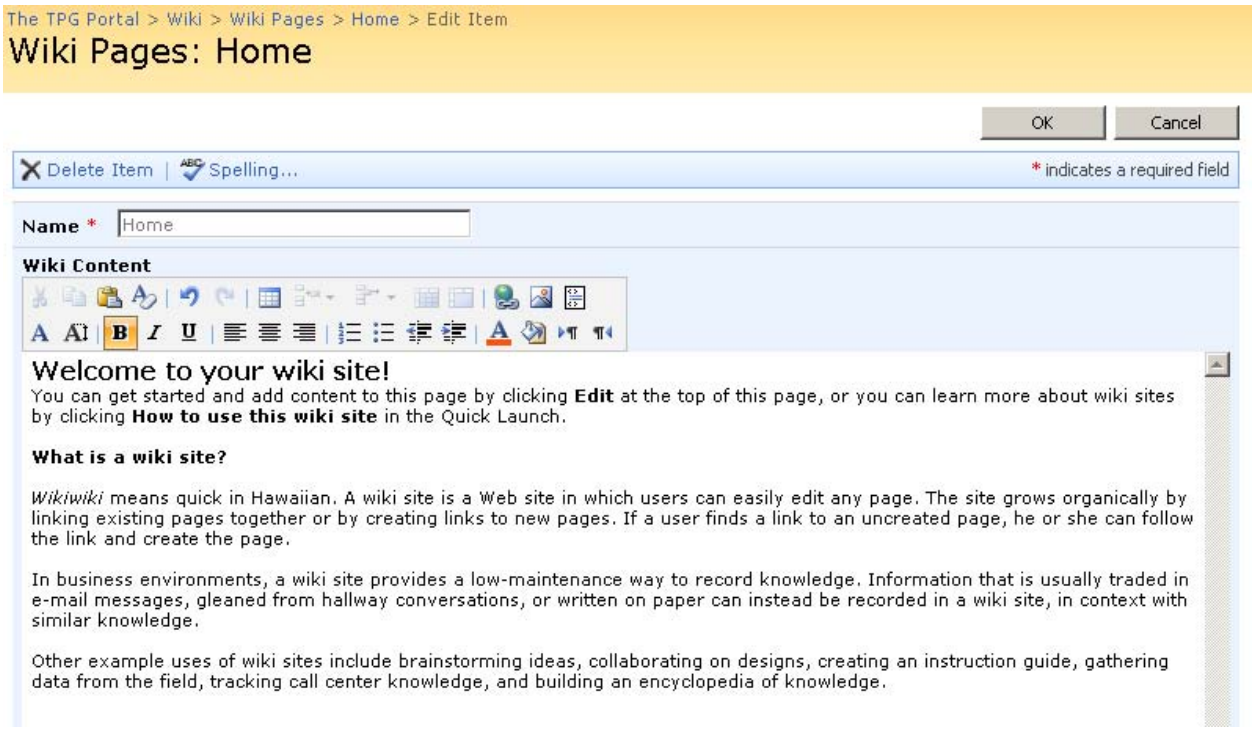
1) Open **http://portal.tpg.local** with **FireFox** located on your desktop as **tpg\alan** to discover why you need the RAD Editor
2) Create a Wiki site
   A) Click Site Actions > **Create Site**
   B) Title = **Wiki**
   C) URL = **/wiki**
   D) Template = **Wiki Site**
   E) Click **Create**
3) Click **Edit** from the right side of the page



4) You see nothing but raw HTML



Compare that to what it would look like if you opened the page with Internet Explorer.



5) Install the RAD Editor WSS Solution Package

   A) Open a **command prompt**

   B) Navigate back to **12\bin** so you can run Stsadm

   C) Run the command

```
Stsadm –o addsolution –filename “C:\_student files\mo
dule 6\rad editor\radeditormoss.wsp”
```

   D) Leave the command prompt open.

6) Deploy the solution using Central Admin

   A) Click Start > **SharePoint 3.0 Central Administration**

   B) Click **Operations** tab

   C) Under Global Configuration click **Solution management**

   D) Click **radeditormoss.wsp**

   E) Click **Deploy Solution**

   F) Now select **http://portal.tpg.local** for Deploy To?

G) Click **OK**

Had you left Deploy To? You would have deployed the Web Part to the GAC. Giving the solution Full Control. Never a good idea especially when installing 3rd party solutions.

If you opened up the web.config located at C:\inetpub\wwwroot\wss\virtualdirectories\portal.tpg.local80 you would see there are now SafeControl entries for the RAD components.

```
<SafeControl Assembly="RadEditor.Net2, Version=7.2.0.0, Culture=neutral, PublicKeyToken=852c9eb6525c1b53
<SafeControl Assembly="RadEditor.Net2, Version=7.2.0.0, Culture=neutral, PublicKeyToken=852c9eb6525c1b53
<SafeControl Assembly="RadEditor.Net2, Version=7.2.0.0, Culture=neutral, PublicKeyToken=852c9eb6525c1b53
<SafeControl Assembly="RadEditor.Net2, Version=7.2.0.0, Culture=neutral, PublicKeyToken=852c9eb6525c1b53
<SafeControl Assembly="RadSpell.Net2, Version=3.2.0.0, Culture=neutral, PublicKeyToken=b5dad7bf2bf594c2"
<SafeControl Assembly="RadEditorSharePoint, Version=4.4.0.0, Culture=neutral, PublicKeyToken=1f131a62488
<SafeControl Assembly="RadEditorSharePoint, Version=4.4.0.0, Culture=neutral, PublicKeyToken=1f131a62488
<SafeControl Assembly="RadEditorSharePoint, Version=4.4.0.0, Culture=neutral, PublicKeyToken=1f131a62488
</SafeControls>
```

7) Go back to **FireFox** and check your page

   A) Go to **http://portal.tpg.local/wiki**

   B) Click **Edit**

   C) Still the same problem. This is because you have not activated the Feature that the solution packaged deployed.

8) Activate the Feature

   A) Click Site Actions > **Site Settings**

   B) Under Site Administration click **Site Features**

   C) Next to **Use RadEditor to edit List Items** click **Activate**

9) Try to edit the page again

   A) Click **Wiki** in Global Nav

   B) Click **Edit** button

   C) Still the same problem. What now? You have just discovered one of the challenges of using a truly secure install. When you activated the feature the first time it attempted to copy ..12\template\features\RadEditorFeature\RadEditorList.ascx to ..12\template\ControlTemplates\RadEditorList.ascx. You will need to now do this manually.

10) Copy the control into place

   A) Navigate to **c:\program files\common files\Microsoft Shared\web server extensions\12\Template\Features\RadEditorFeature**

   B) Copy **RadEdtiorList.ascx**

   C) Navigate to **c:\program files\common files\Microsoft Shared\web server extensions\12\Template\ControlTemplates**

   D) Paste **RadEditorList.ascx**

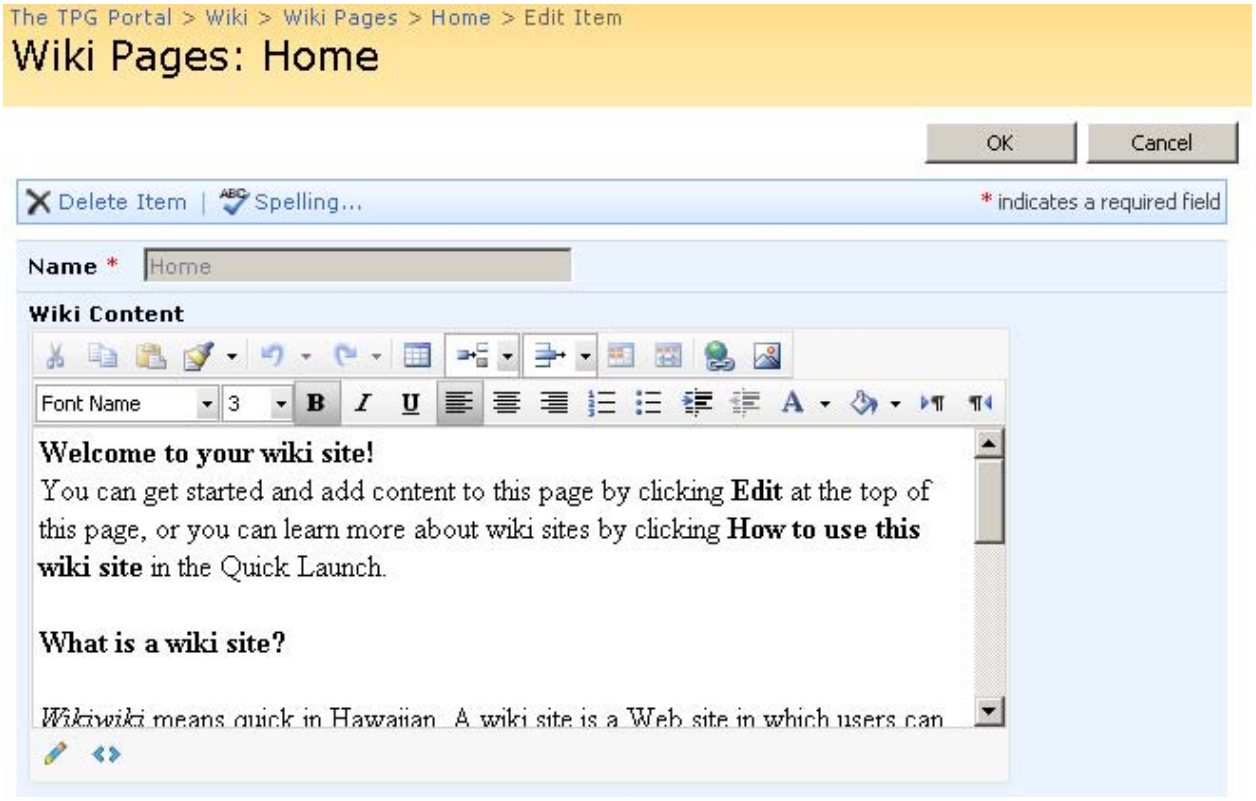
11) Open a **command prompt** and run

```
Iisreset.exe
```

12) Go back to **FireFox** and check your page

   A) Go to **http://portal.tpg.local/wiki**

B) Click **Edit**



End of Lab

Lab 07: Configuring and Customizing SharePoint Search

Lab Overview: Search is a powerful tool. In this lab you will setup the server for indexing PDFs and add some content sources. Then you will look at some changes to make the users life's easier.

Exercise 1: Allowing PDF files to be crawled

1) Installing the Adobe PDF Ifilter
   A) Navigate to **c:_student files\module 7**
   B) Run **ifilter60.exe**
   C) Click **Run**
   D) Click **Next, Accept, Next**
   E) At successful screen click **OK**
2) Adding PDF to crawled file types
   A) Open **http://ssp.tpg.local/ssp/admin** as **tpg\sp_admin**
   B) Under Search click **Search settings**
   C) Click **File types**
   D) Click **New File Type**
   E) File extension = **pdf**
   F) Click **OK**
3) Add the pdf icon to the images folder
   A) Navigate to **c:_student files\module 7**
   B) Copy **pdf16.gif**
   C) Navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\template\images**
   D) Paste **pdf16.gif**
4) Create an entry in docicon.xml for pdf
   A) Navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\template\xml**
   B) Right click on **docicon.xml** click open with with and choose **Notepad**
   C) In the <ByExtension> section add a key as
   ```
   <Mapping Key="pdf" Value="pdf16.gif"/>
   ```
   D) **Save** the changes and close **notepad**

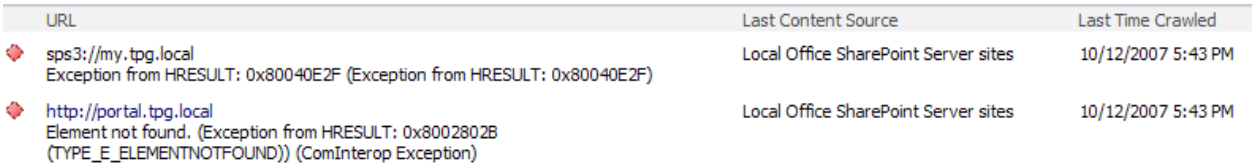
   Your server will now be able to successfully index text PDFs and display them with the proper icon.

Exercise 2: Add content sources

1) Open **http://ssp.tpg.local/ssp/admin** as **tpg\sp_admin**
2) Under Search click **Search settings**
3) Click **Content sources** and **crawl schedule**
4) Add the File Share as a content source
   A) Click **New Content source**
   B) Name = **File Share**
   C) Select = **File Shares**
   D) Start address = **\\litwareserver\share**
   E) Click **OK**
5) Add a public web site as a content source
   A) Click **New Content source**
   B) Name = **Public Web Site**
   C) Select = **Web Sites**
   D) Start address = **http://www.tedpattison.net**
   E) Click **OK**

   Now you have your portal, the file share, and a public web site defined as content sources. But you still can't get any search results. This is because you now need to crawl the content. And MOSS does not have a default schedule. So first do a manual crawl, then setup a schedule so you don't have to manually crawl every day.
6) Do a manual crawl by clicking **Start all crawls** in the quick launch bar
7) Click **Search Settings** in the bread crumb
8) Wait about 7 minutes and the click **refresh**. When the status changes to **idle** continue
9) Errors in log isn't zero. That is not good. Find out what happened by clicking the number

   If you are seeing this error



URL	Last Content Source	Last Time Crawled
sps3://my.tpg.local Exception from HRESULT: 0x80040E2F (Exception from HRESULT: 0x80040E2F)	Local Office SharePoint Server sites	10/12/2007 5:43 PM
http://portal.tpg.local Element not found. (Exception from HRESULT: 0x8002802B (TYPE_E_ELEMENTNOTFOUND)) (ComInterop Exception)	Local Office SharePoint Server sites	10/12/2007 5:43 PM

   Then you need to run an iisreset and recrawl by returning to step 6.
10) For sure you are seeing three errors relating to your file share and time card spreadsheets. This is because the default crawling account tpg\SP_MossSearch does not have access to those files to crawl them.

    There are two ways to fix this issue. You could go to the files and change their NTFS permissions to give tpg\sp_MossSearch read access. Pretty straightforward.

The other option would be to setup a special crawl rule that use a different account to crawl the file share. The tpg\administrator account already has complete access to the file share so use that account.

11) Create a new crawl rule
    A) From the Configure Search Settings screen click **Crawl rules**
    B) Click **New Crawl Rule**
    C) Path = **file://litwareserver/share/***
    D) Select **Include all items in this path**
    E) Select **Specify a different content access account**
    F) Account = **tpg\administrator**
    G) Password = **pass@word1**
    H) Click **OK**
12) Re crawl the file share
    A) Click **Search Settings** from the breadcrumb
    B) Click **Content source and crawl schedule**
    C) Hover over **File Share** and click the drop down
    D) Select **Start Full Crawl**
13) Click **Search Settings** in the breadcrumb
14) Wait about a minute and click **refresh**. When the status is **idle** continue.

Exercise 3: Set a crawl schedule

1) From Configure Search Settings click **Content sources and crawl schedules**
2) Click on **Local Office SharePoint sites** to edit the content source
3) Setup a **Full crawl**
    A) Scroll to the bottom of the page and beneath Full Crawl click **Create schedule**
    B) Take the defaults
    C) Click **OK**
4) Setup an Incremental Crawl
    A) Beneath Incremental Crawl click **Create schedule**
    B) Starting time = **1:00 AM**
    C) Check **Repeat within the day**
    D) Every **60 minutes**
    E) For **1320 minutes**
    F) Click **OK**

5) Click **OK** on the edit content source screen

   You now have a schedule that will do a full crawl every night at midnight. Then starting at 1:00 am it will do an incremental crawl once an hour. The last one will run at 11:00 pm. This way you never have overlap of your crawl running.

Exercise 4: Setup a shared search scope for the File Share

1) Navigate back to the **Search Settings** screen
2) Scroll to the bottom of the page and click **View scopes**
3) Create a New Scope
   A) Click **New Scope**
   B) Title = **File Share**
   C) Click **OK**
4) Add rules to the File Share scope
   A) Click **Add rules** beside File Share Empty
   B) Scope Rule Type = **Content Source**
   C) Select **File Share**
   D) Click **OK**
5) Click **Search Settings** in the breadcrumb
6) In the Scopes section click **Start update now**. Note: Scopes automatically update every 15 minutes. You just don't have patience's to wait that long. :)
7) Wait 30 seconds then click **View scopes**
8) Number of items to the right of File Share should be 5

   Your work as an administrator is done. Time to navigate to the portal and check out the fruits of your labor.

Exercise 5: Administrating search for the site collection

1) Navigate to **http://portal.tpg.local** as **tpg\alan**
2) In the search box search for **HR**
3) If you got lots of results then you are on track. If not then throw something at your instructor and ask for help. Hint, first place to check is your search logs.
4) In the search box search for **Sales Reports.pdf**
5) If you got the sales report.pdf back from file://litwareserver/share/sales reports.pdf then you have proven you are indexing PDFs and the file share
6) Click the **The TPG Portal** to return to the home page
7) To the left of the search box click **All Sites**. This is your list of scopes. Notice that File Share does not show up. This is because the Site Collection administrator has to add the shared scope.
8) Add the File Share shared scope

A) Click Site Actions > Site Settings > **Modify All Site Settings**

B) From the Site Collection Administration section click **Search scopes**

C) Notice File Share is listed as Unused Scopes. Click **Display Group: Search Dropdown**

D) Select the check box for **File Share**

E) Click **OK**

9) Click the **The TPG Portal** to return to the home page

10) To the left of the search box click **All Sites**. Select **File Share**. If File Share is not there it is probably a cache issue. Do an iisreset and try again.

11) In the search box search for **HR**

12) Now only the Employee Manual is returned.

Exercise 6: Make a local search scope

1) Navigate to the HR Private site **http://portal.tpg.local/sites/hr** logged in as **tpg\betsy**

2) Create a new scope

A) Click Site Actions > **Site Settings**

B) Under Site Collection Administration click **Search scopes**

C) Click **New Scope**

D) Title = **HR Only**

E) Select **both check boxes** for display groups

F) Click **OK**

3) Next to HR Only Empty click **Add rules**

4) Add a rule to include the HR Private site collection

A) Select **Web Address**

B) Folder = **http://portal.tpg.local/sites/hr**

C) Click **OK**

5) Add a rule to include the HR portal sites

A) Click **HR Only**

B) Click **New rule**

C) Select **Web Address**

D) Folder = **http://portal.tpg.local/departments/hr**

E) Click **OK**

6) Click **Scopes** in the breadcrumb. This will give you an indication as to how long before the scope is updated. It is not available in the dropdown until it has been updated. Also note File Share is available in Unused Scopes.

Exercise 7: Making HR happy – Adding a search scope and a tab to search center

Betsy has came to you and made some very specific request. Betsy would like the scope she created to now be available from the portal. Then she would like to have a tab added to the search center for HR. She has more request but you should probably solve these issues first.

1) Navigate to the **SSP** logged in as **tpg\sp_admin**
2) Under Search click **Search settings**
3) Click **View scopes**
4) From this screen you can see the HR Only search scope. Now you need to copy it to the Shared scopes
   A) Hover over **HR Only** and click **Make Copy as Shared**
   B) Now click on **Copy of HR Only**
   C) Click **Change scope settings**
   D) Change Title to **HR Sites**
   E) Click **OK**
5) Navigate back to **http://portal.tpg.local** logged in as **tpg\alan**
6) Add the HR Sites search scope to the portal
   A) Click Site Actions > Site Settings > **Modify All Site Settings**
   B) Click **Search Scopes**
   C) Click **Display Group: Search Dropdown**
   D) Select **HR Sites**
   E) Click **OK**
7) Click the **Search** tab in Global Nav to get to the Search Center
8) Create an HR Search Page
   A) Click Site Actions > **Create Page**
   B) Title = **HR Search**
   C) URL Name = **hrsearch**
   D) Select **(Welcome Page)Search Page**
   E) Click **Create**
9) Add an HR Search tab
   A) Click **Add New Tab** from the center of the page
   B) Tab Name = **HR Search**
   C) Page = **hrsearch.aspx**
   D) Tooltip = **Use this tab for searching HR content.**
   E) Click **OK**

10) Create an HR Results Page

A) Click Site Actions > **Create Page**

B) Title = **HR Results**

C) URL Name = **hrresults**

D) Select **(Welcome Page)Search Results Page**

E) Click **Create**

11) Add an HR Search tab for results

A) Click **Add New Tab**

B) Tab Name = **HR Search**

C) Page = **hrresults.aspx**

D) Tooltip = **Use this tab for searching HR Content.**

E) Click **OK**

12) Point the hrsearch.aspx page to use hrresults.aspx for displaying results

A) Click **Search** in the Global Nav

B) Click **HR Search**

C) Click **Edit Page**

D) On the Search Box click the **Edit** dropdown and select **Modify Shared Web Part**

E) Expand the **Miscellaneous** tab

F) Scroll down to Target search results page URL and set it to **hrresults.aspx**

G) Click **OK**

H) Click **Publish**

13) Search for **HR**

14) This takes you to HR Search results page. Notice though you are still returning all results. You need to setup the page to only use the HR Sites scope.

A) Click **Edit Page**

B) For the Search Core Results Web Part click the **Edit** dropdown and select **Modify Shared Web Part**

C) Expand the **Miscellaneous** section

D) For Scope enter **HR Sites**

E) Click **OK**

F) Click **Publish**

G) Rerun your query for **HR**. You should get about 48 results.

End of Lab

Lab 08: Importing Profiles, Building Audiences and My Sites

Lab Overview: In this lab you will work with Profiles and Audiences. First you will setup a custom profile mapping and then you will import information from AD. Then you will create and compile a couple of audiences. Finally you target both content and a web part to the Executives audience.

Exercise 1: Importing profile data and building audiences

1) Open the SSP
   A) Open **Central Administration**
   B) Click on **Primary SSP** from the quick launch
   C) Login in as **tpg\sp_admin**
2) Map AD mobile phone to cell phone in the profile database
   A) Under User Profiles and My Sites click **User profiles and properties**
   B) Scroll down the page and under User Profile Properties click **View profile properties**
   C) Scroll down the page and click on **Mobile phone > edit**
   D) Change Display Name from Mobile phone to **Cell Phone**
   E) Change Edit Settings to **Do not allow users to edit values for this property**
   F) Under Property Import Mapping set Data source field to map to **mobile**
   G) Click **OK**
3) Start a profile import
   A) Click **User Profile and Properties** from the breadcrumb
   B) Click **Start full import**
   C) Wait about 30 seconds then refresh the page. If you see 27ish profiles and an idle status then continue
4) Build an HR global audience
   A) Click **Primary SSP** in the Quick Launch
   B) Under Audience click **Audiences**
   C) Click **Create audience**
   D) Name = **HR Members**
   E) Click **OK**
   F) Select **Property**
   G) Select **Department** from the properties list
   H) Operator is **=**
   I) Value = **HR**

J) Click **OK**

K) Click **Compile audience**

L) Number of members should equal **3** when it finishes

5) Create an Executives audience

A) Click **Manage Audiences** from the breadcrumb

B) Click **Create audience**

C) Name = **Executives**

D) Select **Satisfy any of the rules**

E) Click **OK**

F) Select **Property**

G) Select **Title** from the properties list

H) Operator is **=**

I) Value = **President**

J) Click **OK**

K) Scroll to the bottom of the page and click **Add rule**

L) Select **Property**

M) Select **Manager** from the properties list

N) Operator is **=**

O) Value = **tpg\Ted**

P) Click **OK**

Q) Click **Compile Audience**

R) If Number of members = **4** then you are good to go

6) Now that you have this information imported you need to do a crawl to make the information searchable

A) Click **Primary SSP** in the Quick Launch

B) Under Search click **Search settings**

C) Click **Content sources and crawl schedules**

D) Hover over **Local Office SharePoint Server sites**, click the down arrow, and click **Start Full Crawl**

E) Click **Search Settings** from the breadcrumb

F) Wait until the status changes to **idle** (don't forget to refresh) and then continue

Exercise 2: Targeting content using your audiences

Create executive dashboard on home page using documents, list targeting, WP targeting, and CQWP

1) Upload and target documents

A) Navigate to **http://portal.tpg.local/departments/sales** as Alan

B) From the quick launch click **View All Site Content**

C) Click **Documents**

D) Click Settings > **Document Library Settings**

E) Under General Settings click **Audience targeting settings**

F) Select **Enable audience targeting**

G) Click **OK**

H) Click **Documents** from the breadcrumb

I) Click **Upload**

J) Browse to **c:_studnet files\module 8**

K) Select **Sales Goals.docx**

L) Click **Open**

M) Click **OK**

N) Target Audience = **Executives**

O) Click **OK**

P) Repeat as follows

I) Upload Sales Action Items and no target audience

II) Change documents on http://portal.tpg.local/departments/it to enable targeting

III) Upload IT Yearly Plan.docx and target to Executives audience

IV) Change documents on http://portal.tpg.local/departments/accounting to enable targeting

V) Upload Accounting Yearly Goals and target to Executives audience

VI) Upload General Accounting Information and no target audience

VII) Change documents on http://portal.tpg.local/departments/hr to enable targeting

VIII) Upload HR Goals and target to Executives audience

IX) Upload HR Action Items and no target audience

2) Navigate to the home page of the portal **http://portal.tpg.local**

3) Add the Content Query Web Part

A) Click Site Actions > **Edit Page**

B) In the **Top Zone** click **Add a Web Part**

C) Expand **All Web Parts**

D) Navigate to the Default section and select **Content Query Web Part**

E) Click **Add**

4) Modify the settings for the CQWP

A) Click Edit > **Modify Shared Web Part**

B) Expand **Query**

C) Change List Type to **Document Library**

D) Scroll down to Audience Targeting and select **Apply audience filtering**

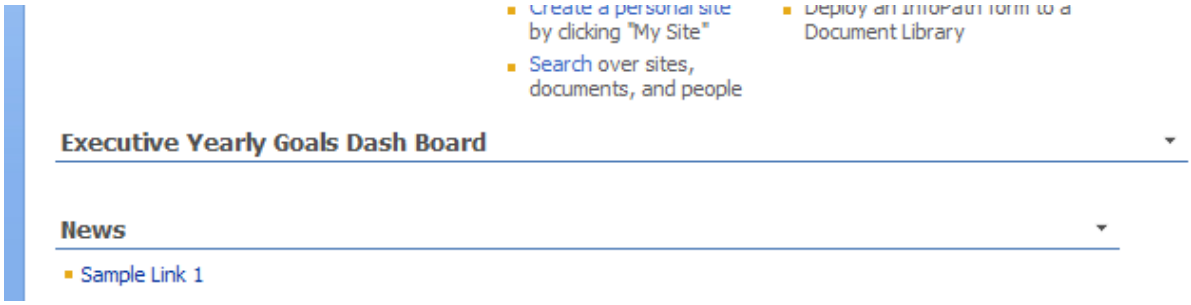
E) Scroll down to **Appearance** and expand it

F) Set Title = **Executive Yearly Goals Dashboard**

G) Click **OK**

5) Click **Publish**

6) Alan sees



This is because Alan is not in the Executive audience.

7) Luckily SharePoint has the ability to target the entire Web Part also.

A) Click Site Actions > **Edit Page**

B) For the Executive Yearly Goals Dashboard click edit > **Modify Shared Web Part**

C) Expand **Advanced**

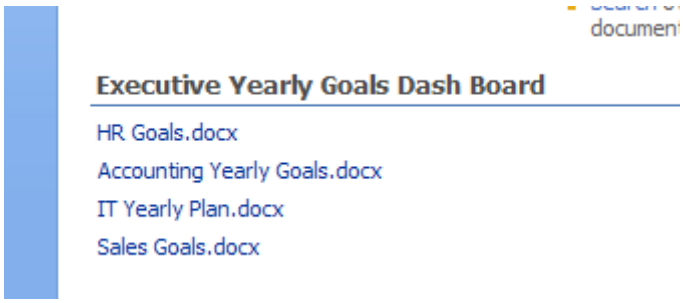
D) Scroll to the bottom and set Target Audiences to **Executives**

E) Click **OK**

F) Click **Publish**

8) Now Alan sees nothing. Try logging in as an Executive and see what they see

A) Sign in as tpg\ted and pass@word1



If that is what you see then you have got audiences and targeting figured out.

End of lab

Lab 09: Setting up a SharePoint Internet Site

Lab Overview: In this lab you will create a MOSS Publishing Site that is completely anonymous accessible. http://customer.tpg.local You will also create a new SSP for this site. Then you will make the anonymous site use Forms Based Authentication against a SQL store.

Exercise 1: Creating a new web application

1) Setup DNS
   A) Click Start > Administrative Tools > **DNS**
   B) Expand Litwareserver > Forward Lookup Zones > **TPG.local** then right click on TPG.local and choose **New Alias (CNAME)**
   C) For Alias name enter **customer**
   D) For FQDN enter **litwareserver.tpg.local**
   E) Click **OK**
   F) Repeat for **cust**
   G) Close **DNS Management**
2) Setup a new user for the App Pool
   A) Click Start > Administrative Tools > **Active Directory Users and Computers**
   B) Click on the **Users** container
   C) Click **Create a new user** 
   D) First Name: **SharePoint**
   E) Last Name: **Customer App Pool**
   F) User logon name: **SP_CustomerAppPool**
   G) Click **Next**
   H) Password: **pass@word1**
   I) Uncheck **User must change password at next logon**
   J) Click **Next**
   K) Click **Finish**
   L) Repeat for **SP_CustomerSSP**
   M) Close **User Management**
3) For this web application we will not setup Kerberos
4) Open **Central Admin**
5) Go to the **Application Management** tab
6) Under SharePoint Web Application Management click **Create or extend Web application**

7) Click **Create a new Web application**
   A) Port = **80**
   B) Host Header = **customer.tpg.local**
   C) Create **New application pool**
   D) Username = **tpg\sp_CustomerAppPool**
   E) Password = **pass@word1**
   F) Database Name = **WSS_Content_Customer**
   G) Click **OK**
8) Create a new SSP
   A) From the quick launch click **Shared Services Administration**
   B) Click **New SSP**
   C) SSP Name = **Customer SSP**
   D) For SSP Web application choose **customer.tpg.local**
   E) For MY Site Location choose **customer.tpg.local**
   F) Relative URL = **/mysite**
   G) Username = **tpg\sp_CustomerSSP**
   H) Password = **pass@word1**
   I) SSP Database = **CustomerSSP_db**
   J) SSP Search Database = **CustomerSSP_Search_db**
   K) Click **OK**
   L) Click **OK** at the warning screen
   M) Click **OK** at the success screen
9) Create the publishing Site Collection
   A) Click the **Application Management** tab
   B) Under SharePoint Site Management click **Create site collection**
   C) Title = **TPG Customers**
   D) Template = **Publishing Tab**, **Publishing Portal**
   E) Site Collection Administrator = **tpg\alan**
   F) Click **OK**
   G) Click **OK** at the Success screen
10) Set the Web application to allow anonymous access
   A) From the Application Management tab, under Application Security click **Authentication providers**
   B) Click **Default** (make sure the web application is set to **http://customer.tpg.local**)
   C) Click **Enable anonymous access**

D) Click **Save**

11) Set the customer publishing site for anonymous access

A) Open **http://customer.tpg.local**

B) Log in as **tpg\alan**

C) Click Site Actions > Site Settings > **Modify All Site Settings**

D) Under Users and Permissions click **Advanced permissions**

E) Click Settings > **Anonymous Access**

F) Select **Entire Web site**

G) Click **OK**

12) Open **Firefox** from the desktop. Click **No** at any Firefox configuration messages.

13) Go to **http://customer.tpg.local**

14) If you have done everything correctly no logins! You can check the top right hand corner. If you see Sign In then you know you are accessing the page anonymously.

Exercise 2: Setup a site that requires authentication

News Flash! The Customer site is a hit! So much so that your sales team wants to create a portion of the site that allows new customer to login and download information. You have the potential to grow to 1000's of users so adding these people to your Active Directory is not an option. You will deploy forms based authentication.

1) Begin by creating the Downloads site

2) From the home page click **Sign In** (Firefox or IE)

3) Sign in as **tpg\alan**

4) Create a sub site for Customer Downloads

A) Click Site Actions > **Create Site**

B) Title = **Customer Downloads**

C) URL = **downloads**

D) Select **Use unique permissions**

E) Click **Create**

F) Take the groups defaults

G) Click **OK**

5) Click **Submit for Approval**

6) Click **Start**

7) Approve the page

A) Click Site Actions > **View All Site Content**

B) Click **Pages**

C) Hover over **default**, click the drop down and choose **Approve/reject**

D) Select **Approved** and click **OK**

E) Click **OK** at the pop up

8) Navigate back to the home page **http://customer.tpg.local**

9) Click **Welcome Alan Admin** and **sign out**

10) Click **Go back to site**

11) Notice now you do not see the customer downloads tab. That is security trimming working, the site knows anonymous users don't have access to that site so it doesn't show it. Try typing in the URL. http://customers.tpg.local/downloads you should get a login prompt. Perfect. (If you didn't get a prompt then cache probably got the best of you. Close the browser and try again.)

12) Close **all open windows**

Exercise 3: Forms Based Authentication

That was the easy part. Now for the challenge of your skills. Windows based authentication would be great for your employees but now getting those 1000's of customer access is priority one. For this you will be using Forms Based Authentication.

For FBA the developers have provided you with a database to use for your user storage. They have also given you all of the configuration settings. It is your job to hook it all up to SharePoint.

1) Deploy the database

A) Click Start > All Programs > Microsoft SQL Server 2005 > **SQL Server Management Studio**

B) Click **Connect**

C) Expand **Litwareserver**

D) Right click **Databases**

E) Click **Restore Database…**

F) Select **From device**

G) Click **…** button

H) Click **Add**

I) Navigate to **c:_student files\module 9**

J) Select **TPG_FBA.bak**

K) Click **OK**

L) Click **OK** at Specify Backup

M) Check **Restore** beside Name

N) To Database select **TPG_FBA**

O) Click **OK**

P) Click **OK** at the successful message

2) Set security on your new database

The Application Pool accounts of the web applications that will use FBA need access to read and write the database. Granting access to sp_CustomerAppPool may be obvious but don't forget about sp_Farm. Central Admin will not use FBA but it will need access to the user store to look up users.

A) Expand **Databases**

B) Expand **TPG_FBA**

C) Expand **Security**

D) Right click on **Users** and click **New User…**

E) User name = **tpg\SP_Farm**

F) Login Name = **tpg\sp_farm**

G) Under Database role membership select **db_owner**, **db_datareader** and **db_datawriter**

H) Click **OK**

I) Repeat for **tpg\SP_CustomerAppPool**

J) Close **SQL Management Studio**

3) Update web.config for customer.tpg.local

A) Navigate to c**:\inetpub\wwwroot\wss\VirtualDirectories\customer.tpg.local80**

B) Make a copy of **web.config** (just in case)

C) Right click on **web.config** and choose **open with…**

D) Choose **Notepad** and click **OK** (if you prefer to use Visual Studio you may. Do NOT use Word pad!)

E) Add the following text to your web.config file between **</configSections>** and **<SharePoint>** (if you prefer to cut and paste you will find a file called **customer.txt** in the **module 9 folder**)

```
<connectionStrings>
  <add name="TPG_Connect" connectionString="Data Source=litwareserver; Initial
Catalog=TPG_FBA;Integrated Security=True" />
 </connectionStrings>
```

```
  </configSections>
        <connectionStrings>
                <add name="TPG_Connect" connectionString="Data Source=litwareserver; Initial
Catalog=TPG_FBA;Integrated Security=True"/>
        </connectionStrings>
  <SharePoint>
```

F) Add the following text between **<system.web>** and **<securitypolicy>** (second half of **customer.txt**)

```
<membership defaultProvider="TPG_Members">
 <providers>
  <add connectionStringName="TPG_Connect" enablePasswordRetrieval="false"
enablePasswordReset="true" requiresQuestionAndAnswer="false" applicationName="/"
requiresUniqueEmail="false" passwordFormat="Hashed" maxInvalidPasswordAttempts="5"
minRequiredPasswordLength="1" minRequiredNonalphanumericCharacters="0"
passwordAttemptWindow="10" passwordStrengthRegularExpression="" name="TPG_Members"
type="System.Web.Security.SqlMembershipProvider,System.Web,Version=2.0.0.0,Culture
=neutral,PublicKeyToken=b03f5f7f11d50a3a" />
 </providers>
</membership>
<roleManager enabled="true" defaultProvider="TPG_Role">
 <providers>
```



```
  <add connectionStringName="TPG_Connect" applicationName="/" name="TPG_Role"
type="System.Web.Security.SqlRoleProvider,System.Web,Version=2.0.0.0,Culture=neutr
al,PublicKeyToken=b03f5f7f11d50a3a" />
 </providers>
</roleManager>
```

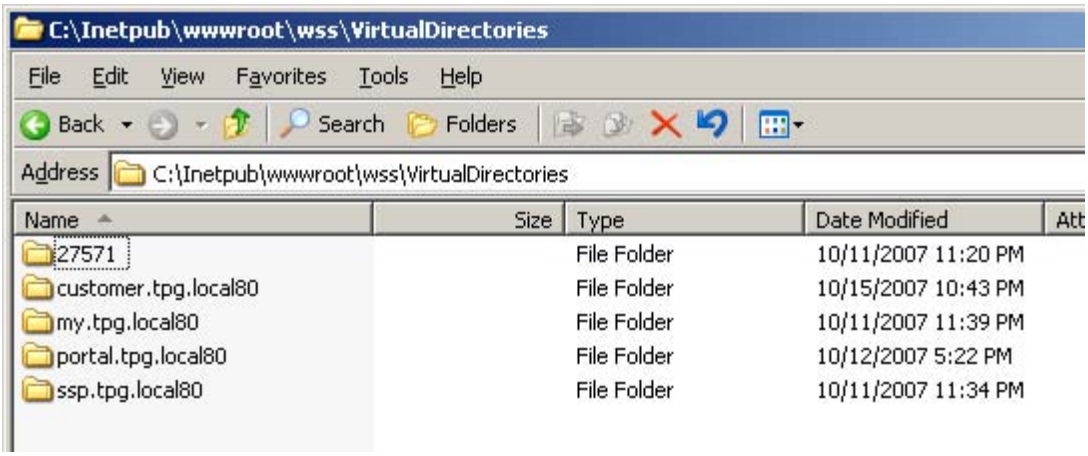
```
  </SharePoint>
  <system.web>
     <membership defaultProvider="TPG_Members">
        <providers>
                <add connectionStringName="TPG_Connect" enablePasswordRetrieval="false"
enablePasswordReset="true" requiresQuestionAndAnswer="false" applicationName="/"
requiresUniqueEmail="false" passwordFormat="Hashed" maxInvalidPasswordAttempts="5"
minRequiredPasswordLength="1" minRequiredNonalphanumericCharacters="0"
passwordAttemptWindow="10" passwordStrengthRegularExpression="" name="TPG_Members"
type="System.Web.Security.SqlMembershipProvider,System.Web,Version=2.0.0.0,Culture=neutral,P
ublicKeyToken=b03f5f7f11d50a3a" />
        </providers>
    </membership>
    <roleManager enabled="true" defaultProvider="TPG_Role">
        <providers>
                <add connectionStringName="TPG_Connect" applicationName="/" name="TPG_Role"
type="System.Web.Security.SqlRoleProvider,System.Web,Version=2.0.0.0,Culture=neutral,PublicK
eyToken=b03f5f7f11d50a3a" />
        </providers>
    </roleManager>
    <securityPolicy>
```

G) **Save** the file

4) Edit the web.config for central admin

A) Now navigate to **c:\inetpub\wwwroot\wss\viturаldirectories**

B) Open the folder that is just a **number**. In the example below it is 27571 (your number may be different.)



C) Make a copy of the **web.config** file

D) Right click on web.config, Open with > **Notepad**

E) Make the same change as step E above. There is a file called **centraladmin.txt** in the **module 9 folder** you can copy from.

```
<connectionStrings>
  <add name="TPG_Connect" connectionString="Data Source=litwareserver; Initial
Catalog=TPG_FBA;Integrated Security=True" />
 </connectionStrings>
```



```
  </configSections>
        <connectionStrings>
                <add name="TPG_Connect" connectionString="Data Source=litwareserver; Initial
Catalog=TPG_FBA;Integrated Security=True"/>
        </connectionStrings>
  <SharePoint>
```

F) Make the **same changes** as step F above

```
<membership defaultProvider="TPG_Members">
 <providers>
  <add connectionStringName="TPG_Connect" enablePasswordRetrieval="false"
enablePasswordReset="true" requiresQuestionAndAnswer="false" applicationName="/"
requiresUniqueEmail="false" passwordFormat="Hashed" maxInvalidPasswordAttempts="5"
minRequiredPasswordLength="1" minRequiredNonalphanumericCharacters="0"
passwordAttemptWindow="10" passwordStrengthRegularExpression="" name="TPG_Members"
type="System.Web.Security.SqlMembershipProvider,System.Web,Version=2.0.0.0,Culture
=neutral,PublicKeyToken=b03f5f7f11d50a3a" />
 </providers>
</membership>
<roleManager enabled="true" defaultProvider="TPG_Role">
 <providers>
  <add connectionStringName="TPG_Connect" applicationName="/" name="TPG_Role"
type="System.Web.Security.SqlRoleProvider,System.Web,Version=2.0.0.0,Culture=neutr
al,PublicKeyToken=b03f5f7f11d50a3a" />
 </providers>
</roleManager>
```

```
  </SharePoint>
  <system.web>
     <membership defaultProvider="TPG_Members">
        <providers>
                <add connectionStringName="TPG_Connect" enablePasswordRetrieval="false"
enablePasswordReset="true" requiresQuestionAndAnswer="false" applicationName="/"
requiresUniqueEmail="false" passwordFormat="Hashed" maxInvalidPasswordAttempts="5"
minRequiredPasswordLength="1" minRequiredNonalphanumericCharacters="0"
passwordAttemptWindow="10" passwordStrengthRegularExpression="" name="TPG_Members"
type="System.Web.Security.SqlMembershipProvider,System.Web,Version=2.0.0.0,Culture=neutral,P
ublicKeyToken=b03f5f7f11d50a3a" />
        </providers>
    </membership>
    <roleManager enabled="true" defaultProvider="TPG_Role">
        <providers>
                <add connectionStringName="TPG_Connect" applicationName="/" name="TPG_Role"
type="System.Web.Security.SqlRoleProvider,System.Web,Version=2.0.0.0,Culture=neutral,PublicK
eyToken=b03f5f7f11d50a3a" />
        </providers>
    </roleManager>
    <securityPolicy>
```

G) Now find the line <role manager enabled=”true” defaultProvider=”TPG_Role”> and change TPG_Role to **AspNetWindowsTokenRoleProvider** (if you copied from **centraladmin.txt** skip this step)

```
</membership>
<roleManager enabled="true" defaultProvider="AspNetWindowsTokenRoleProvider">
        <providers>
```

H) **Save** the file

I) **Close** all open windows

5) Change the authentication settings for customer.tpg.local

A) Open **Central Admin**

B) Click the **Application Management** tab

C) Under Application Settings click **Authentication providers**

D) Make sure you are on the **http://customer.tpg.local** web app and click **Default**

E) For authentication type select **Forms**

F) Membership provider name = **TPG_Members**

G) Role manager name = **TPG_Role**

H) Click **Save**

6) Grant access to the FBA account to login to the site

A) Click **Application Management** tab

B) Under SharePoint Site Management click **Site collection administrators**

C) Change Primary site collection administrator to **admin**

D) Click **OK**

7) Try out FBA

A) Open a new browser and navigate to **http://customer.tpg.local**

B) Initially the page should load without any login prompts thanks to anonymous access

C) Click **Sign In** up in the top right corner

D) User name = **admin**

E) Password = **pass@word1**

F) Click **Sign In**

G) If you are taken back to the page and it says Welcome admin Congrats! You have done well and setup FBA.

Exercise 4: Adding users

Out of the box SharePoint provides you with no mechanism for managing users in the SQL store. Meaning adding another user or role is impossible. You must either buy a 3rd party tool to manage the users, build your own, or use the free feature on CodePlex. For the lab try out the CodePlex solution conveniently downloaded to your machine.

1) Install the feature

A) Open a **command prompt**

B) Navigate to the 12 hive **c:\program files\common files\Microsoft shared\web server extensions\12**

C) Run the stsadm command to add the solution

```
Stsadm –o addsolution –filename “C:\_student files\module 9\fbamanagement.wsp”
```

D) Run the stsadm command to deploy the solution

```
Stsadm –o deploysolution –name FBAManagement.wsp –immediate –allowgacdeployment
```

E) Run the stadm command to force timer jobs to run

```
Stsadm –o execadmsvcjobs
```

F) Run the stsadm commands to activate the features

```
Stsadm –o activatefeature –name FBAConfigurationManagement

Stsadm –o activatefeature –name FBAUserRoleManagement –url
http://customer.tpg.local
```


G) Exit the **command prompt**

2) Open the site and check out the new feature

A) Navigate to **http://customer.tpg.local**

B) Sign in as **admin**

C) Open **Site Settings**

D) Under Site Collection Administration click **Mange FBA Users**

3) Create a new Role and put Freddy in it

A) Click **New Role**

B) Role name = **FBA_Members**

C) Click **OK**

D) Click **New User**

E) Username = **freddy**

F) Password = **pass@word1**

G) Email = **freddy@tpg.local**

H) Select **FBA_Members**

I) Click **OK**

4) Now you have put Freddy in the Role FBA_Members. This is just like putting him in an AD group. Now you can grant that group access to the SharePoint site. Remember, right now Freddy exist in the user store but he does NOT have access to the SharePoint site. Add him to the customer site.

A) Navigate to **http://customer.tpg.local/downloads**

B) Open **Site Settings**

C) Under Users and Permissions click **People and groups**

D) Click **New**

E) Users/Groups = **FBA_Members**

F) Add users to a SharePoint group = **TPG Customers Visitors [Read]**

G) Deselect **Send welcome e-mail**

H) Click **OK**

5) Try to login as Freddy

A) Return to the **home page**

B) Click **Welcome admin**

C) **Sign in as Different user**

D) Username = **Freddy**

E) Password = **pass@word1**

F) Now Freddy has read only access to the site. When the sales people upload files here Freddy will be able to download them.

Exercise 5: Fixing Search

But now that you are using FBA there are new challenges. The primary challenge? Search doesn't not work. In order to get search working you will create a separate web application http://cust.tpg.local that uses windows integrated authentication. Then with a little configuration everything should work like a charm.

1) Open the SSP

   A) Open **Central Admin**

   B) In the quick launch click on **Customer SSP**

   C) Yikes! An FBA login, but you didn't grant any FBA users access to the SSP. Time to back pedal.

   You have two choices. Either grant admin access using Policy for Web application or create a new Web application that is mapped to customer.tpg.local that uses windows auth.

   As it turns out you will need a windows auth app for search to work so you should go that route.

2) Create the cust.tpg.local Web app

   A) Open **Central admin**

   B) Click the **Application Management** tab

   C) Under SharePoint Web Application Management click **Create or extend Web application**

   D) Choose **Extend an existing Web application**

   E) For Web Application click **No selection** > **change web application**

   F) Click **customer.tpg.local**

   G) Port = **80**

   H) Host Header = **cust.tpg.local**

   I) Click **OK**

3) Try the SSP again

   A) Navigate to **http://cust.tpg.local/ssp/admin**

   B) Sign in as **tgp\sp_admin**

   C) Under Search click **Search settings**

   D) Click **Content sources and crawl schedules**

   E) Click **Local Office SharePoint Server sites**

   F) Look under Start Addresses. Notice that sps3://customer.tpg.local is still pointed to the FBA URL. This will not work. Change the URL to **sps3://cust.tpg.local**

   G) Select **Start full crawl of this content source**

   H) Click **OK**

   I) Click **Search Settings** in the breadcrumb

   J) After a minute you should see about 122 results and 0 errors. If so good job!

Exercise 6: Adding SSL

Customers? Logins? Over the internet? Encrypting the communication is a must. For this lab you will install the IIS Resource Kit and then use a self signed SSL certificate.

1) Install the IIS Resource kit
   A) Navigate to **c:_student files\module 9**
   B) Run **iis60rkt.exe**
   C) Click **Next**
   D) Check **I agree** and click **Next**
   E) Click **Next 3** more times
   F) Click **Finish**
2) Find the ID for the customer.tpg.local Web application
   A) Start > Administrative Tools > **IIS Manager**
   B) Expand **Litwareserver**
   C) Click **Web Sites**
   D) To the right of SharePoint – customer.tpg.local80 locate the Identifier (10 digit number). **Write the number down** below

      _____

   E) Close **IIS Manager**
3) Install the certificate
   A) Start > All Programs > IIS Resources > SelfSSL > **SelfSSL**
   B) At the command prompt run the following command. Replace ########## with the id from step 2 –D from above

```
Selfssl.exe /T /N:cn=customer.tpg.local /S:########## /q
```

   C) At successful message close the **command prompt**
4) Try out the change
   A) Open **https://customer.tpg.local** in your browser

   When the site opens you will notice you were redirected to http://customer.tpg.local/pages/default.aspx

   This is because SharePoint doesn't understand the request for https so it redirects you to the default URL.
5) Configure AAM
   A) Open **Central Admin**
   B) Navigate to the **Operations** tab
   C) Under Global Configuration click **Alternate access mappings**
   D) Click **Edit Public URLS**
   E) Change AAM Collection to **http://customer.tpg.local**

F) Change the default URL to **https://customer.tpg.local**

G) Click **Save**

6) Now you have SSL only setup. This is because your goal is to not allow HTTP access to the FBA site. But your users will still try to access it over HTTP and you don't want them getting 404 errors or ending up at a random page. You need to make some changes in IIS.

A) Open **IIS Manager**

B) Expand **Litwareserver**

C) Expand **Web Sites**

D) Right click on **SharePoint – customer.tpg.local80** and click **properties**

E) Change TCP port from 80 to **8001**

F) Click **Directory Security** tab

G) In the Secure communications click **Edit**

H) Check **Require secure channel (SSL)**

I) Click **OK**

J) Click **OK**

7) Now create the redirect site

A) Right click Web Sites > New >**Web Site**

B) Click **Next**

C) Description = **Customer Redirect**

D) Click **Next**

E) Host Header = **customer.tpg.local**

F) Click **Next**

G) Click **Browse**

H) Expand **C:**, **Inetpub**, **wwwroot**

I) Click **Make New Folder**

J) Enter **Redirect**

K) Click **OK**

L) Click **Next, Next, Finish**

8) Setup the redirect

A) Right click **Customer Redirect** and select **Properties**

B) Click **Home Directory** tab

C) Select **A redirection to a URL**

D) Redirect to = **https://customer.tpg.local**

E) Select **A permanent redirection for this resource**

F) Click **OK**

G) Close **IIS Manager**

9) Now navigate to http://customer.tpg.local

You should be redirected to https://customer.tpg.local/pages/default.aspx automatically.

End of lab

Lab 11: Working with content deployment

Lab Overview: In this lab you will create a new site collections for a test portal. Then you will setup a content deployment job to move data from the TPG portal to the test portal.

Exercise 1: Setup content deployment

1) Create a DNS entry for test.tpg.local
   A) Start > Administrative tools > **DNS**
   B) Double click **TPG.local** in the Forward Lookup Zones
   C) Right click TPG.local > **New Alias(cname)**
   D) Alias name = **test**
   E) FQDN for target host = **litwareserver.tpg.local**
   F) Click **OK**
   G) Close **DNS**
2) Create a new Web application
   A) Open **Central Admin**
   B) Click the **Application Management** tab
   C) Under SharePoint Web Application Management click **Create or extend Web application**
   D) Click **Create a new Web application**
   E) Port = **80**
   F) Host Header = **test.tpg.local**
   G) To save time you will use NTLM authentication
   H) To save time you will **Use existing application pool**
   I) Select **SharePoint – portal.tpg.local80**
   J) Database name = **WSS_Content_Test**
   K) Click **OK**
3) Create the test site collection (target)
   A) Click **Create site collection** in the center of the page
   B) Title = **Test Portal**
   C) URL = **/sites/prod**
   D) Template = Collaboration > **Blank Site**
   E) Primary Site Collection Administrator = **tpg\alan**
   F) Click **OK**
   G) At the success screen click **OK**

4) Click the **Operations** tab
5) Configure the server to accept Content deployment jobs
   A) Under Content Deployment click **Content deployment settings**
   B) Select **Accept incoming content deployment jobs**
   C) Select **Do not require encryption**
   D) Click **OK**
6) Click the **Operations** tab
7) Setup the Content deployment path
   A) Under Content Deployment click **Content deployment paths and jobs**
   B) Click **New Path**
   C) Name of path = **Production to Test**
   D) Choose a Web application = **SharePoint – portal.tpg.local80**
   E) Choose a site collection = **/**
   F) Destination Central Admin URL = **http://litwareserver:5555**
   G) Scroll down and click **Connect**
   H) When the page refreshes continue
   I) Destination Web application = **SharePoint – test.tpg.local80**
   J) Destination site collection = **/**
   K) Click **OK**
8) Setup a New Job
   A) Click **New Job**
   B) Name = **Entire Production Site Collection**
   C) Content deployment path = **Production to Test**
   D) Read through the options then take the defaults
   E) Click **OK**
9) Run the job
   A) Hover over **Entire Production Site Collection**
   B) Click **Run Now**
   C) Wait about 6 minutes then hit **refresh**. When status is Succeeded continue.
10) Configure the Quick Deploy job
   A) Click **Quick Deploy job for path 'Production to Test'**
   B) Check **Allow Quick Deploy jobs along this path**
   C) Click **OK**

11) Navigate to **http://test.tpg.local** sign in as Alan. If all went well it should look exactly like The TPG Portal does.

12) Open **another tab** in your browser

13) Navigate to **http://portal.tpg.local** sign in as Alan

14) Click the **News** tab

15) Create an urgent news story

    A) Click Site Actions > **Create Page**

    B) Title = **Urgent News**

    C) Click **Create**

    D) Click **Edit Content**

    E) Enter **The sky is falling! Bury your head underground.**

    F) Click **Publish**

    Now this page would eventually publish to the Test portal if you had your deployment job on a schedule. But you need this to publish quick.

16) Use Quick Deploy job

    A) Click Site Actions > **Show Page Editing Tool Bar**

    B) Click Tools > **Quick Deploy**

    That is it. Now next time your Quick Deploy job fires the page will be moved over. You took the default so this will be every 15 minutes. You could navigate back paths and jobs and force the job to run immediately if you wanted.

End of Lab

Lab 12: Setup the Microsoft IT Site Delete Capture Tool

Lab Overview: In this lab you will walk through the install of this free tool for SharePoint. Once configured it will backup any site or site collection before it is deleted. Allowing a server administrator the capability to recover it.

Exercise 1: Install the Undelete tool

1) Create the folder **c:\backups**
2) Copy files into place

   A) Navigate to **c:_student files\module 10\Microsoft IT Site Delete Capture Feature 1.0(Package)** – WINDOW1

   B) Open a second window and navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\template\features** – WINDOW2

   C) From WINDOW1 **copy MSITSiteFeature, MSITDeleteFeature, MSITSiteFeatureStapling,** and **MSITDeleteFeatueStapling** to WINDOW2

   D) From WINDOW1 drag **MS.IT.SiteDeleteCapture.dll** to **c:\windows\assembly** (copy paste does not work)

   E) From WINDOW1 copy **Messages.xml** to **c:\program files\common files\Microsoft shared\web server extensions\12\template\layouts\1033**

   F) From WINDOW1 run **install.bat**
3) Specify the backup location

   A) From WINDOW2 navigate to **MSITDeleteFeature**

   B) Edit **ConfigurationForReceiverDLL.xml**

   C) Change D:\BackupFolder to **c:\backups**

   D) **Close** the file saving your changes
4) Create a site collection for configuration

   A) Open **Central Admin**

   B) Click the **Application Management** tab

   C) Under SharePoint Site Management click **Create site collection**

   D) Web Application = **http://portal.tpg.local**

   E) Title = **Capture Configuration**

   F) URL = **/sites/captureconfiguration**

   G) Primary Site Collection Administration = **tpg\alan**

   H) Click **OK**
5) Click the link to **http://portal.tpg.local/sites/captureconfiguration**
6) Login as **tpg\alan**

7) Add a list template to the list template gallery

   A) Go to **Site Settings**

   B) Under Galleries click **List templates**

   C) Click **Upload**

   D) Browse to **c:_student files\module 10\Microsoft IT Site Delete Capture Feature 1.0(Package)**

   E) Select **AppConfig.stp**

   F) Click **Open**

   G) Click **OK**

   H) Click **OK** at the properties screen

8) Create a list from template

   A) Click Site Actions > **Create**

   B) Under Custom Lists choose **AppConfig**

   C) Name = **AppConfig**

   D) Display on Quick Launch = **No**

   E) Click **Create**

9) Modify the AppConfig item

   A) Hover over AppConfig, click the drop down and select **edit**

   B) NetworkShare = **c:\backups**

   C) Now you would normally modify SMTP server and email address. But email does not work on your server.

   D) Click **OK**

10) Enable the feature for Portal Web Application

   A) Return to **Central Admin**

   B) Click the **Application Management** tab

   C) Under SharePoint Web Application Management click **Manage Web application features**

   D) Set Web application to **http://portal.tpg.local**

   E) **Activate** the Microsoft IT Site Delete Capture Feature 1.1

   F) **Access Denied???**

11) Once again you have encountered a challenge of running a securely setup install. By default SP_Admin does not have any rights to the web application Portal. Generally in a situation like this you would just temporally elevate SP_admins privileges.

   A) Click **go back to site**

   B) Click the **Application Management** tab

   C) Under Application Security click **Policy for Web application**

   D) Click **Add Users**

E) Make sure you are on **http://portal.tpg.local** and click **Next**

F) Users = **tpg\sp_admin**

G) Select **Full Control**

H) Click **Finish**

12) Now repeat step 10. After you finish step 10 you can take away SP_admins elevated privileges.

Exercise 2: Delete and restore some sites

1) Delete the HR Private site

A) Open **Central Admin**

B) Click the **Application Management** tab

C) Under SharePoint Site Management click **Delete site collection**

D) Click No selection > **change Web application**

E) Web application = **http://portal.tpg.local**

F) Select URL **/sites/hr**

G) Click **OK**

H) Make sure you have **http://portal.tpg.local/sites/hr** for your site collection

I) Click **Delete**

J) Click **OK**

2) Delete a sub site

A) Navigate to **http://portal.tpg.local/** as tpg\alan

B) Click **Document Center**

C) Click Site Actions > **Site Settings**

D) Under Site Administration click **Delete this site**

E) Click **Delete**

F) Click **OK**

3) Navigate to **c:\backups**

In the root of the folder you will find docs.bak. This is your site you deleted. In the sites folder you will find hr.bak. This is the site collection you deleted.

4) Restore the Document Center

A) Open a command prompt

B) Navigate to **c:\program files\common files\Microsoft shared\web server extensions\12\bin**

C) Run the command

```
Stsadm –o import –url http://portal.tpg.local/docs -filename c:\backups\docs.bak
```

5) Restore the HR Private site

A) Run the command


```
Stsadm –o restore –url http://portal.tpg.local/sites/hr -filename
c:\backups\sites\hr.bak
```

6) All done! Navigate in the browser to confirm your restores were successful.

End of Lab

