

# Lesson 5: Configuring File Server Resource Manager (FSRM)

MOAC 70-411: Administering  
Windows Server 2012

# Overview

- Exam Objective 2.2: Configure File Server Resource Manager (FSRM)
- Using File Server Resource Manager

# Using File Server Resource Manager

Lesson 5: Configuring File Server  
Resource Manager (FSRM)

# File Server Resource Manager (FSRM)

Using File Server Resource Manager enables you to:

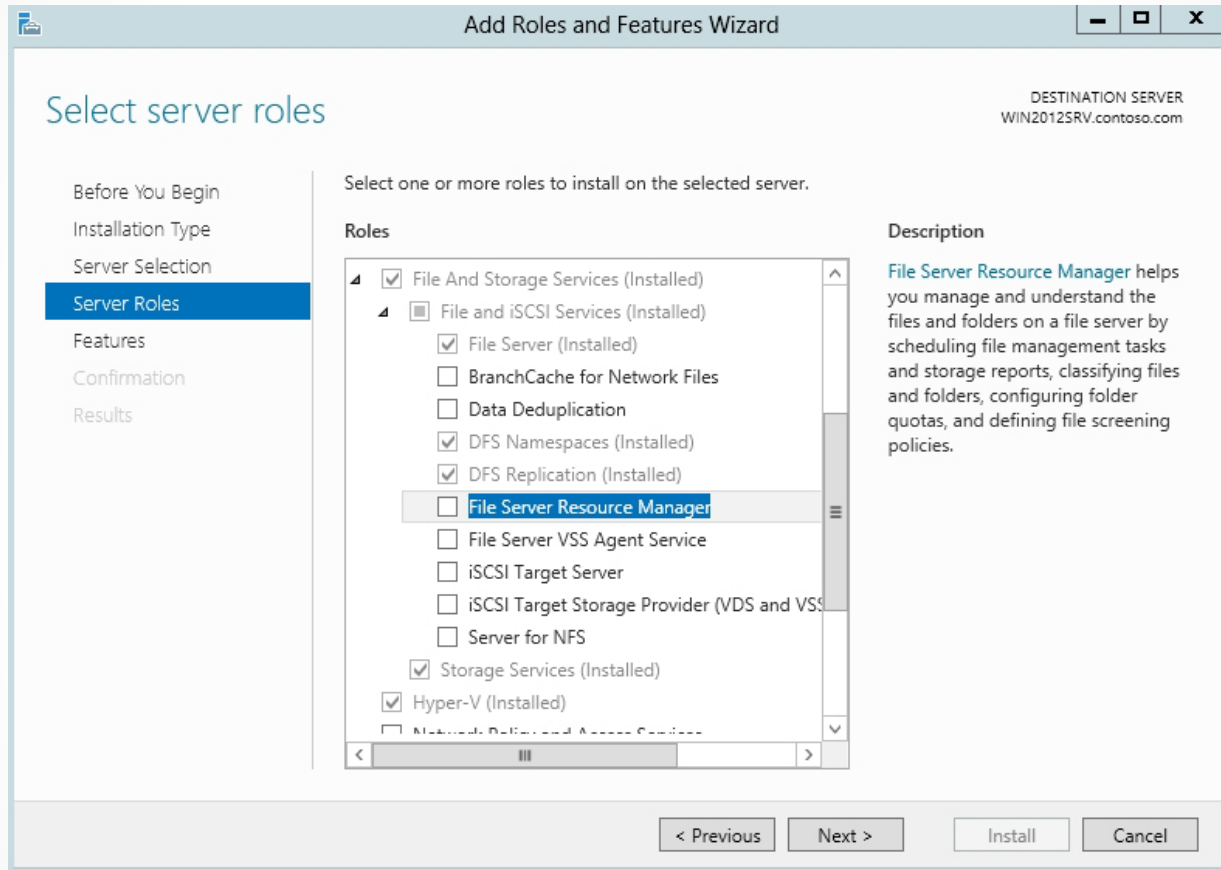
- Create quotas for a volume or folder tree, including generating e-mails when the quota limits are approached or exceeded.
- Create file screens to control the type of files that users can save.
- Send notifications when users try to save a blocked file.

# File Server Resource Manager (FSRM)

With FSRM you can also:

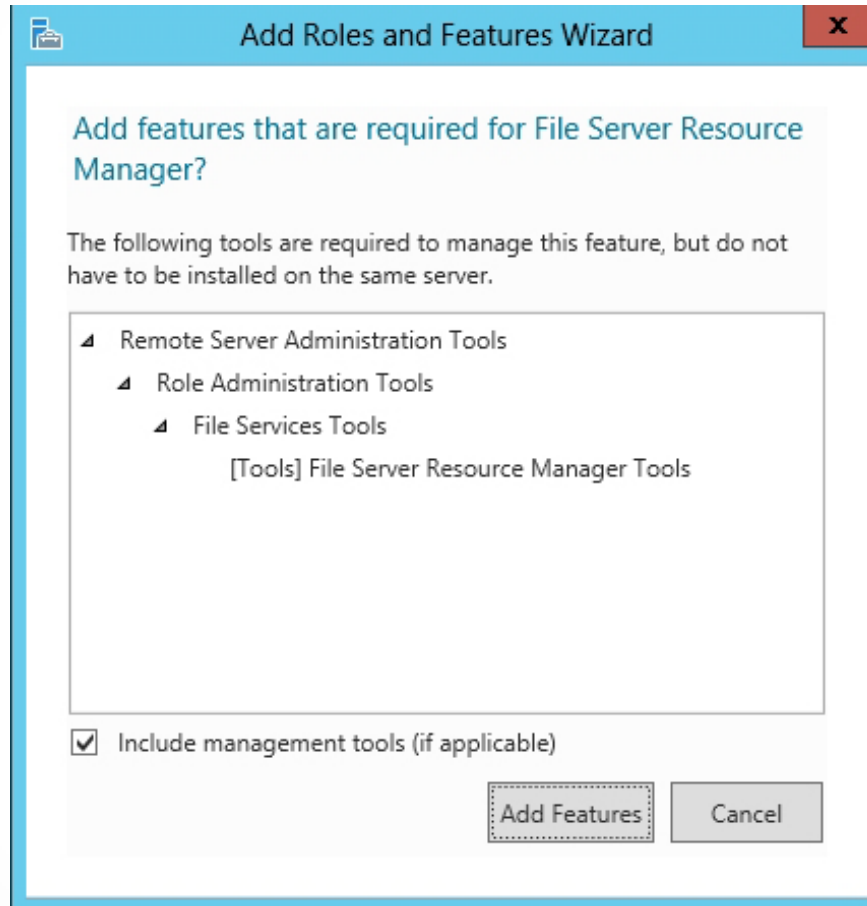
- Schedule periodic storage reports or manually generate a storage report to identify trends in disk usage.
- Classify files based on defined properties and apply policies based on the classification.
- Restrict access to files, encrypt files, and have files expire.

# Install File Server Resource Manager



Selecting File Server Resource Manager

# Install File Server Resource Manager



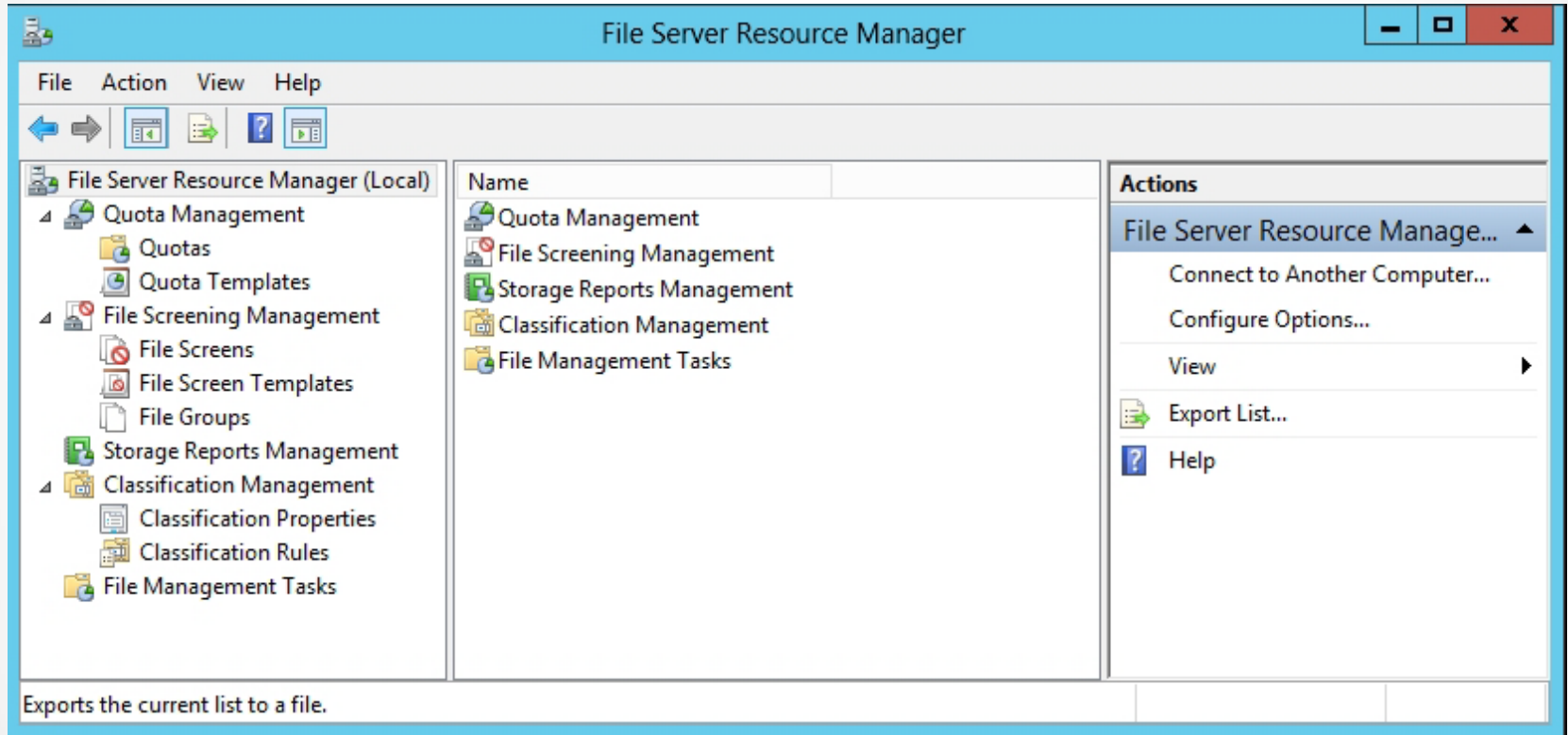
Adding the FSRM tools

# Using Quotas

- A **hard quota** prevents users from saving files after the space limit is reached and generates notifications when the volume of data reaches the configured threshold.
- A **soft quota** does not enforce the quota limit but generates a notification when the configured threshold is met.
- You can create a quota on a volume or a folder using a **quota template** or by using custom properties.



# Create a Quota Template



Viewing the File Server Resource Manager console

# Create a Quota Template

Copy properties from quota template (optional):  
100 MB Limit [v] [Copy]

Settings

Template name:  
[ ]

Description (optional):  
[ ]

Space limit

Limit:  
100 [v] MB [v]

Hard quota: Do not allow users to exceed limit  
 Soft quota: Allow users to exceed limit (use for monitoring)

Notification thresholds

Threshold	E-mail	Event Log	Command	Report
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[Add...] [Edit...] [Remove]

[OK] [Cancel]

Opening the Create Quota Template dialog box

# Create a Quota Template

**Add Threshold**

Generate notifications when usage reaches (%):  
85

E-mail Message | Event Log | Command | Report

Send e-mail to the following administrators:  
[Admin Email]  
Format: account@domain. Use semicolons to separate accounts.

Send e-mail to the user who exceeded the threshold

E-mail message  
Type the text to use for the Subject line and message.  
To identify the quota, limit, usage, or other information about the current threshold, you can use Insert Variable to insert a variable in your text.

Subject:  
[Quota Threshold]% quota threshold exceeded

Message body:  
User [Source Io Owner] has exceeded the [Quota Threshold]% quota threshold for the quota on [Quota Path] on server [Server]. The quota limit is [Quota Limit MB] MB, and [Quota Used MB] MB currently is in use ([Quota Used Percent]% of limit).

Select variable to insert:  
[Admin Email] | Insert Variable

Inserts the e-mail addresses of the administrators who receive the e-mail.

Additional E-mail Headers...

OK | Cancel

Displaying the Add Threshold dialog box

# Create a Quota Template

**Add Threshold**

Generate notifications when usage reaches (%):  
85

E-mail Message | **Event Log** | Command | Report

Send warning to event log

Warning message  
Type the text to use for the log entry.  
To identify the quota, limit, usage or other information about the current threshold, you can use Insert Variable to insert a variable in your text.

Log entry:  
User [Source Io Owner] has exceeded the [Quota Threshold]% quota threshold for the quota on [Quota Path] on server [Server]. The quota limit is [Quota Limit MB] MB, and [Quota Used MB] MB currently is in use ([Quota Used Percent]% of limit).

Select variable to insert:  
[Admin Email] | Insert Variable

Inserts the e-mail addresses of the administrators who receive the e-mail.

OK Cancel

Logging an event on the Event Log tab

# Create a Quota Template

The screenshot shows a dialog box titled "Add Threshold" with a close button (X) in the top right corner. The main content area is titled "Generate notifications when usage reaches (%):" and contains a text input field with the value "85". Below this are four tabs: "E-mail Message", "Event Log", "Command", and "Report". The "Command" tab is selected. Under the "Command" tab, there is a checkbox labeled "Run this command or script:" which is currently unchecked. To the right of this checkbox is a "Browse..." button. Below the checkbox is a section titled "Command settings" which includes a "Command arguments:" text input field and a "Specify the directory to run the command in:" section with a "Working directory..." button. At the bottom of the "Command" tab is a "Command security" section. It contains a paragraph of text: "To maintain security of the server, use the most restrictive account possible. This will help safeguard the system if the process is compromised." Below this is a "Run the command as:" section with three radio button options: "Local Service" (selected), "Network Service", and "Local System". Each option has a brief description of its access level. At the bottom right of the dialog are "OK" and "Cancel" buttons.

Running a command or script on the Command tab

# Create a Quota Template

**Add Threshold**

Generate notifications when usage reaches (%):  
85

E-mail Message | Event Log | Command | **Report**

Generate reports

Select reports to generate:

- Duplicate Files
- File Screening Audit
- Files by File Group
- Files by Owner
- Files by Property
- Large Files
- Least Recently Accessed Files

Review Selected Reports

When a quota or file screening event generates incident reports, default report settings are used. To modify the default settings, use the Configure Options task, Storage Reports tab.

Send reports to the following administrators:  
[Admin Email]  
Format: account@domain. Use a semicolon to separate multiple accounts.

Send reports to the user who exceeded the threshold

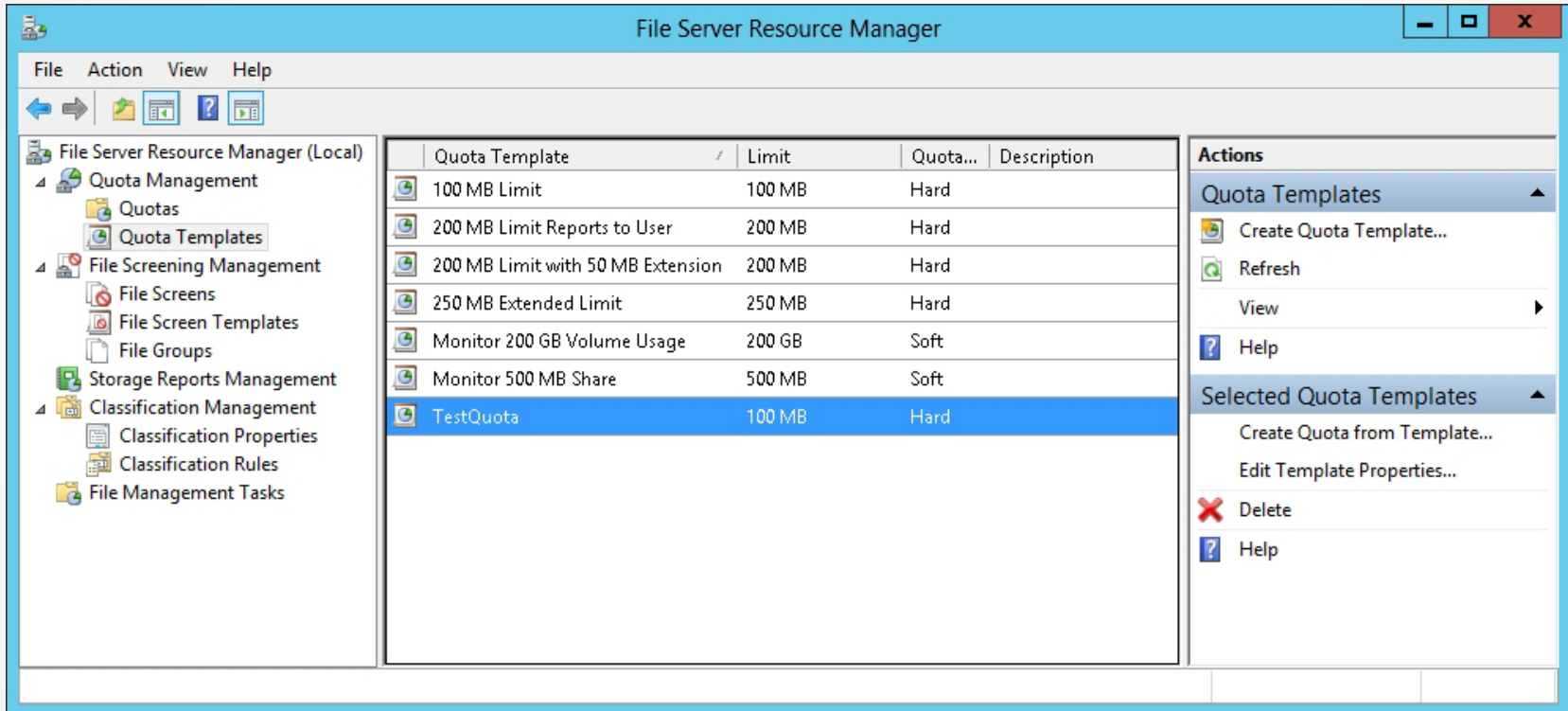
The reports will be saved in C:\StorageReports\Incident.

To change the locations where reports are saved, use the Configure Options task, Report Locations tab.

OK Cancel

Generating storage reports on the Report tab

# Create a Quota Template



The screenshot shows the File Server Resource Manager (FSRM) console. The left-hand navigation pane is expanded to 'Quota Templates'. The main pane displays a table of quota templates. The 'TestQuota' template is selected and highlighted in blue. The right-hand pane shows the 'Actions' menu for the selected template, with options like 'Create Quota from Template...', 'Edit Template Properties...', and 'Delete'.

Quota Template	Limit	Quota...	Description
100 MB Limit	100 MB	Hard	
200 MB Limit Reports to User	200 MB	Hard	
200 MB Limit with 50 MB Extension	200 MB	Hard	
250 MB Extended Limit	250 MB	Hard	
Monitor 200 GB Volume Usage	200 GB	Soft	
Monitor 500 MB Share	500 MB	Soft	
<b>TestQuota</b>	100 MB	Hard	

Viewing the quota template

# Create a Quota from a Quota Template

The screenshot shows a dialog box titled "Create Quota" with a close button (X) in the top right corner. The dialog is divided into several sections:

- Quota path:** A text input field is empty, with a "Browse..." button to its right.
- Options:** Two radio buttons are present:
  - Create quota on path
  - Auto apply template and create quotas on existing and new subfolders
- Quota properties:** A section with a title bar and a scrollable area containing:
  - Text: "You can either use properties from a quota template or define custom quota properties."
  - Text: "How do you want to configure quota properties?"
  - Radio button  Derive properties from this quota template (recommended):
    - A dropdown menu showing "TestQuota".
  - Radio button  Define custom quota properties:
    - A button labeled "Custom Properties ...".
- Summary of quota properties:** A scrollable area showing a tree view:
  - [-] Quota:
    - Source template: TestQuota
    - Limit: 100 MB (Hard)
    - [-] Notification: 2
      - Warning(85%):

At the bottom of the dialog are two buttons: "Create" and "Cancel".

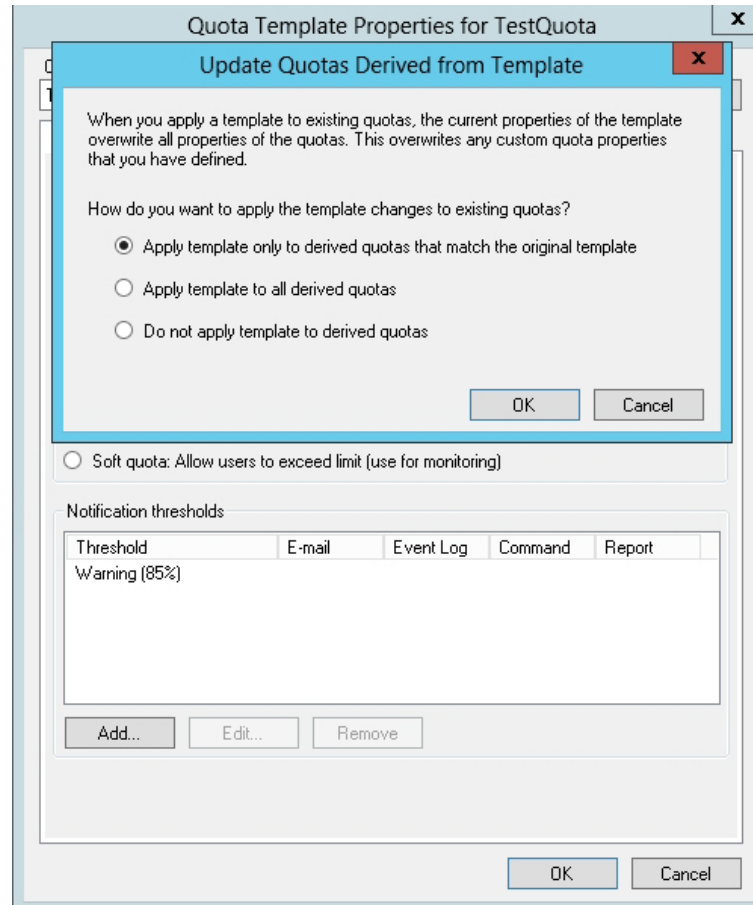
Creating a quota using a template



# Changing Quota Templates

- You can apply changes to quotas that were created using the original quota template.
- You can modify only those quotas that still match the original template or all quotas that are derived from the original template.
- When you reapply the template, the properties of the quotas are overwritten.

# Create a Quota from a Quota Template



Updating quotas in the Update Quotas Derived from Template dialog box

# Monitoring Quota Use

- You can view quota usage using one of these methods with FSRM:
  - Click *Quota Management*, and then click *Quotas*. In the Results pane, you can view the quota limit, the percentage of the limit used, the type of quota, and the source template.
  - Run a Quota Usage report.

# Monitoring Quota Use

The screenshot displays the File Server Resource Manager (FSRM) console. The left-hand navigation pane shows the hierarchy: File Server Resource Manager (Local) > Quota Management > Quotas. The main pane shows a table of quotas with the following data:

Quota Path	% Used	Limit	Quota Type	Source Template	Match Templa...	Description
<b>Source Template: 100 MB Limit (3 items)</b>						
C:\Pics\Monitoring	12%	100 ...	Hard	100 MB Limit	Yes	
C:\Pics\Updates	11%	100 ...	Hard	100 MB Limit	Yes	
C:\Pics\WDS	14%	100 ...	Hard	100 MB Limit	Yes	

The right-hand pane shows the 'Actions' menu for Quotas, with options: Create Quota..., Refresh, View, and Help.

Using FSRM to show quota usage

# Managing Files with File Screening

From the File Screening Management node of the File Server Resource Manager MMC snap-in:

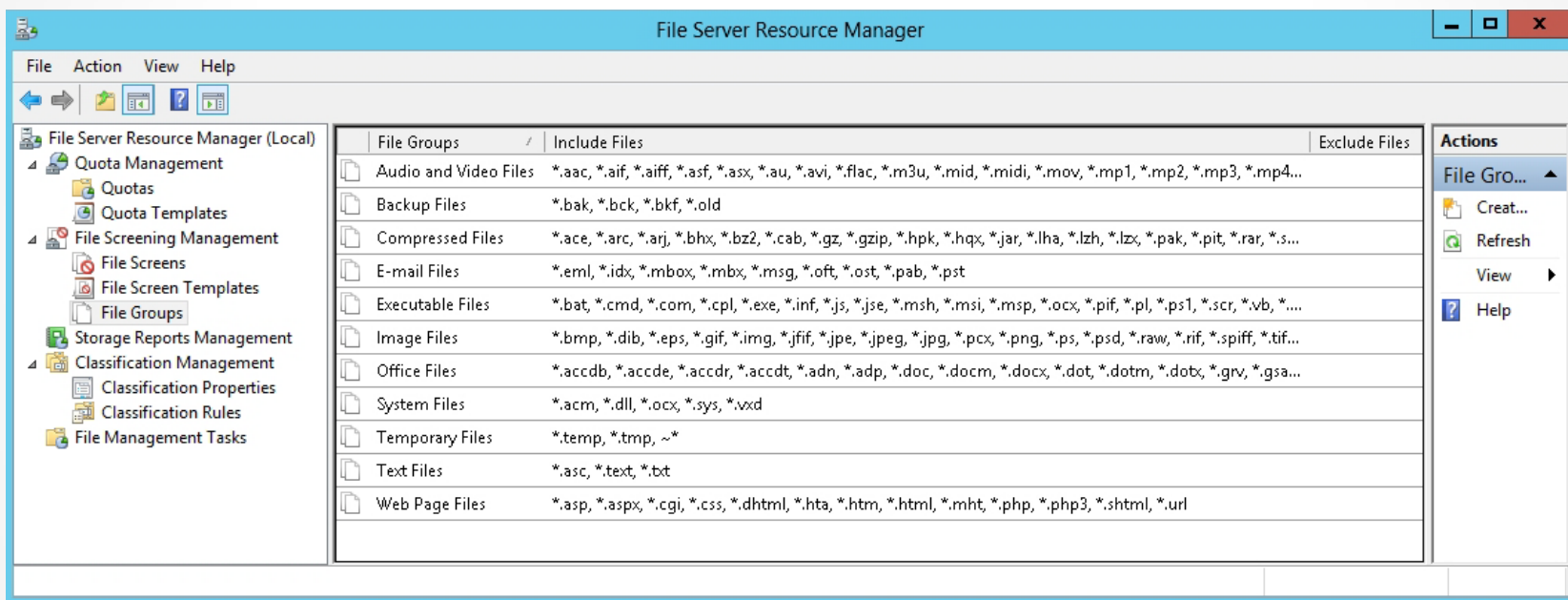
- Create and manage file groups.
- Create file screens to control the types of files users can save.
- Generate notifications when users attempt to save unauthorized files.
- Create file screen exceptions that override file-screening rules.
- Define file-screening templates to simplify file-screening management.

# Creating File Groups

A ***file group***:

- Defines a namespace for a file screen, file screen exception, or Files by File Group storage report.
- Consists of a set of file name patterns that are grouped by:
  - Files to include
  - Files to exclude

# Pre-Built File Groups



Displaying file groups

# Create File Groups

Settings

File group name:

To select a set of files, type a file name pattern, and click Add.  
Examples: \*.exe or Q4FY2002.\*

Files to include:

Files to exclude:

Creating a file group with the Create File Group Properties dialog box

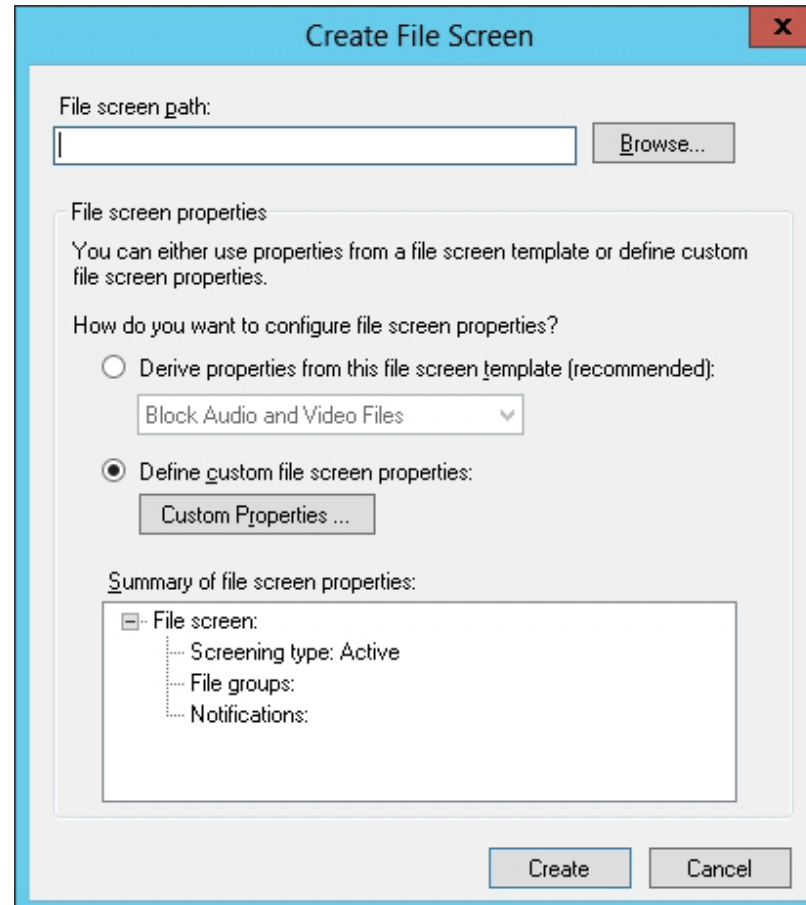


# Creating a File Screen

When you create a file screen, there are two screening types:

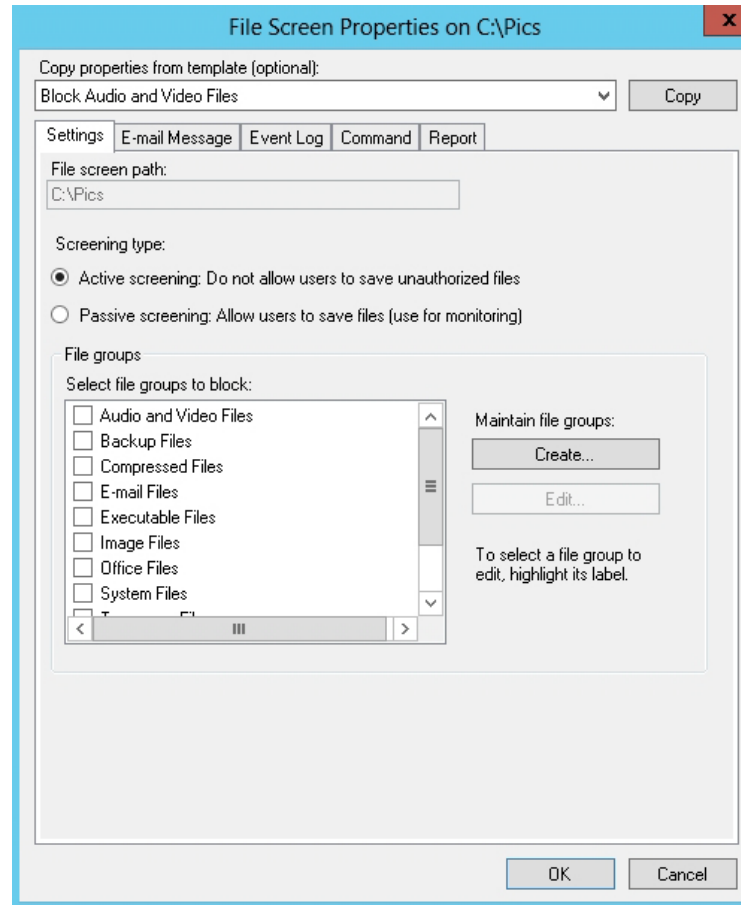
- **Active screening:** Prevents users from saving the defined unauthorized files.
- **Passive screening:** Allows users to save a file, but allows the monitoring and notification when a user saves an unauthorized file.

# Create a File Screen



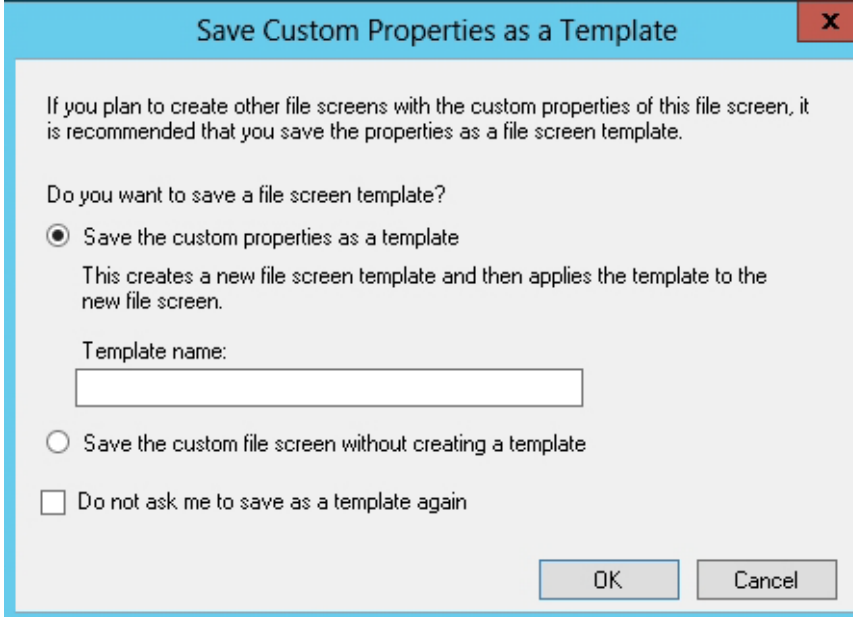
Creating a file screen with the Create File Screen dialog box

# Create a File Screen



Opening the File Screen Properties dialog box

# Create a File Screen



The dialog box has a title bar with the text "Save Custom Properties as a Template" and a close button (X) on the right. The main content area contains the following text and controls:

If you plan to create other file screens with the custom properties of this file screen, it is recommended that you save the properties as a file screen template.

Do you want to save a file screen template?

- Save the custom properties as a template  
This creates a new file screen template and then applies the template to the new file screen.
- Save the custom file screen without creating a template
- Do not ask me to save as a template again

Below the radio buttons is a text input field labeled "Template name:". At the bottom right of the dialog are two buttons: "OK" and "Cancel".

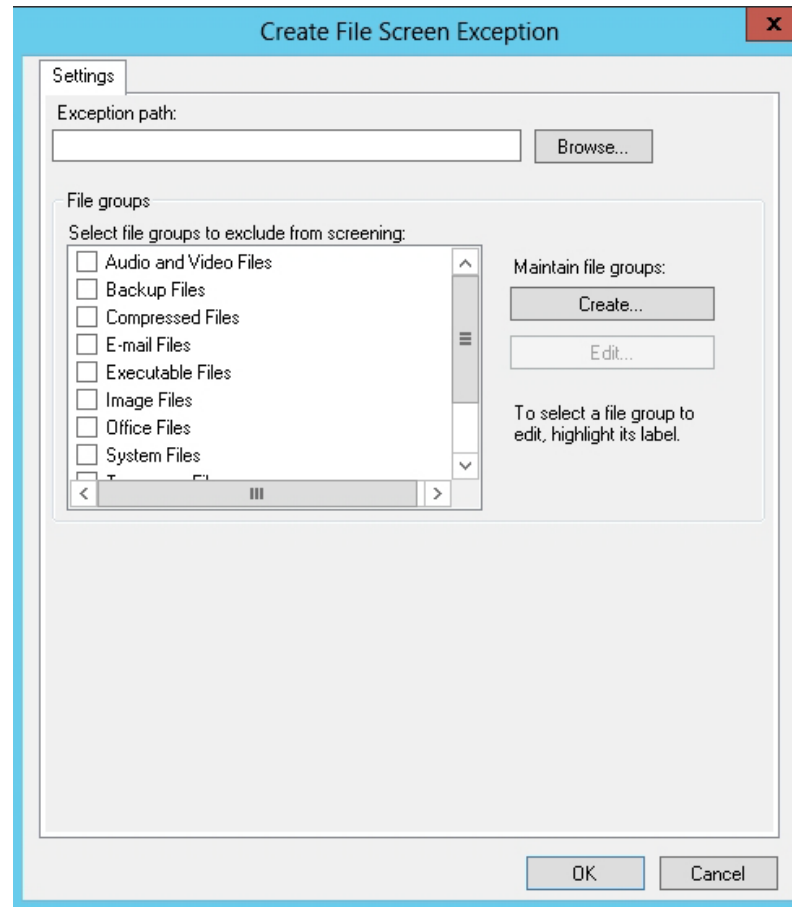
Saving the file screen settings as a template

# Creating a File Screen Exception

A *file screen exception*:

- Is a special type of file screen that overrides any file screening that would otherwise apply to a folder and all its subfolders in a designated exception path.
- Allows files that other file screens are blocking.

# Create a File Screen Exception



Creating a file screen exception

# Creating a File Screen Template

- A **file screen template** defines:
  - A set of file groups to screen
  - The type of screening to perform (active or passive)
  - (Optionally) a set of notifications that are generated automatically when a user saves, or attempts to save, an unauthorized file

# Creating a File Screen Template

- Similar to quota templates, you can simplify the management of file screens by updating the templates.
- Templates update all of the file screens that use the template.



# Using Storage Reports

FSRM reports:

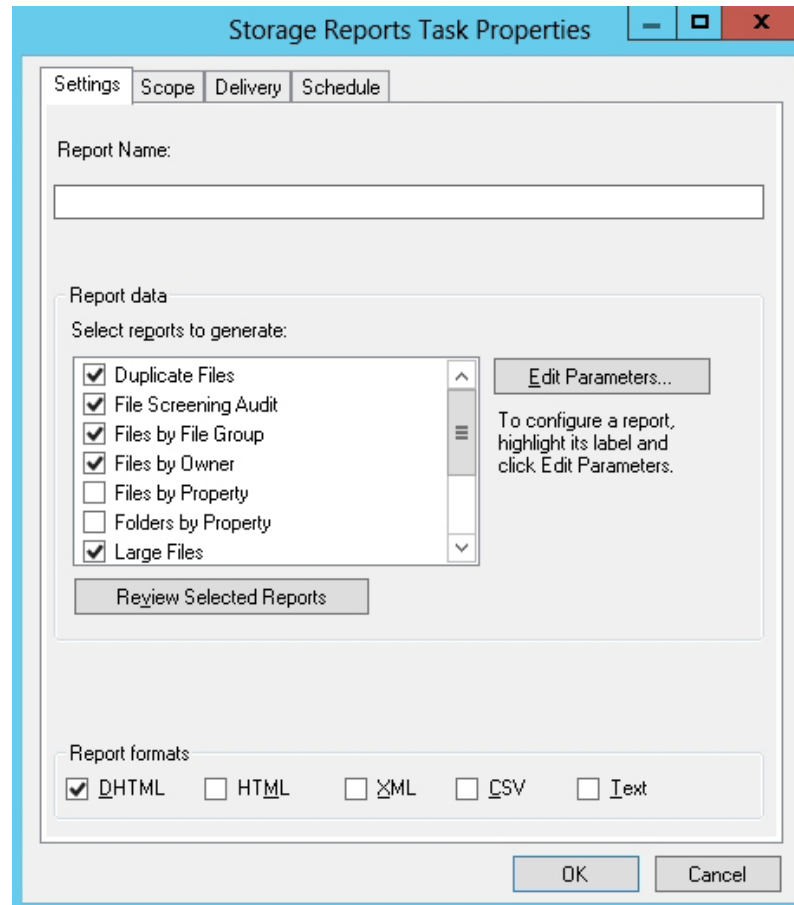
- **Duplicate Files:** Shows a list of files that are the same size and have the same last modified date.
- **File Screening Audit:** Creates a list of the audit events generated by file-screening violations for specific users during a specific time period.
- **Files by File Group:** Creates a list of files sorted by selected file groups defined with FSRM.
- **Files by Owner:** Creates a list of files sorted by selected users that own them.

# Using Storage Reports

FSRM reports (continued):

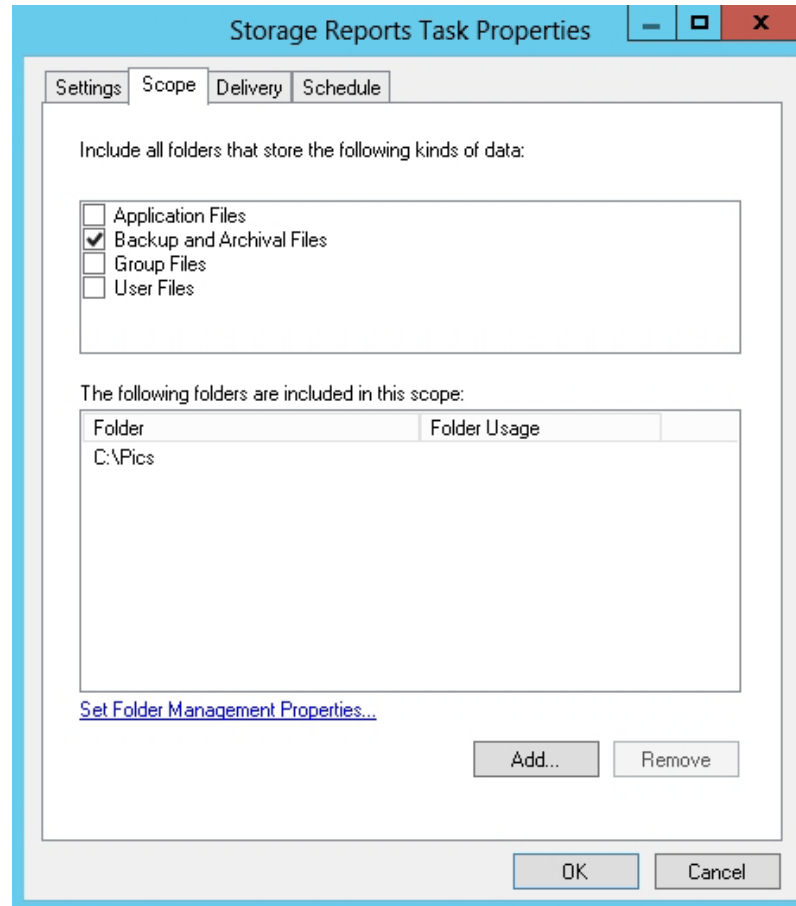
- **Large Files:** Creates a list of files that are larger than a specified size.
- **Least Recently Accessed Files:** Creates a list of files that have not been accessed for a specified number of days.
- **Most Recently Accessed Files:** Creates a list of files that have been accessed within a specified number of days.
- **Quota Usage:** Creates a list of quotas that exceed a specified percentage of the storage limit.

# Schedule a Storage Report



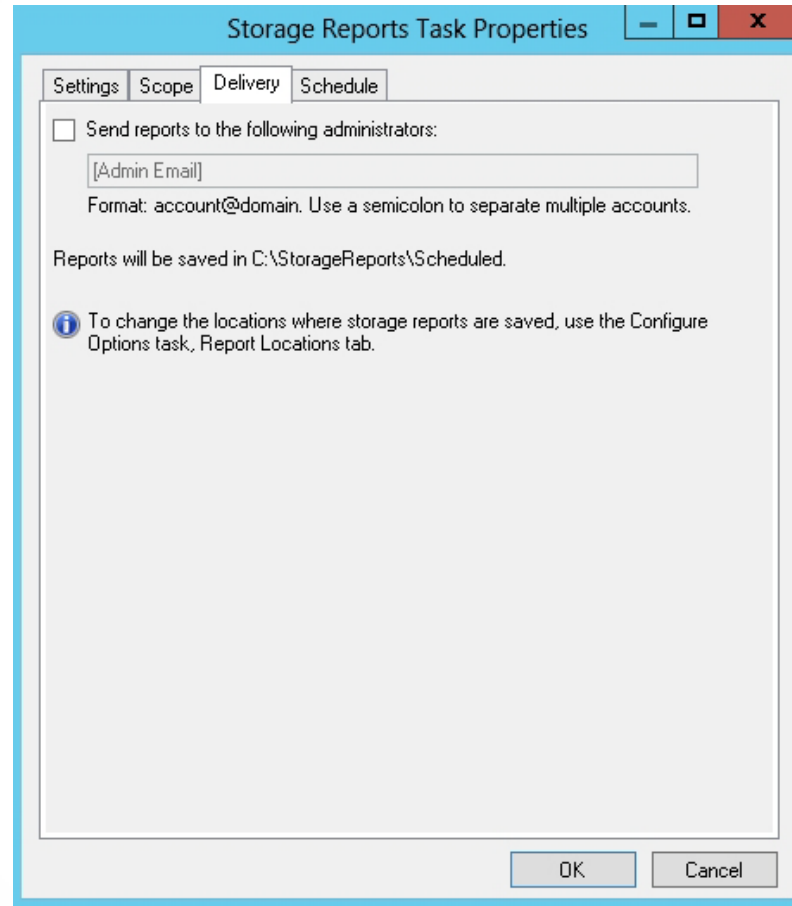
Creating a storage report

# Schedule a Storage Report



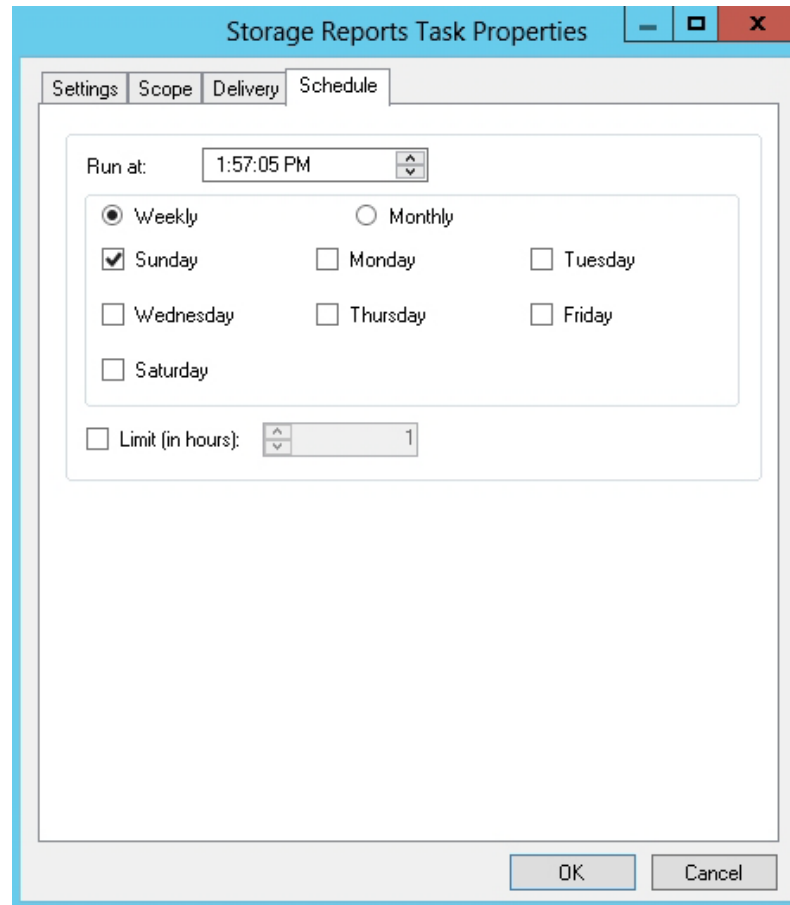
Defining the scope

# Schedule a Storage Report



Specifying who gets the reports

# Schedule a Storage Report



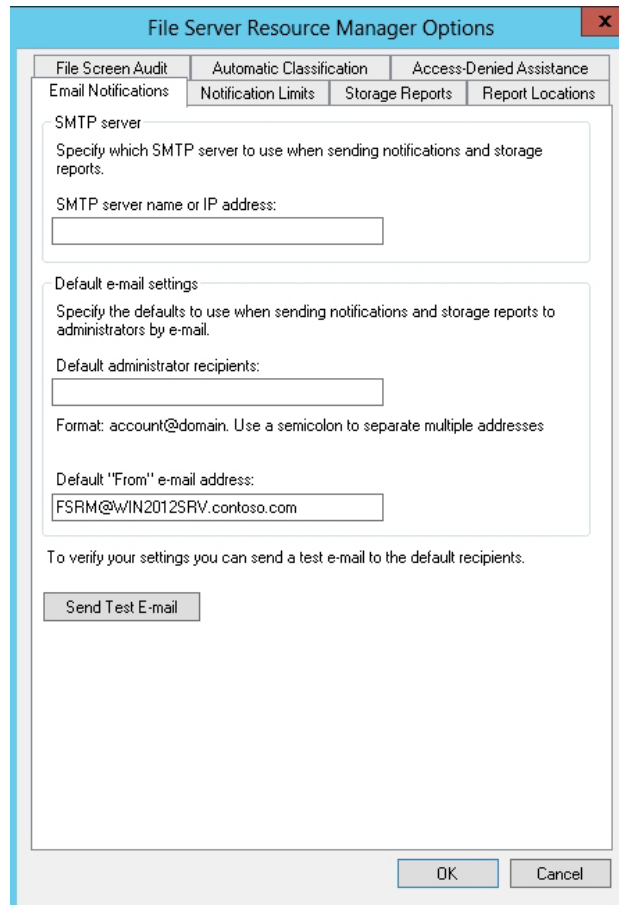
Scheduling the storage reports

# Enabling SMTP

To send e-mail:

- Configure FSRM to use Simple Mail Transfer Protocol (SMTP).
  - E-mail forwarding for delivery
- Specify an SMTP server as part of the initial FSRM configuration so that quota or file screening e-mail notifications can be sent.
  - You must be a member of the Administrators group to enable SMTP.

# Enable SMTP for FSRM



The screenshot shows the 'File Server Resource Manager Options' dialog box. The 'Email Notifications' tab is selected, and the 'SMTP server' section is active. The 'SMTP server name or IP address' field is empty. The 'Default e-mail settings' section shows the 'Default administrator recipients' field is empty and the 'Default "From" e-mail address' field contains 'FSRM@WIN2012SRV.contoso.com'. A 'Send Test E-mail' button is visible below the 'Default "From" e-mail address' field. The 'OK' and 'Cancel' buttons are at the bottom right of the dialog box.

File Server Resource Manager Options

File Screen Audit Automatic Classification Access-Denied Assistance

Email Notifications Notification Limits Storage Reports Report Locations

SMTP server

Specify which SMTP server to use when sending notifications and storage reports.

SMTP server name or IP address:

Default e-mail settings

Specify the defaults to use when sending notifications and storage reports to administrators by e-mail.

Default administrator recipients:

Format: account@domain. Use a semicolon to separate multiple addresses

Default "From" e-mail address:

FSRM@WIN2012SRV.contoso.com

To verify your settings you can send a test e-mail to the default recipients.

Send Test E-mail

OK Cancel

Specifying the SMTP server



# Lesson Summary

- File Server Resource Manager (FSRM) is a suite of tools that enables you to control and manage the quantity and type of data stored on a file server.
- The FSRM is installed with Server Manager as a server role.
- Quotas defined with FSRM limit how much space a folder or volume can use.
- A hard quota prevents users from saving files after the space limit is reached and generates notifications when the volume of data reaches the configured threshold.
- A soft quota does not enforce the quota limit, but it generates a notification when the configured threshold is met.
- You can create a quota on a volume or a folder using a quota template or using custom properties.
- It is recommended that you use quota templates when creating quotas because quota templates can be applied to other volumes and folders in the future.

# Lesson Summary

- File screening enables you to control the type of files that users can save and send notifications when users try to save a blocked file.
- A file group is used to define a namespace for a file screen, file screen exception, or a Files by File Group storage report.
- To allow files that other file screens block, create a file screen exception.
- To help you manage storage, you can use FSRM to generate storage reports that show the state of their file server volumes and anyone who exceeds the quota or uses disallowed files.
- A Simple Mail Transfer Protocol (SMTP) server must be specified as part of the initial FSRM configuration so that quota or file screening e-mail notifications can be sent.

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