CNT 4603: System Administration
Fall 2013

Managing And Maintaining Windows Server 2008
Part 3

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http://www.cs.ucf.edu/courses/cnt4603/fall2013

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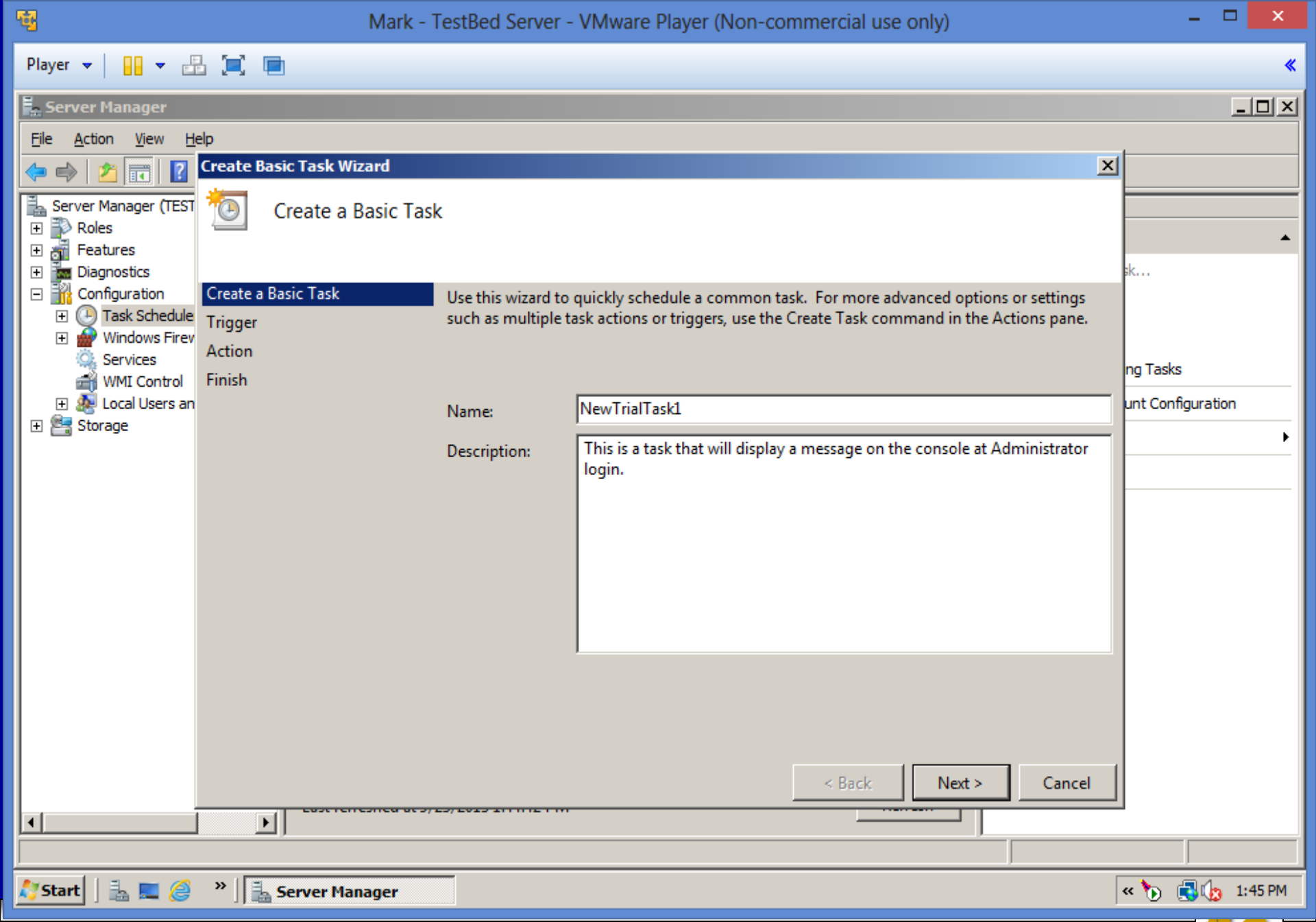
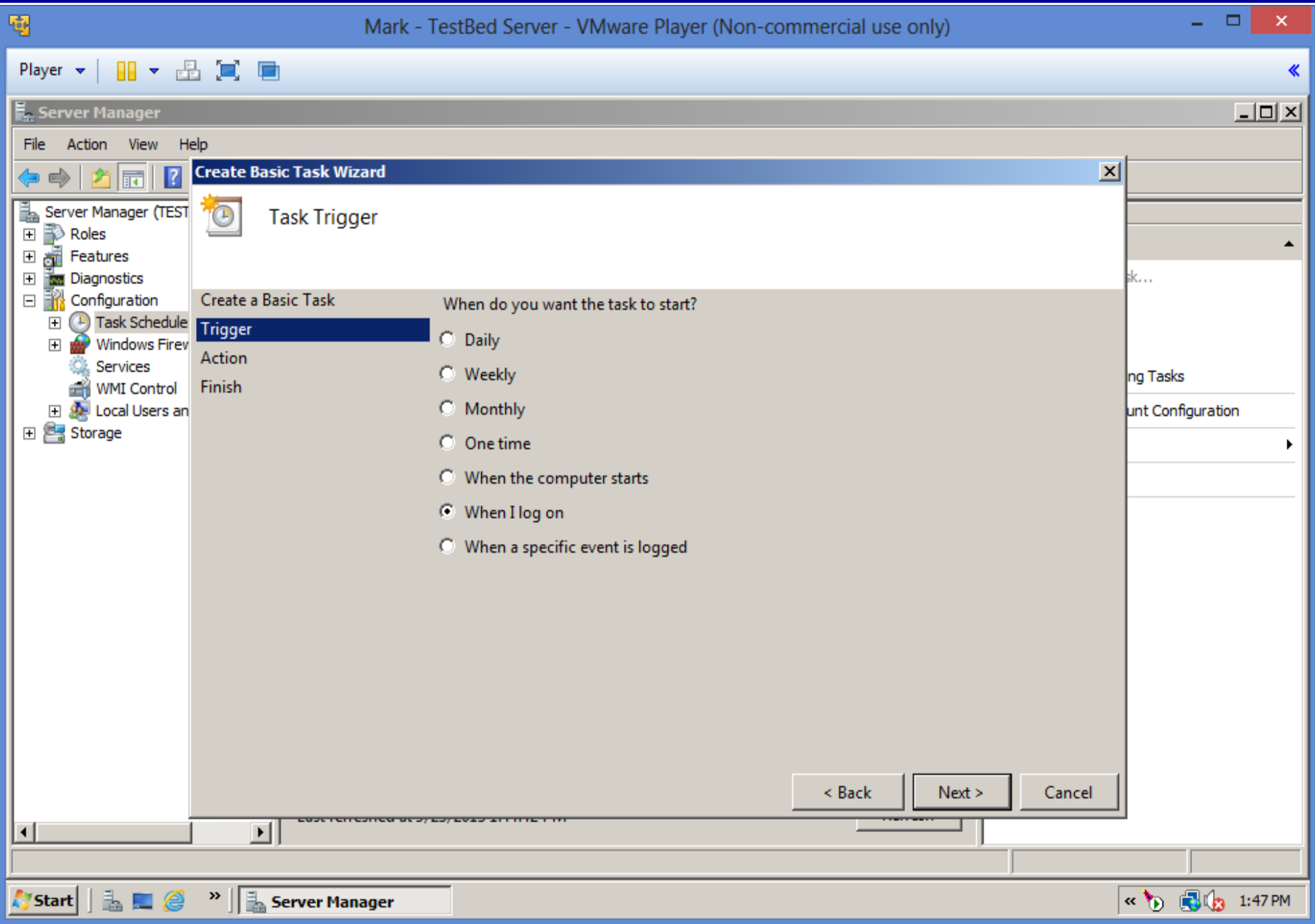
Working With Tasks

- The previous set of notes introduced you to the Task Scheduler in Server 2008. This set of notes will deal more closely with creating and managing scheduled tasks in the server.
- Before you need to worry about managing a task, you obviously need to create a task.
- There are two different ways to create a scheduled task via the Task Scheduler: a Basic Task wizard, which provides limited options for the scheduled task but covers the more common options, and the regular Create Task, which exposes the full options for a task but is not wizard driven.
- We'll look at the Basic Task wizard first.

The Basic Task Wizard

- Because you can create tasks anywhere in the Task Scheduler Library, select the folder where the new task is created, and then select the Create Basic Task action.
- The Basic Task Wizard has four configuration steps.
- The first is to give the task a name and an optional description, which is a good idea to complete for someone just browsing the tasks. For example, include information about what the task does and how it is triggered.
- The next stage of task creation is to pick the trigger for the task to execute, which can be Daily, Weekly, Monthly, a single occurrence, every time the computer starts, when a user logs on, or when a specific event ID is logged.


Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (TEST
Roles
Features
Diagnostics
Configuration
Task Schedule
Windows Firev
Services
WMI Control
Local Users an
Storage
Create Basic Task Wizard
Create a Basic Task
Create a Basic Task
Trigger
Action
Finish
Use this wizard to quickly schedule a common task. For more advanced options or settings such as multiple task actions or triggers, use the Create Task command in the Actions pane.
Name:
NewTrialTask1
Description:
This is a task that will display a message on the console at Administrator login.
< Back
Next >
Cancel
Start
Server Manager
1:45 PM


Mark - TestBed Server - VMware Player (Non-commercial use only)
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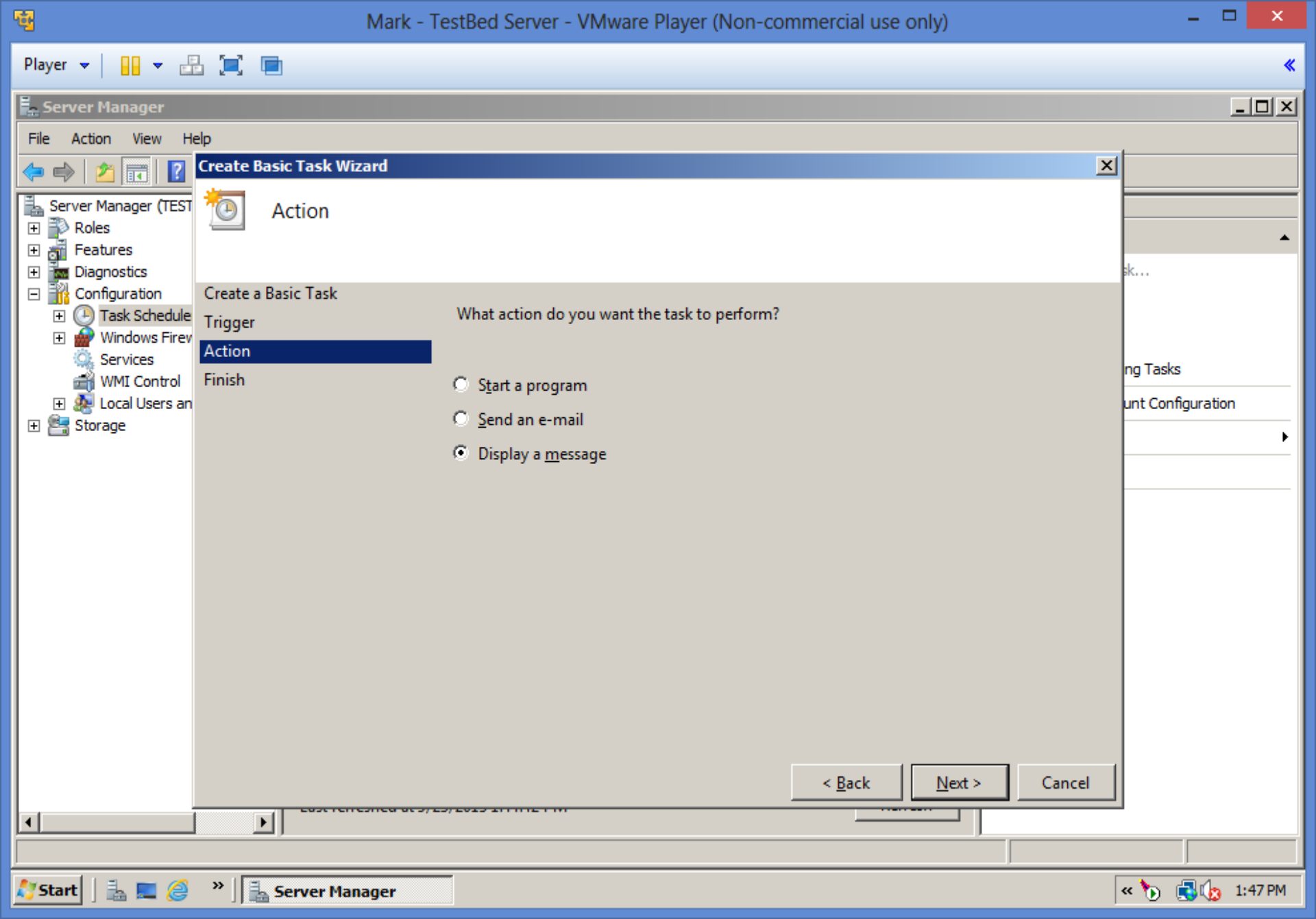
Server Manager
File Action View Help
Create Basic Task Wizard
Task Trigger
Server Manager (TEST
Roles
Features
Diagnostics
Configuration
Task Schedule
Windows Firev
Services
WMI Control
Local Users an
Storage
Create a Basic Task
Trigger
Action
Finish
When do you want the task to start?
Daily
Weekly
Monthly
One time
When the computer starts
When I log on
When a specific event is logged
< Back
Next >
Cancel
Start
Server Manager
1:47 PM

The Basic Task Wizard

- Depending on the trigger selected, you might additionally be prompted to enter a date or time for the trigger or an event ID to trigger on. For example, select Monthly: you can configure to run on the first Wednesday of each month via the interface.
- The next step is to define the Action that will occur for this event. From the wizard, three basic events can occur: start a program, send an email, or display a message.
- A screen shot of this is shown on the next page.


Mark - TestBed Server - VMware Player (Non-commercial use only)
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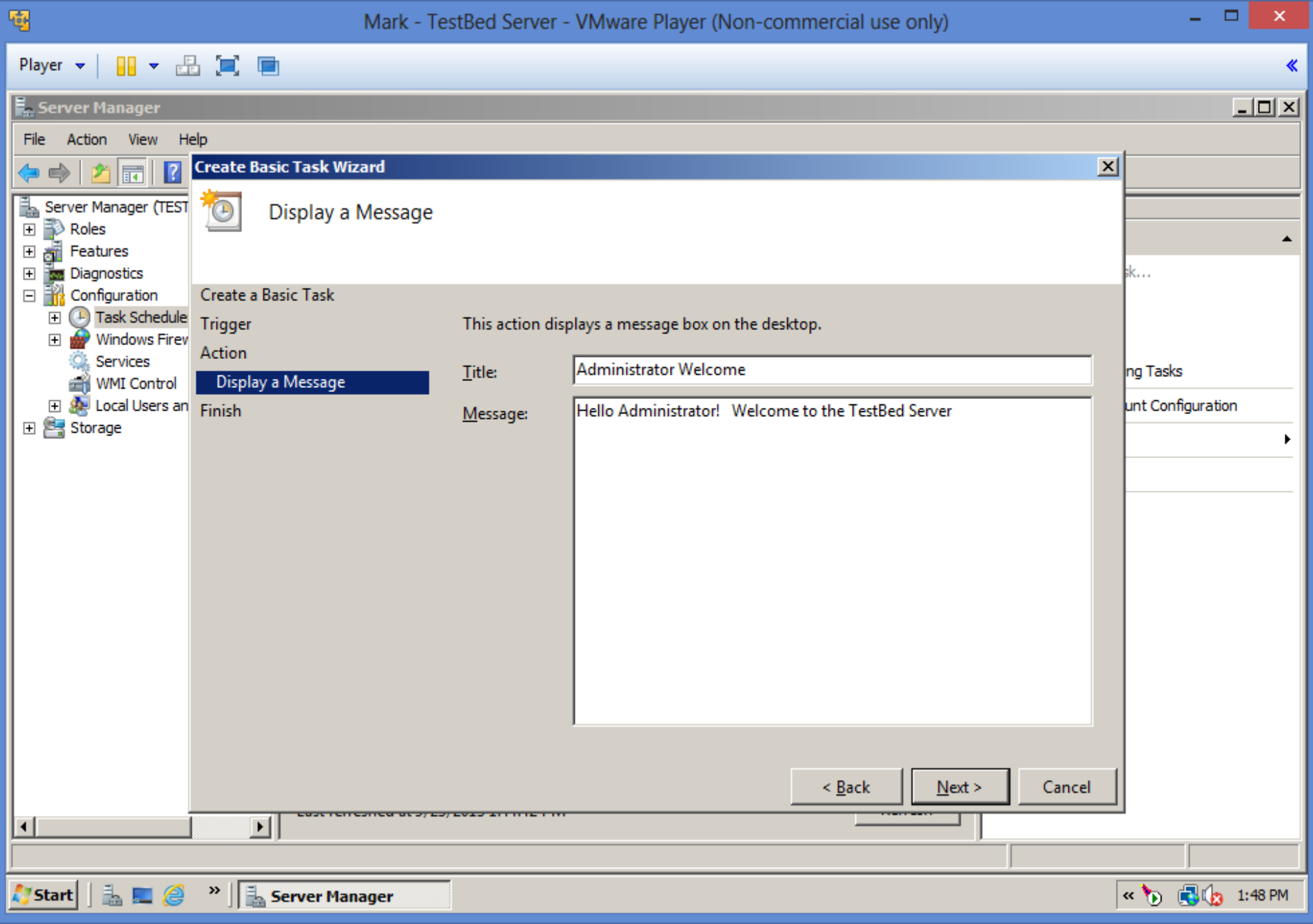
Diagnostics
Configuration
Task Schedule
Windows Firev
Services
WMI Control
Local Users an
Storage
Create Basic Task Wizard
Action
Create a Basic Task
Trigger
Action
Finish
What action do you want the task to perform?
Start a program
Send an e-mail
Display a message
< Back
Next >
Cancel
Start
Server Manager
1:47 PM


Mark - TestBed Server - VMware Player (Non-commercial use only)
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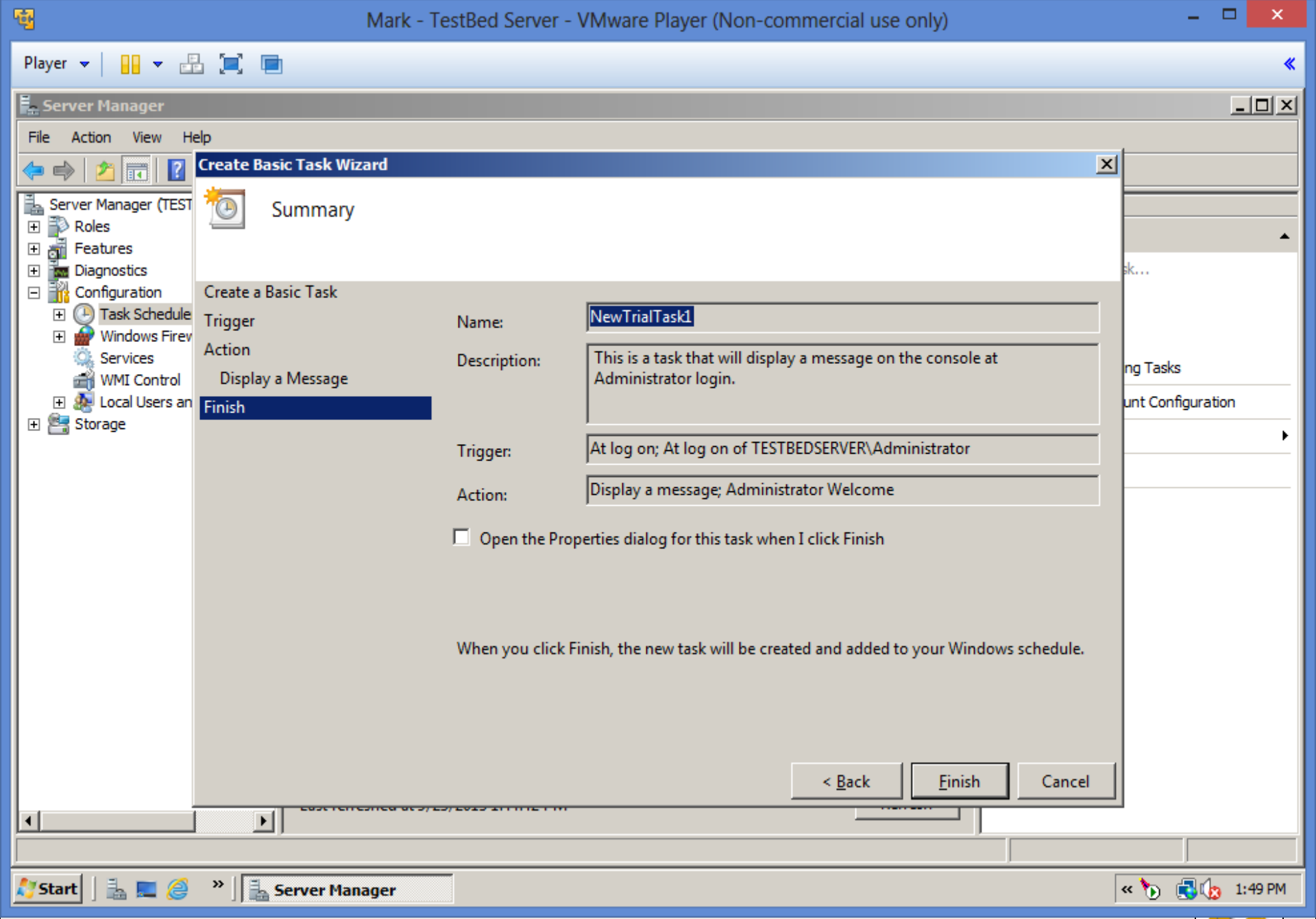
Server Manager
File Action View Help
Server Manager (TEST
Roles
Features
Diagnostics
Configuration
Task Schedule
Windows Firev
Services
WMI Control
Local Users an
Storage
Create Basic Task Wizard
Display a Message
Create a Basic Task
Trigger
Action
Display a Message
Finish
This action displays a message box on the desktop.
Title:
Administrator Welcome
Message:
Hello Administrator! Welcome to the TestBed Server
< Back
Next >
Cancel
Start
Server Manager
1:48 PM


Mark - TestBed Server - VMware Player (Non-commercial use only)
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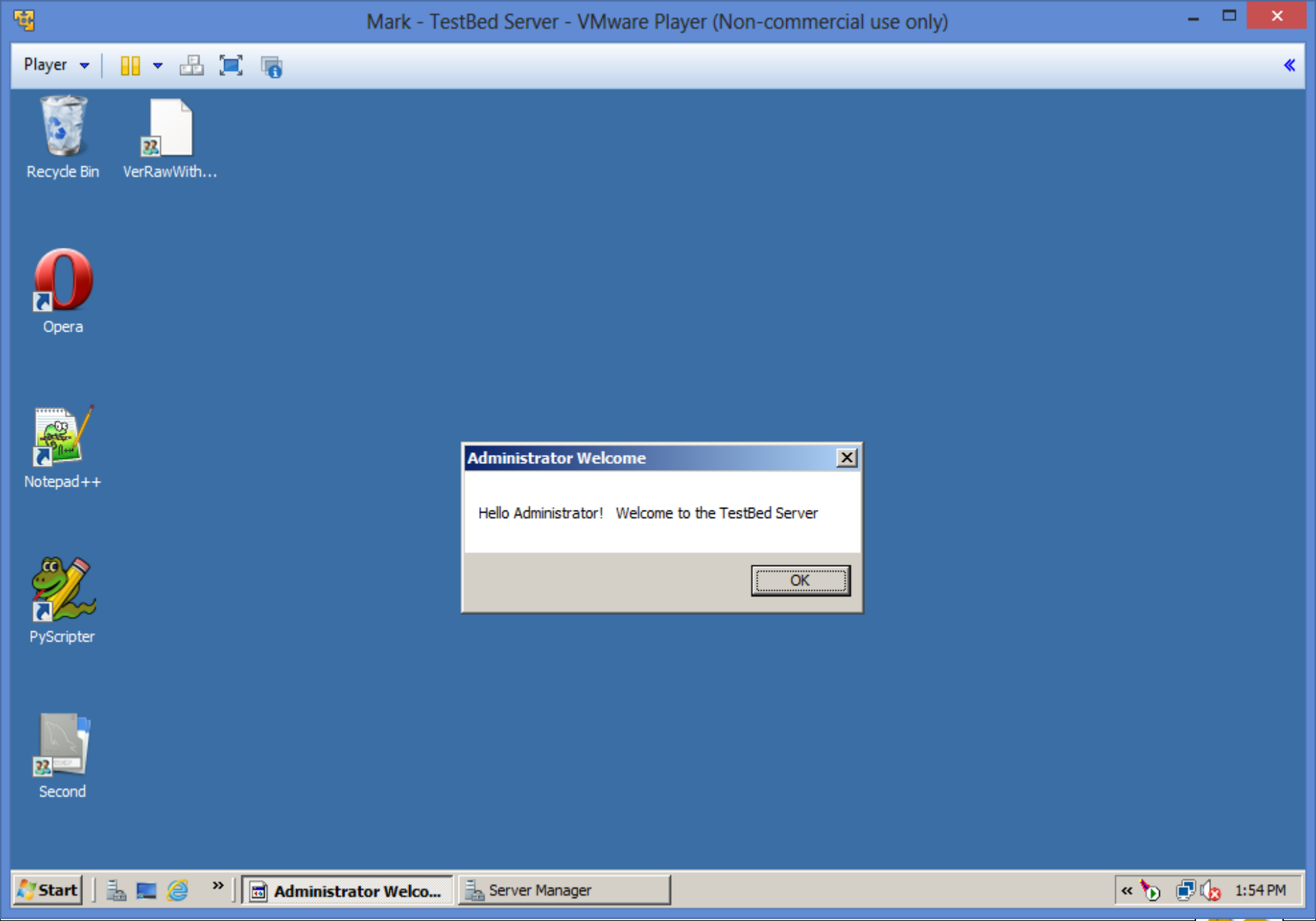
Roles
Features
Diagnostics
Configuration
Task Schedule
Windows Firev
Services
WMI Control
Local Users an
Storage
Create Basic Task Wizard
Summary
Create a Basic Task
Trigger
Action
Display a Message
Finish
Name:
NewTrialTask1
Description:
This is a task that will display a message on the console at Administrator login.
Trigger:
At log on; At log on of TESTBEDSERVER\Administrator
Action:
Display a message; Administrator Welcome
Open the Properties dialog for this task when I click Finish
When you click Finish, the new task will be created and added to your Windows schedule.
< Back
Finish
Cancel
Start
Server Manager
1:49 PM

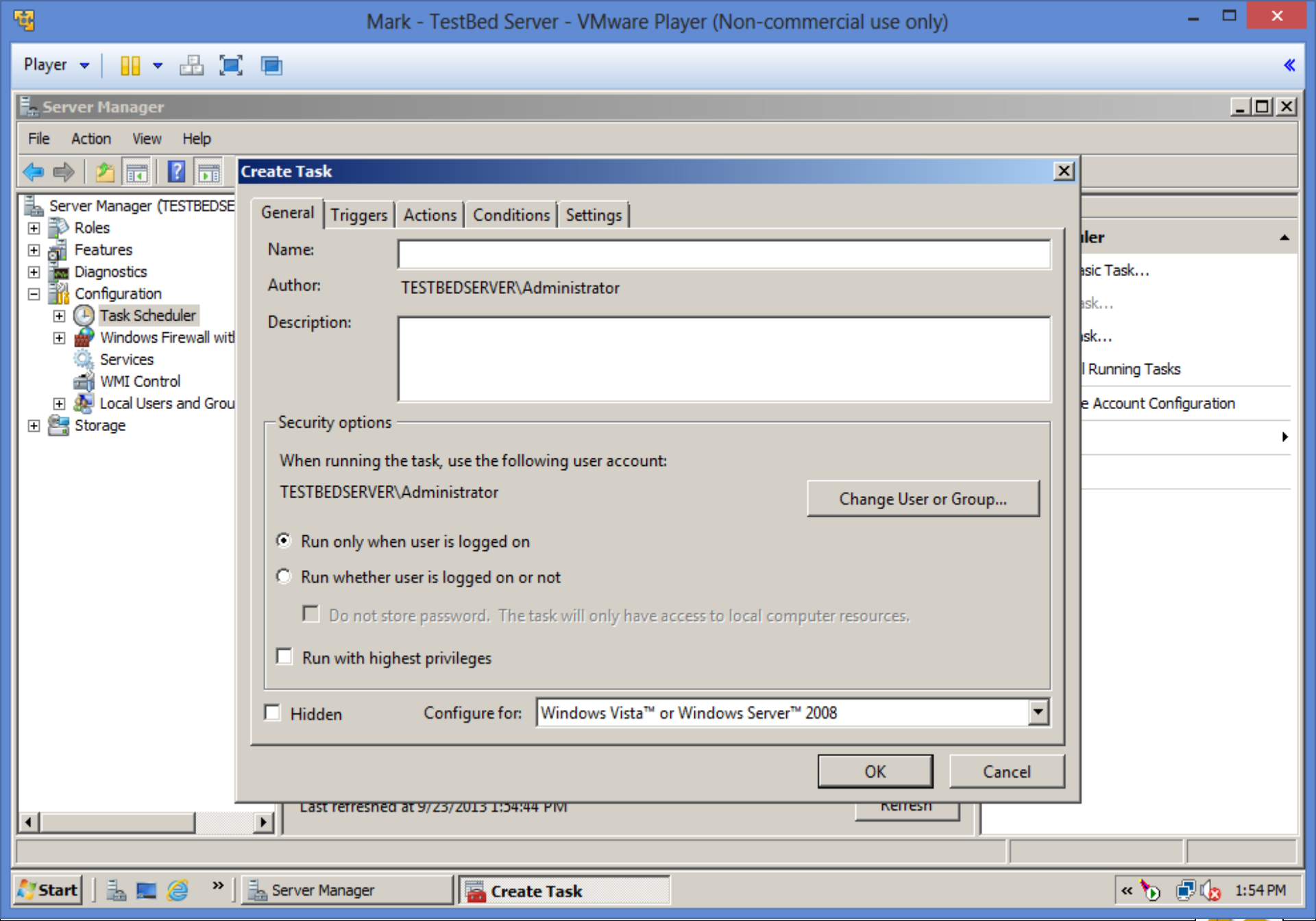

Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Recycle Bin
VerRawWith...
Opera
Notepad++
PyScripter
Second
Administrator Welcome
Hello Administrator! Welcome to the TestBed Server
OK
Start
Administrator Welco...
Server Manager
1:54 PM

The Basic Task Wizard

- The last configuration of the task is the actual action to perform: elect to start a program, send an email, or display a message.
- If you choose to start a program, specify the executable to run with optional arguments and a start folder.
- To send an email, complete who the mail goes to, who it appears from, and a subject, body, attachment, and supply an SMTP server that the mail is sent via. The attachment capability is useful, as you can configure a report to run on a server and then create another task to mail the report *x* number of minutes after the job should have finished that creates the report.

The Basic Task Wizard

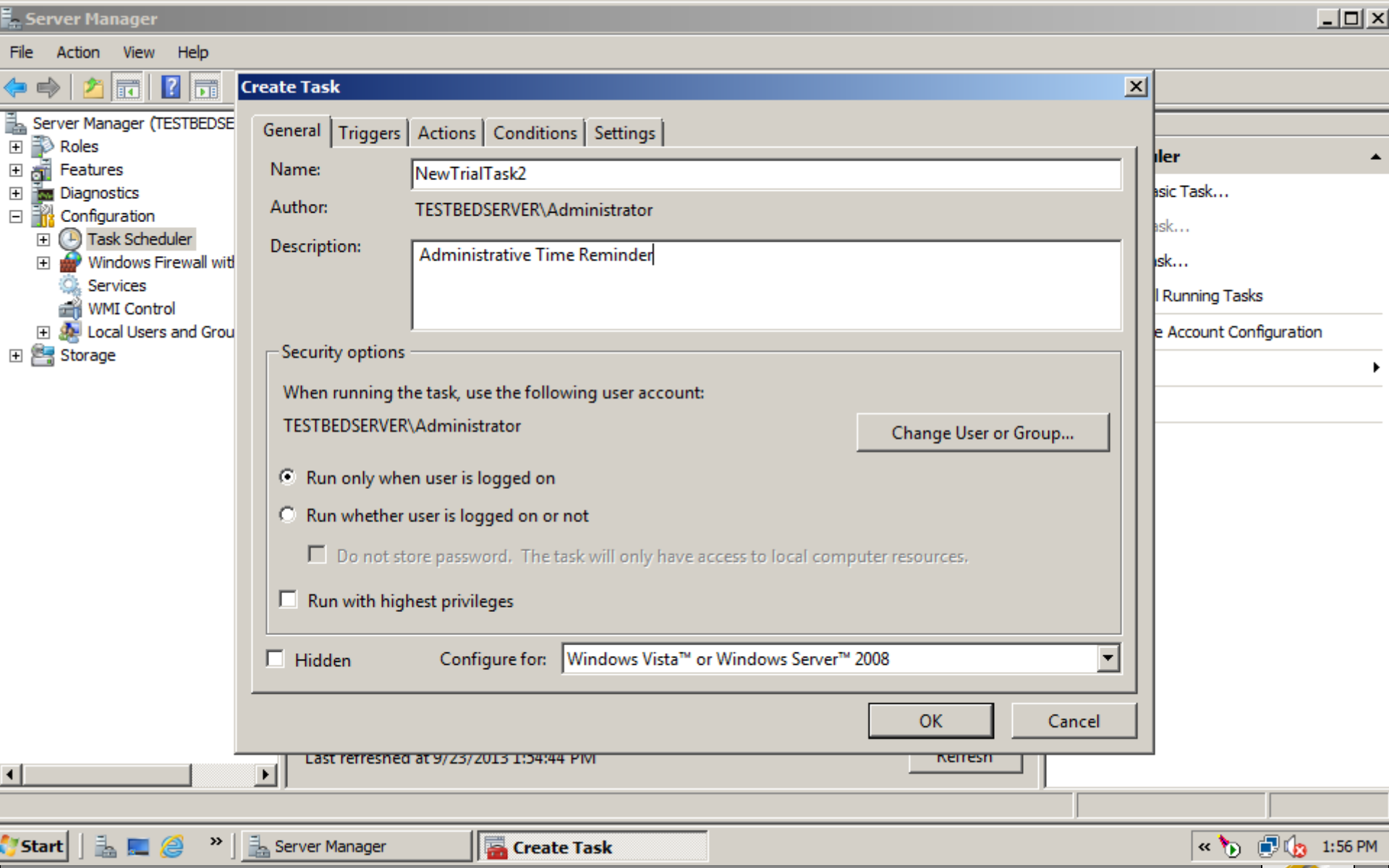
- Finally, a summary is displayed (see page 9) with the option to open the task properties after creation that lets you tweak the configuration further and expose more advanced options.
- Click Finish to create the scheduled task.
- This concludes our look at the Basic Task Wizard.
- The Basic Task Wizard will normally achieve what you want from your task 95% of the time (perhaps even higher), especially if you go in and modify any additional settings via the task properties after creating the task.
- However, to have full access to all task capabilities as you create a task, use the Create Task action.


Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (TESTBEDSE
Roles
Features
Diagnostics
Configuration
Task Scheduler
Windows Firewall wit
Services
WMI Control
Local Users and Grou
Storage
Create Task
General Triggers Actions Conditions Settings
Name:
Author: TESTBEDSERVER\Administrator
Description:
Security options
When running the task, use the following user account:
TESTBEDSERVER\Administrator
Change User or Group...
Run only when user is logged on
Run whether user is logged on or not
Do not store password. The task will only have access to local computer resources.
Run with highest privileges
Hidden
Configure for: Windows Vista™ or Windows Server™ 2008
OK
Cancel
Last refreshed at 9/23/2013 1:54:44 PM
Refresh
Running Tasks
Account Configuration
Start
Server Manager
Create Task
1:54 PM

Creating A Standard Task

- The Create Task action opens a blank properties dialog box (see previous page) for a task that enables you to fill in the details. I'll walk you through the first five tabs that are exposed (These are the same five tabs that are available if you choose to modify a Basic Task).
- The General tab enables a name and description to be specified for the task, in addition to enabling you to modify the security context under which the task runs. (See next page.)
- By default, the security context is the user account creating the scheduled task. You also have the options to run the task only when the user is logged on or regardless of the user's logon state and whether to run the task with the highest privileges possible.

Creating A Standard Task



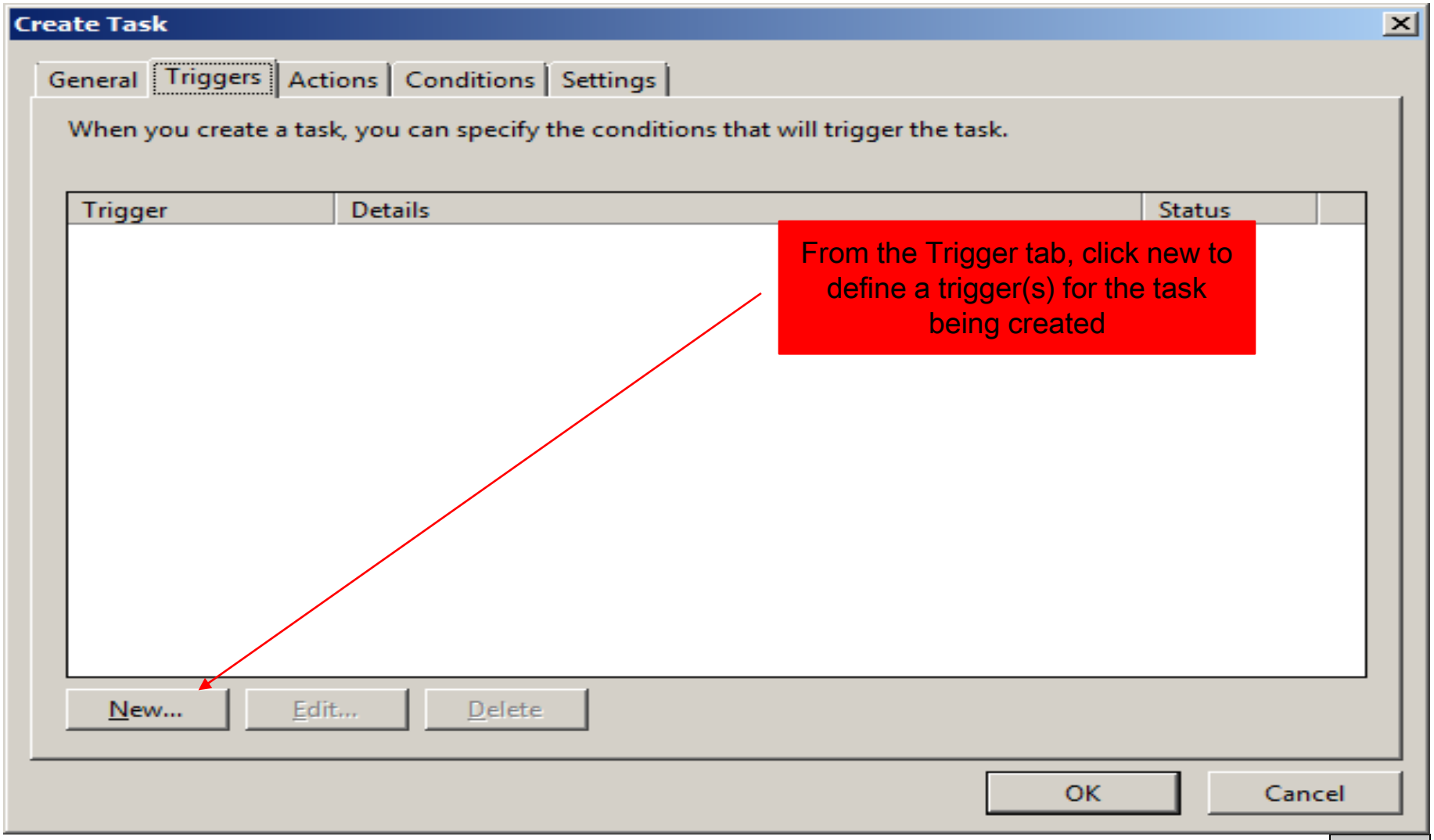
Creating A Standard Task

- The General tab also allows you to hide the task from normal view, plus configure the task for Windows Vista, XP, Server 2000, Server 2003, or Server 2008.
- The difference is that the Task Scheduler in Vista and Server 2008 has more capabilities that those in earlier OS, so if a task runs on an older client, choose to configure for one of the earlier OS.
- If you select one of the older OS, options that are not compatible with the older OS are not selected/available.
- Server 2008 and Vista can run tasks that were configured for the older OS, however, you do not see the date and time of task creation in the Task Scheduler window. Why?

Creating A Standard Task

- Because you're viewing the Task Scheduler via Server Manager, which locks the focus to the local server.
- However, if you run Task Scheduler outside of Server Manager, you can connect to a remote machine to manage tasks – thus, the need to be able to lock facilities to that of a "lower" OS.
- The Triggers tab (see next page) enables you to create one or more triggers that cause the actions associated with the task to run.
- You can have multiple triggers for a task by clicking the New button and configuring the options.

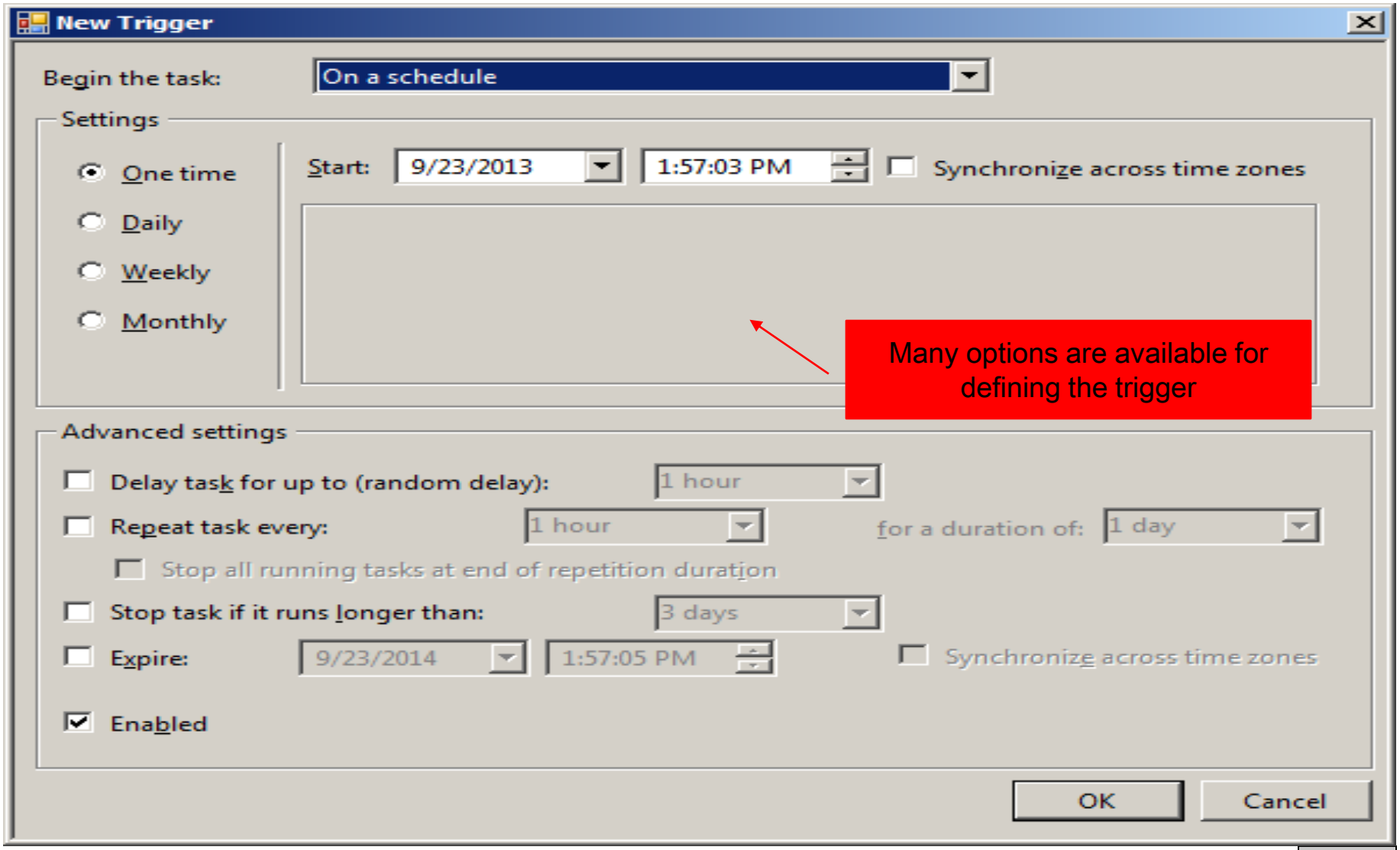
Creating A Standard Task

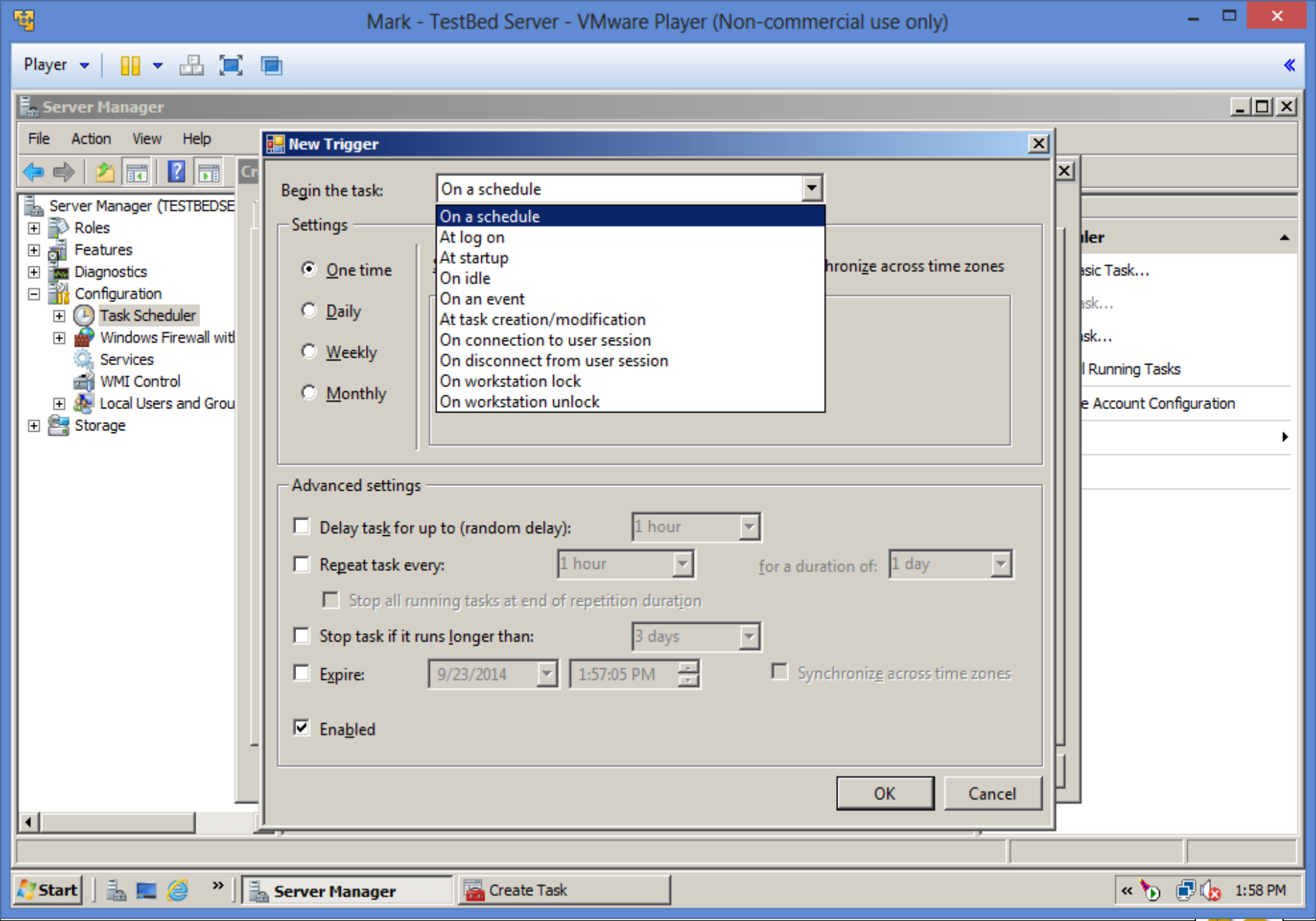


Creating A Standard Task

- As shown on the next page, there are several options for when to begin the task, ranging from a simple schedule down to idle time and user connect/disconnects.
- Most of the trigger options can be configured via the New Trigger dialog. However, if you select On idle, access the Conditions tab to set how long the machine need to be idle before the trigger activates the task.
- There are also several advanced settings that enable you to have even more granular configuration. For example, if you fire off multiple tasks and you want to stagger then slightly, configure an optional random offset which waits between 0 and the time selected (30 seconds, 1 minute, 30 minutes, 1 hour, 8 hours, or 1 day) before starting the actions associated with the next task.

Creating A Standard Task




Mark - TestBed Server - VMware Player (Non-commercial use only)
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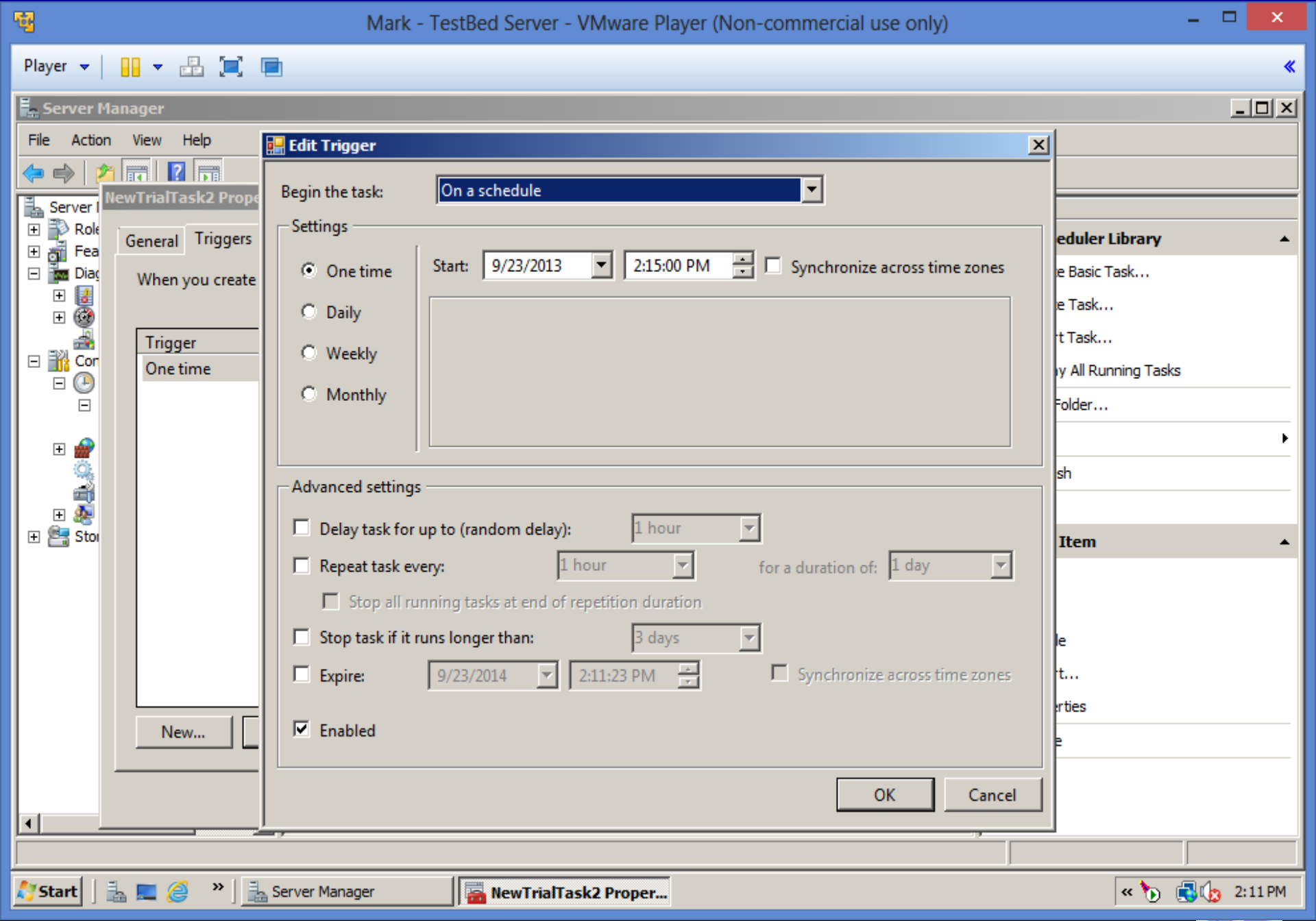
Server Manager
File Action View Help
Server Manager (TESTBEDSE
Roles
Features
Diagnostics
Configuration
Task Scheduler
Windows Firewall wit
Services
WMI Control
Local Users and Grou
Storage
New Trigger
Begin the task:
On a schedule
On a schedule
At log on
At startup
On idle
On an event
At task creation/modification
On connection to user session
On disconnect from user session
On workstation lock
On workstation unlock
Settings
One time
Daily
Weekly
Monthly
hronize across time zones
Advanced settings
Delay task for up to (random delay):
1 hour
Repeat task every:
1 hour
for a duration of:
1 day
Stop all running tasks at end of repetition duration
Stop task if it runs longer than:
3 days
Expire:
9/23/2014
1:57:05 PM
Synchronize across time zones
Enabled
OK
Cancel
Running Tasks
Account Configuration
Start
Server Manager
Create Task
1:58 PM


Mark - TestBed Server - VMware Player (Non-commercial use only)
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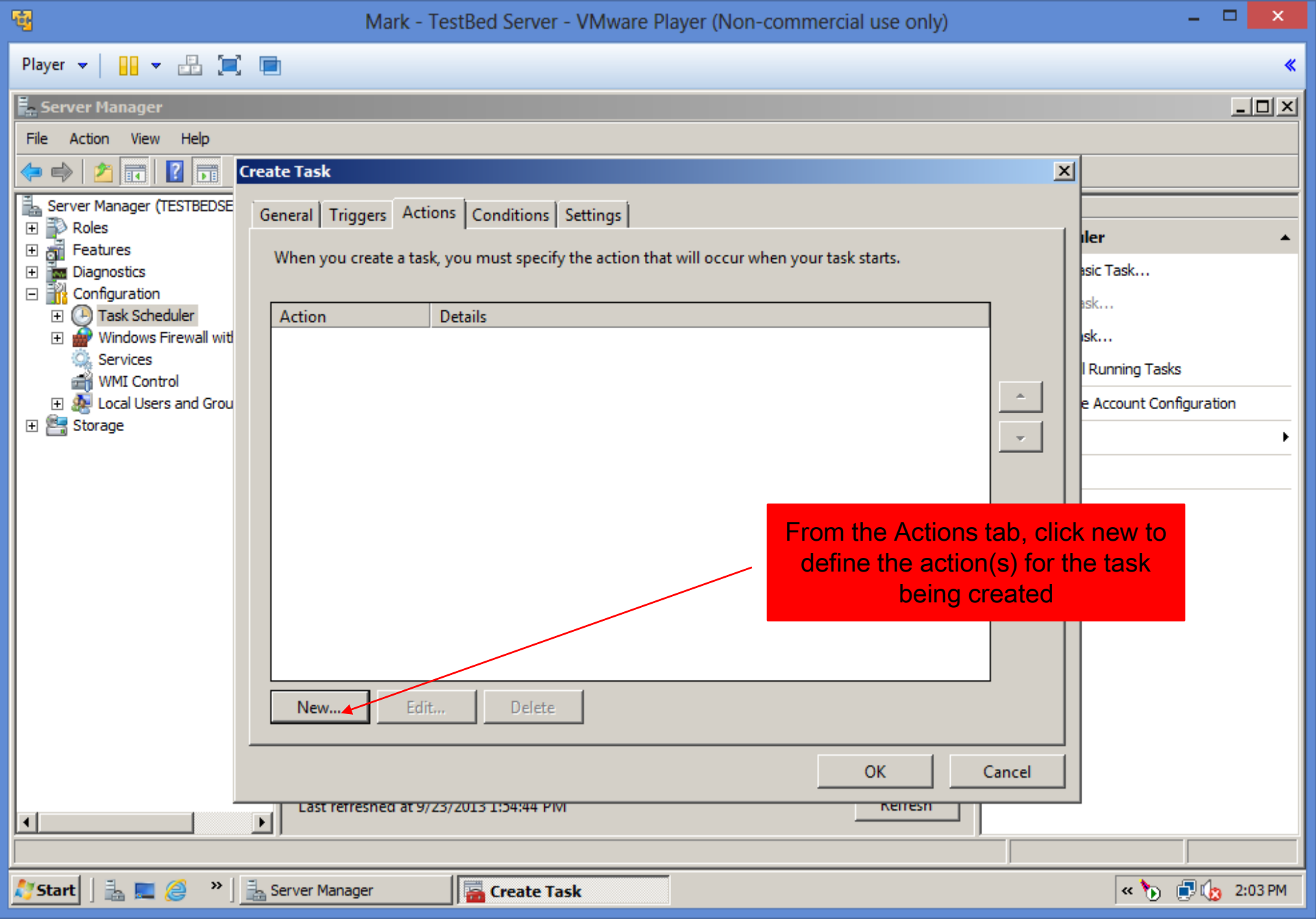
Server Manager
File Action View Help
NewTrialTask2 Prope
General Triggers
When you create
Trigger
One time
New...
Edit Trigger
Begin the task: On a schedule
Settings
One time
Daily
Weekly
Monthly
Start: 9/23/2013 2:15:00 PM
Synchronize across time zones
Advanced settings
Delay task for up to (random delay): 1 hour
Repeat task every: 1 hour
for a duration of: 1 day
Stop all running tasks at end of repetition duration
Stop task if it runs longer than: 3 days
Expire: 9/23/2014 2:11:23 PM
Synchronize across time zones
Enabled
OK
Cancel
eduler Library
e Basic Task...
e Task...
t Task...
y All Running Tasks
Folder...
sh
Item
Start
Server Manager
NewTrialTask2 Proper...
2:11 PM

Creating A Standard Task

- Options exist to repeat the task at certain intervals and to stop the actions associated with the task if it runs for longer than a configurable amount of time. Imagine, for example, you have a backup job than runs overnight that you schedule to start at 8 p.m. Due to the resources, the backup job that runs overnight cannot still be running when the users come in at 8 a.m. the next morning, so you can enable the option to stop the task if running takes longer than 12 hours.
- You can set an expiry for regularly occurring tasks, so, for example, it could run every morning for a period of 3 weeks.

Creating A Standard Task

- The next tab is the Actions tab; as with Triggers, you can add multiple actions to perform when the task is triggered, which can be combinations of program actions, emails, and messages.
- See next page for the Actions tab view.


Mark - TestBed Server - VMware Player (Non-commercial use only)
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File Action View Help
Server Manager (TESTBEDSE
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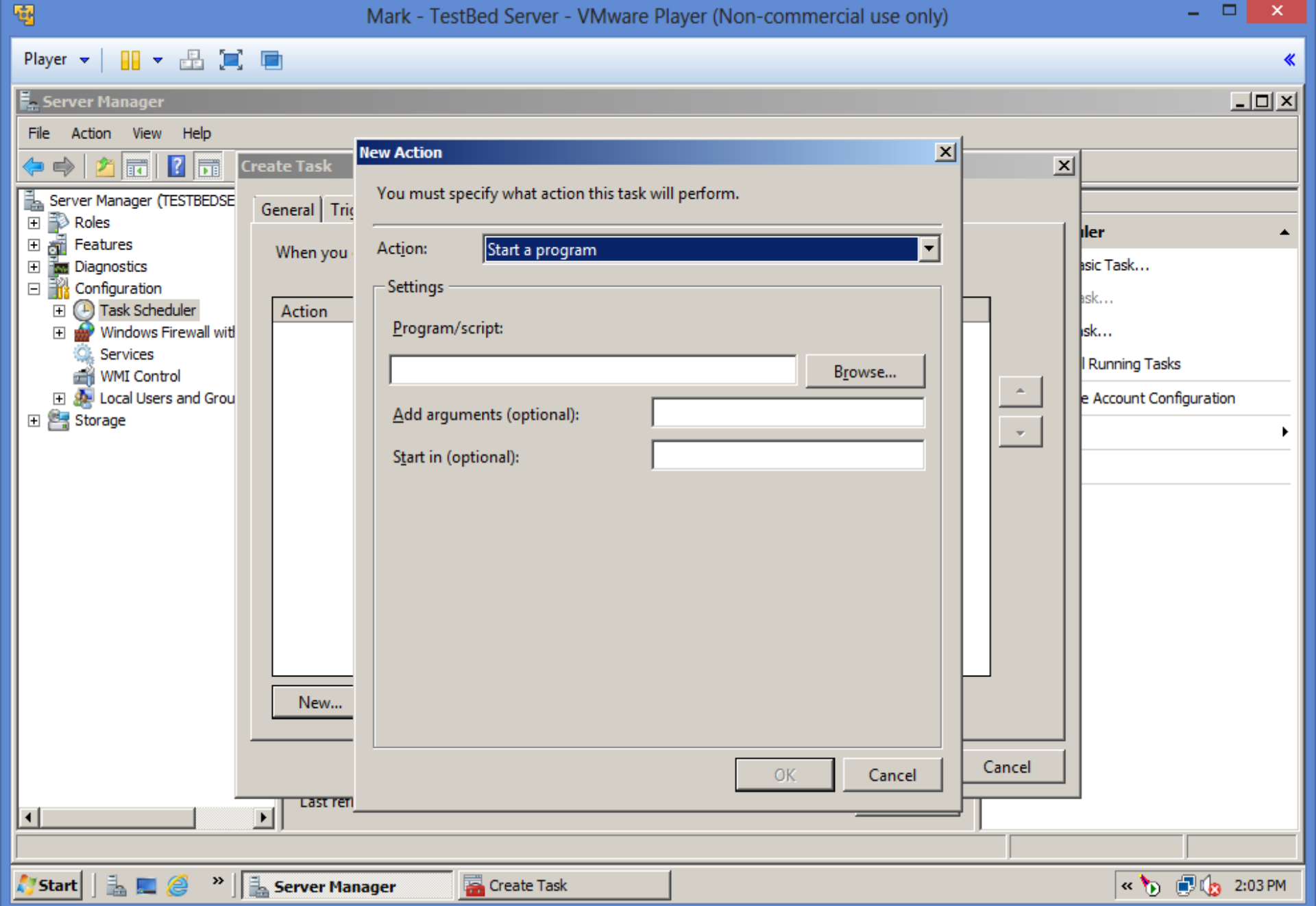
Features
Diagnostics
Configuration
Task Scheduler
Windows Firewall wit
Services
WMI Control
Local Users and Grou
Storage
Create Task
General Triggers Actions Conditions Settings
When you create a task, you must specify the action that will occur when your task starts.
Action Details
New... Edit... Delete
OK Cancel
From the Actions tab, click new to define the action(s) for the task being created
Last refreshed at 9/23/2013 1:54:44 PM
Refresh
Start
Server Manager
Create Task
2:03 PM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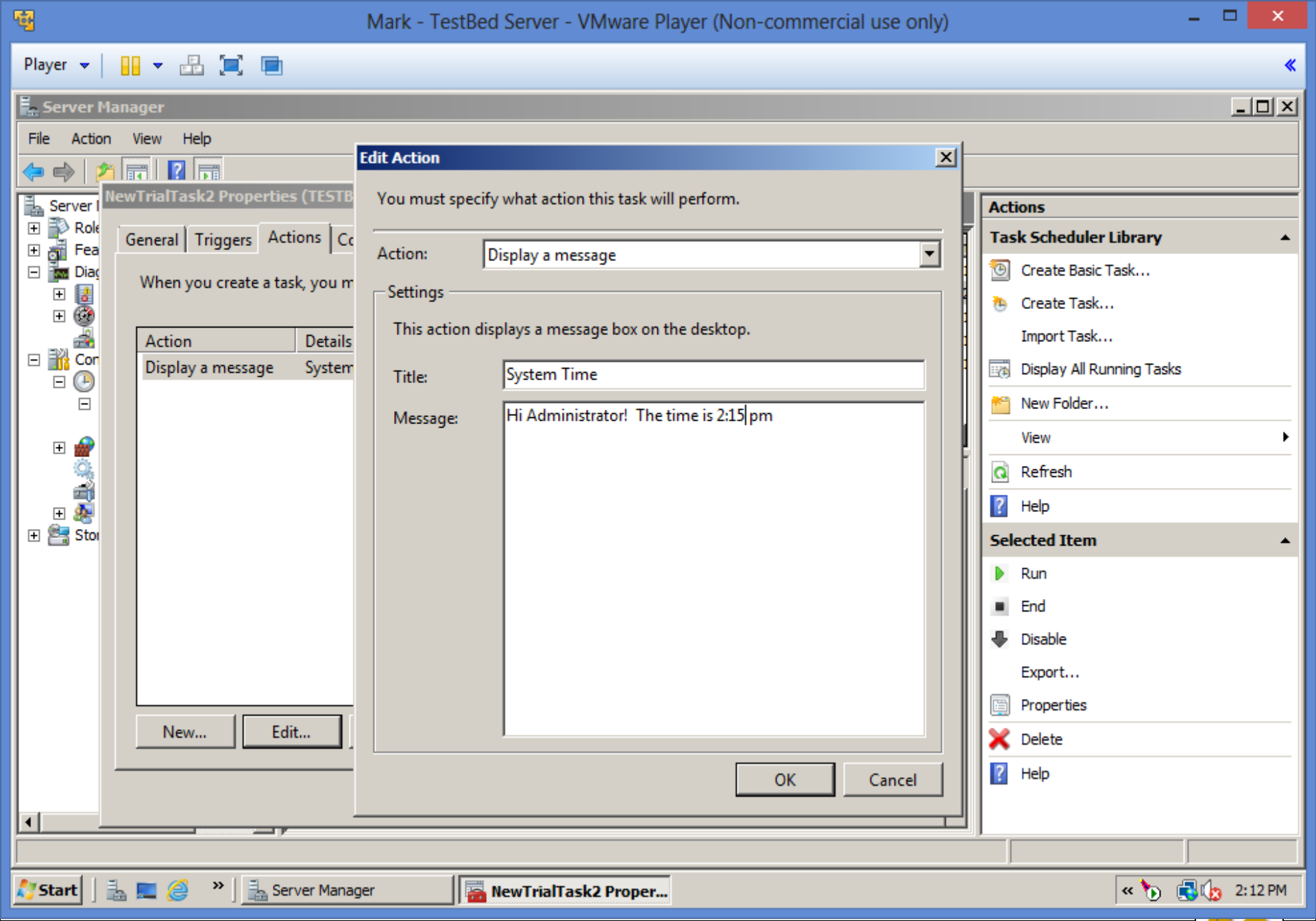
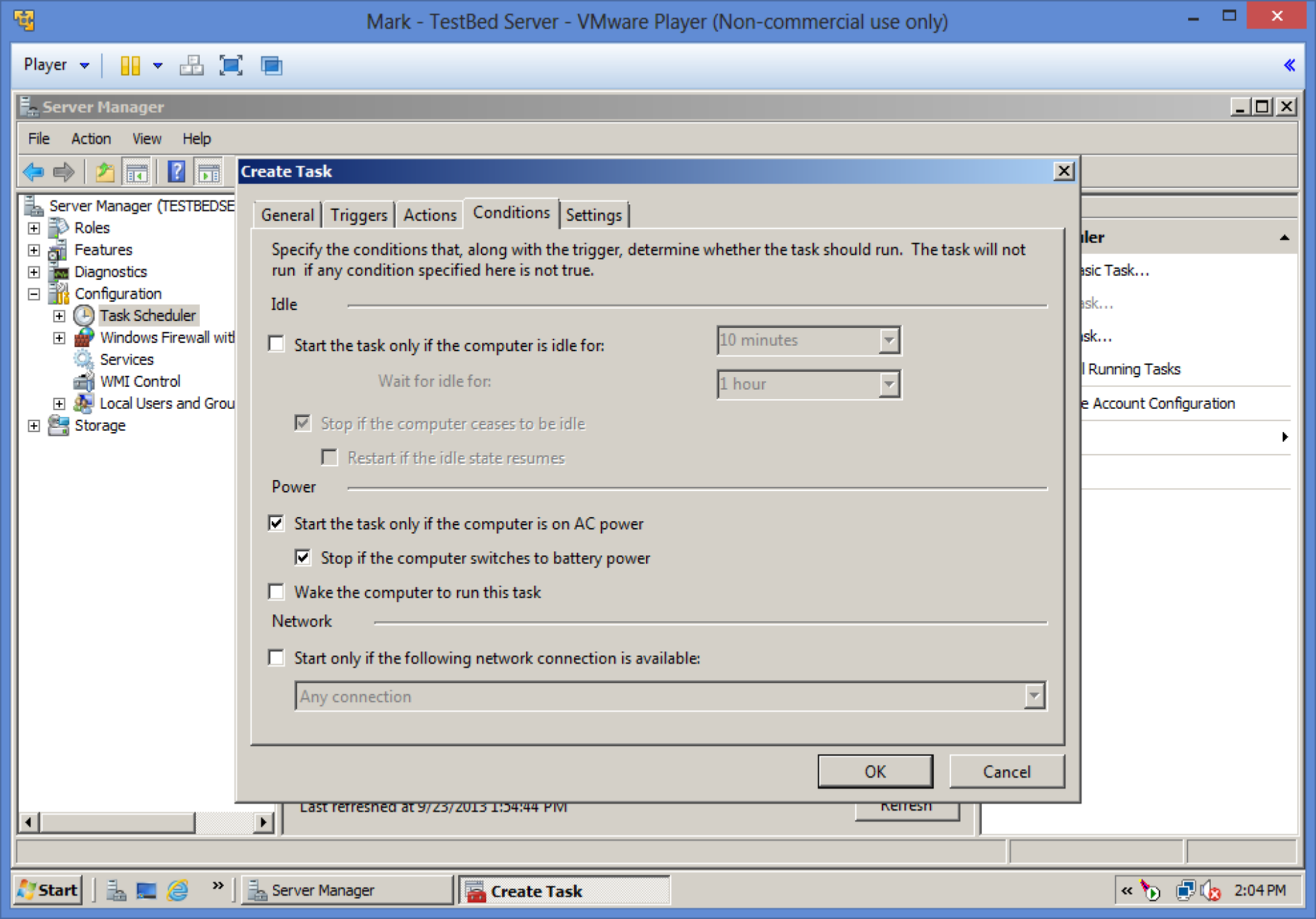
Task Scheduler
Windows Firewall wit
Services
WMI Control
Local Users and Grou
Storage
Create Task
General
When you
Action
New...
New Action
You must specify what action this task will perform.
Action:
Start a program
Settings
Program/script:
Browse...
Add arguments (optional):
Start in (optional):
OK
Cancel
Cancel
Start
Server Manager
Create Task
2:03 PM


Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
NewTrialTask2 Properties (TESTB
General Triggers Actions Co
When you create a task, you m
Action Details
Display a message System
New... Edit...
Edit Action
You must specify what action this task will perform.
Action: Display a message
Settings
This action displays a message box on the desktop.
Title: System Time
Message: Hi Administrator! The time is 2:15 pm
OK Cancel
Actions
Task Scheduler Library
Create Basic Task...
Create Task...
Import Task...
Display All Running Tasks
New Folder...
View
Refresh
Help
Selected Item
Run
End
Disable
Export...
Properties
Delete
Help
Start
Server Manager
NewTrialTask2 Proper...
2:12 PM

Creating A Standard Task

- The Conditions tab (as shown on the next page), enables conditions to be applied for the task actions to be executed on top of the triggers.
- The trigger tells the task to execute, but before the actions are called, the task scheduler makes sure any conditions configured are satisfied.
- The first condition you can specify is to only run if the machine has been idle for *x* amount of time – for example, 1, 5, 10, 15 30, or 60 minutes – and an amount of time to wait until the machine has been idle for that amount of time. For example, if the condition is set to be idle for 10 minutes and then wait for the idle for 1 hour, then the computer has to be idle for 10 minutes within that 60 minutes for the task to run.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Server Manager (TESTBEDSE
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Task Scheduler
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Services
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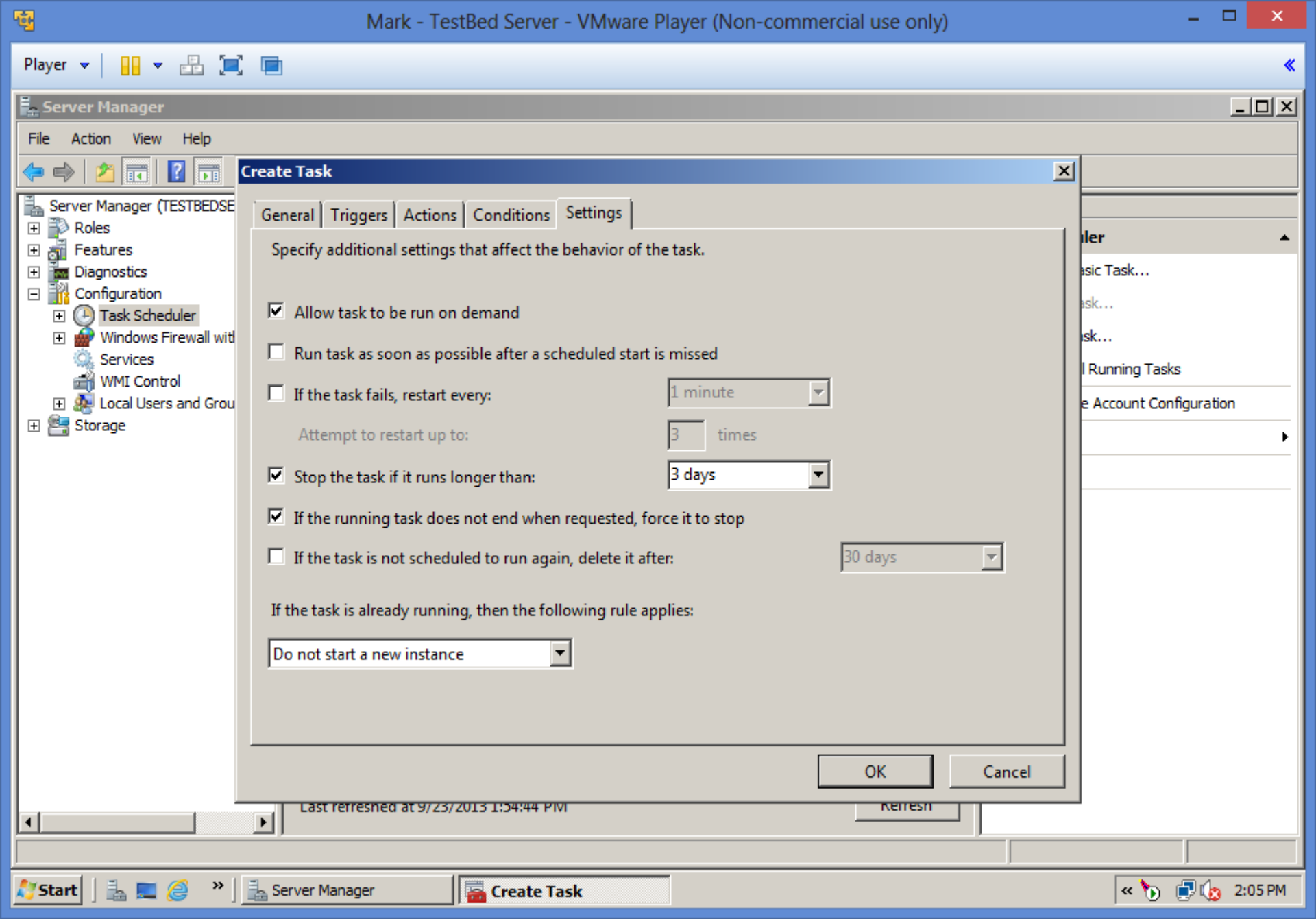
Local Users and Grou
Storage
Create Task
General Triggers Actions Conditions Settings
Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.
Idle
Start the task only if the computer is idle for:
10 minutes
Wait for idle for:
1 hour
Stop if the computer ceases to be idle
Restart if the idle state resumes
Power
Start the task only if the computer is on AC power
Stop if the computer switches to battery power
Wake the computer to run this task
Network
Start only if the following network connection is available:
Any connection
OK
Cancel
Last refreshed at 9/23/2013 1:54:44 PM
Refresh
Running Tasks
Account Configuration
Start
Server Manager
Create Task
2:04 PM

Creating A Standard Task

- You can also configure the task to stop executing if the computer stops being idle and to resume when the computer is idle again.
- Note: on Windows machines a machine is considered to be idle if a screen saver is running. If a screen saver is not running, the computer is considered to be in an idle state if there is 0% CPU usage and 0% disk input or output for 90% of the past 15 minutes, and if there is no keyboard or mouse input during that period of time.
- For laptops, you can also set power options that tell the task to run only if running on AC power and, optionally to stop the task if the power is disconnected and the computer starts running on battery power.

Creating A Standard Task

- You can also set things to wake the computer to run the task if the computer is in sleep mode.
- If a task is reliant on network connectivity (for example, backing up data to another server), you can configure the task to start only if a specific network connection is available.
- The last tab is the Settings tab (see next page), which enables you to configure granular settings on whether tasks can be run on demand. This should be disabled if executing a task outside of its scheduled time would have negative effects on the environment, such as a backup or disk defragmentation.


Mark - TestBed Server - VMware Player (Non-commercial use only)
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Server Manager
File Action View Help
Server Manager (TESTBEDSE
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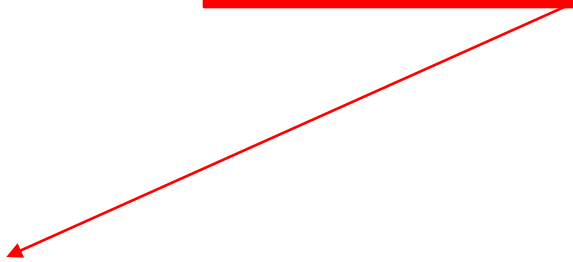
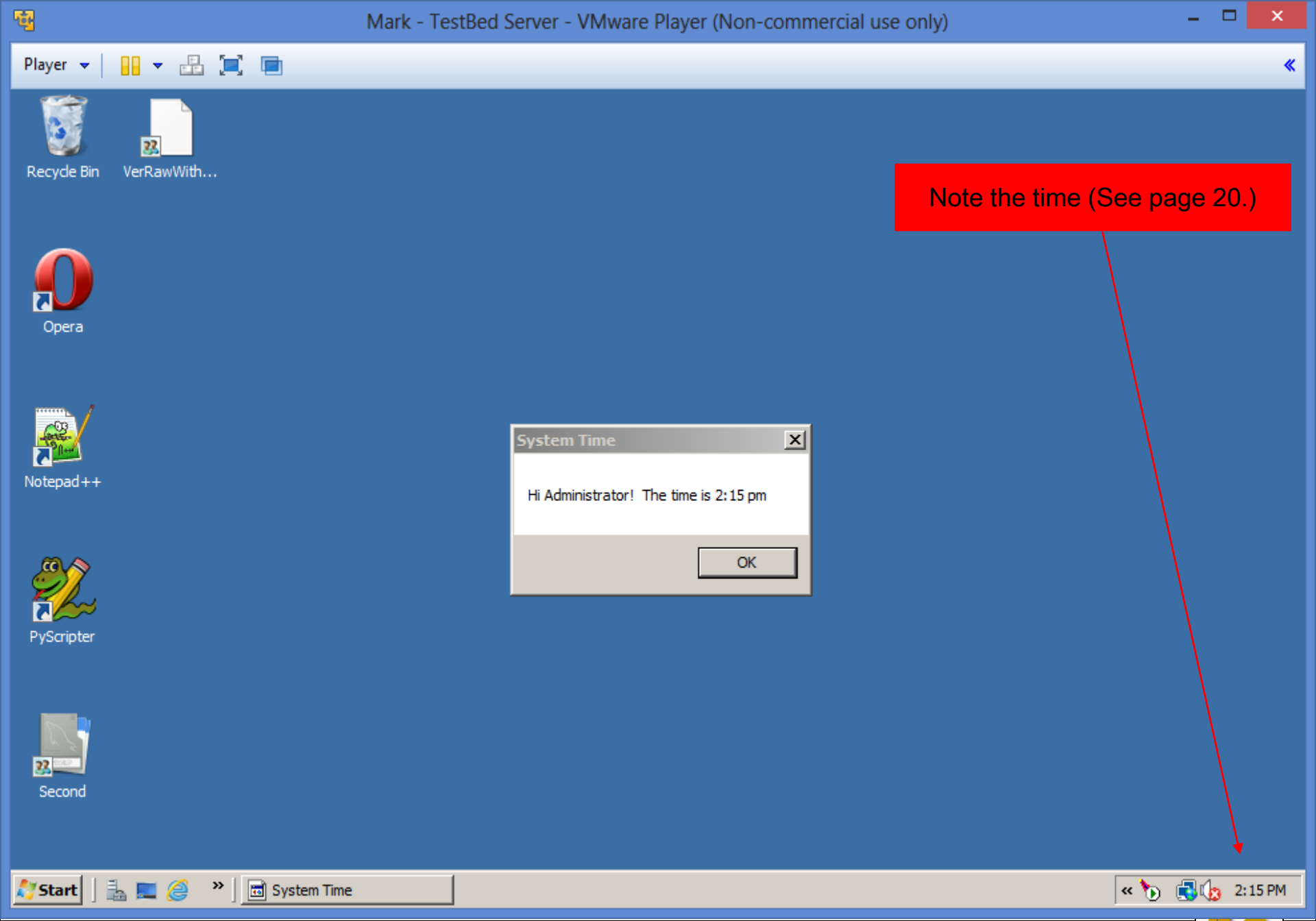
Features
Diagnostics
Configuration
Task Scheduler
Windows Firewall with
Services
WMI Control
Local Users and Grou
Storage
Create Task
General Triggers Actions Conditions Settings
Specify additional settings that affect the behavior of the task.
Allow task to be run on demand
Run task as soon as possible after a scheduled start is missed
If the task fails, restart every:
1 minute
Attempt to restart up to:
3
times
Stop the task if it runs longer than:
3 days
If the running task does not end when requested, force it to stop
If the task is not scheduled to run again, delete it after:
30 days
If the task is already running, then the following rule applies:
Do not start a new instance
OK
Cancel
Last refreshed at 9/23/2013 1:54:44 PM
Refresh
Start
Server Manager
Create Task
2:05 PM

Creating A Standard Task

- You can also configure whether a task should be run if its scheduled time has been missed and whether the task should be restarted if it fails execution.
- You also have a general option to stop the task if it is running for more than a configurable amount of time and to automatically delete the task if it is not scheduled to execute again in the future after a configurable amount of time. This is a good option if you are creating a task that you know you will never use again. However, if you think you might use it again, keeping it around will probably save you work in the future, so at a minimum make sure you export the task to a file before deleting it.

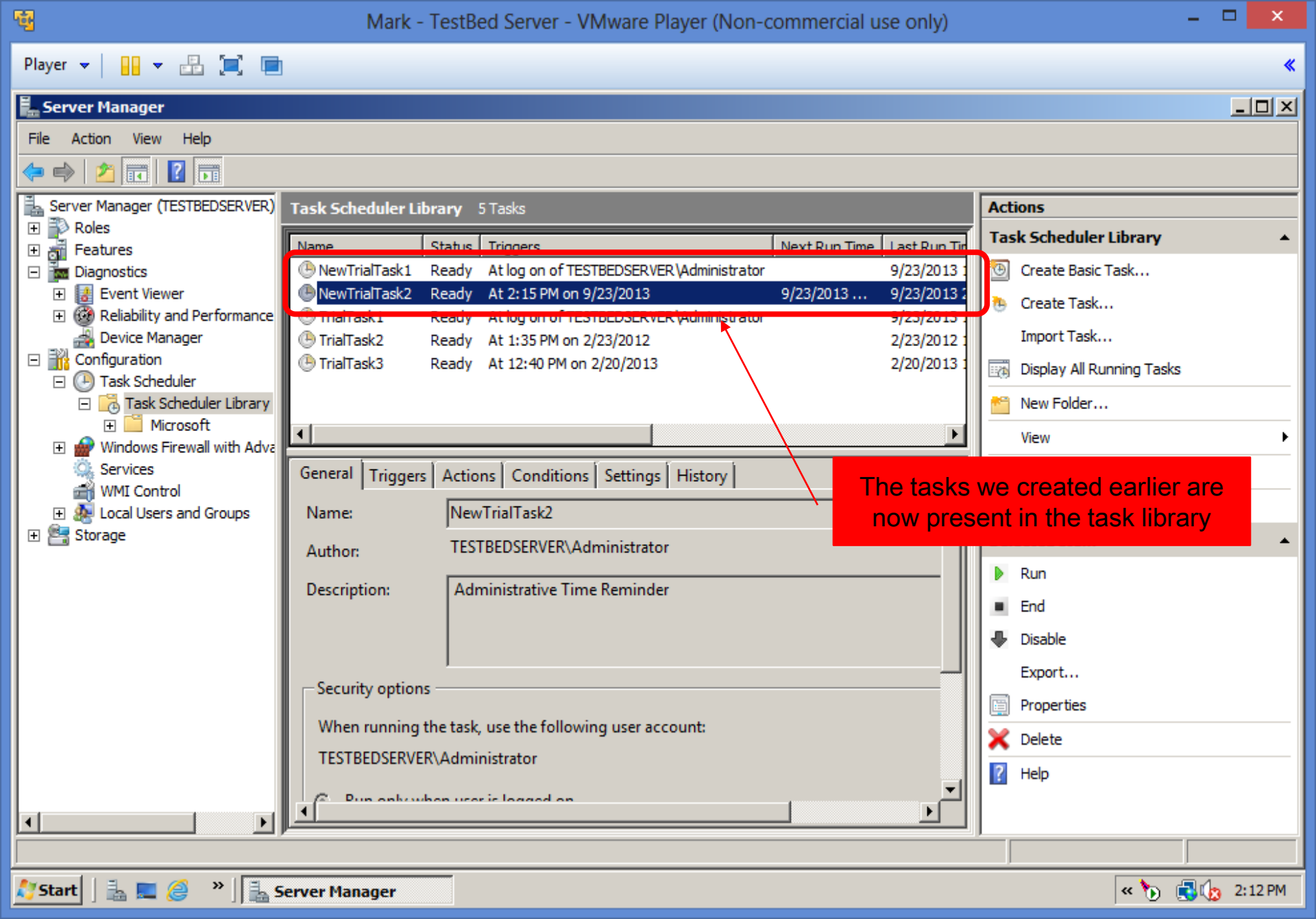
New tasks created in this set of notes now show in the Task Library.




Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Recycle Bin
VerRawWith...
Opera
Notepad++
PyScripter
Second
System Time
Hi Administrator! The time is 2:15 pm
OK
Note the time (See page 20.)
Start
System Time
2:15 PM

Creating A Standard Task

- An option to configure what to do if the task is already running is available that enables you to configure whether another instance should run, nothing happens, the existing instance is stopped, or another instance get queued behind the existing one.
- The new task is now part of the Task library (see next page).


Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (TESTBEDSERVER)
Roles
Features
Diagnostics
Event Viewer
Reliability and Performance
Device Manager
Configuration
Task Scheduler
Task Scheduler Library
Microsoft
Windows Firewall with Adva
Services
WMI Control
Local Users and Groups
Storage
Task Scheduler Library 5 Tasks
Name Status Triggers Next Run Time Last Run Tim
NewTrialTask1 Ready At log on of TESTBEDSERVER\Administrator 9/23/2013
NewTrialTask2 Ready At 2:15 PM on 9/23/2013 9/23/2013 ... 9/23/2013
TrialTask2 Ready At 1:35 PM on 2/23/2012 2/23/2012
TrialTask3 Ready At 12:40 PM on 2/20/2013 2/20/2013
General Triggers Actions Conditions Settings History
Name: NewTrialTask2
Author: TESTBEDSERVER\Administrator
Description: Administrative Time Reminder
Security options
When running the task, use the following user account:
TESTBEDSERVER\Administrator
Actions
Task Scheduler Library
Create Basic Task...
Create Task...
Import Task...
Display All Running Tasks
New Folder...
View
Run
End
Disable
Export...
Properties
Delete
Help
The tasks we created earlier are now present in the task library
Start
Server Manager
2:12 PM