# **Purpose**

The purpose of this document is to highlight the significant changes to the AZ-104T00: Azure Administrator course from the previous release. This document is for Microsoft Certified Trainers and Instructors to prepare for teaching the class. This is not an error log or a supplement to the course materials. This document just provides additional context so that you can understand the major changes.

Most of the course materials in the MCT Download Center have been updated to fix typos, broken links, and formatting. So, we recommend you always download the latest course materials. Please read the Instructor Preparation Guide which provides the overall strategy for teaching this course.

# Update - 29 Sept 2023

- Awareness New WWL PowerPoint template. To standardize the look and feel of the courses, a new PowerPoint template has been applied. You will see a difference in the *Title, Section, Demonstration,* and *Lab* slides. There is also renaming to ensure there are *Learning Objectives* and *Learning Recap* slides. The *Introduction* PowerPoint deck has been updated. There is a new *Conclusion* PowerPoint deck.
- Awareness Microsoft Entra ID branding. Began the process of updating the course content for the new branding. The slides and labs (01 and 02a) have been updated. The Learn content is being updated separately. It will take some time for everything to be corrected, please be patient.
- Awareness New Learn content feedback process. The AZ-104 Learn content is now
  using the Microsoft Q&A forum for feedback. You will see a feedback tag at the bottom
  of the Learn pages. Follow the link to post a question.



Awareness – Join the new MCT Lounge. The MCT Program has launched a new online community to bring you more events, updates, and connections to Microsoft. Be sure to request access and be verified as an active MCT or MCT Alumni to join the new MCT Lounge. This gated space on the Tech Community platform will now be the centralized resource for all MCT Program information. The old MCT Central site is retiring. Mass

- emails from the MCT Program will be discontinued. You will now be able to set up filtered subscriptions on MCT Lounge and receive notifications for the events, news, and updates most important to you.
- **Course Datasheet**. This is no longer delivered for the FSI community. The file was removed from the MCT Download Center. The General and Detailed course outlines in this file were moved to an Appendix in the Trainer Preparation Guide.
- **PowerPoint 01, Configure Microsoft Entra ID**. Reworked the content for the new branding. The biggest change is the *Select Microsoft Entra Plans & Pricing* topic, slide 9. The Learn content changes will follow in early October.
- **PowerPoint 07, Administer Azure Storage.** Consolidated the *Implement Azure Storage* topic with the *Explore Azure Storage Services* topic (slide 8).
- **PowerPoint 07, Administer Azure Storage.** Added the new **Cold tier** to the *Create Blob Access Tier* topic (slide 20).

# Update - 28 July 2023

The certification exam was updated 28 July. The <u>Study guide for Exam AZ-104: Microsoft Azure Administrator | Microsoft Learn</u> shows the new emphasis. This course update reflects those changes.

# Awareness: Upcoming Course Updates

- **New PowerPoint templates.** To standardize the look and feel of the courses, a new PowerPoint template has been approved. Courses will begin implementing the new template starting in September.
- Azure Active Directory is becoming Microsoft Entra ID. This change will require all
  course materials to be technically reviewed and rebranded. This will mostly affect
  Module 01 and Module 02. Also, any associated lab instructions and screenshots.

# Awareness: Learn Improvements

- New: <u>Microsoft Learning Room Directory Microsoft Community Hub</u>). Learning Rooms provide a way for learners to connect with experts and peers. These are several rooms for Azure specific learning.
- New: <u>Welcome to the Azure Community (microsoft.com)</u>. Your community for best practices and the latest news on Azure.

# Awareness: GitHub Improvements

- Added the <u>Instructor Demonstrations</u> to the GitHub (scroll down after the Lab instructions). The separate Word handout has been removed from the MCT DLC.
- Lab 01 (tenant creation) does not work well in cloud slice lab hoster environments. In those environments the lab should be *Instructor Demonstration* or *Walk-through the*

- *Interactive Lab Simulation.* When using Azure passes or in small audiences, the lab works just fine.
- Posted on GitHub <u>Lab 05 and Lab 06 Difficulty and overlap · Issue #726</u>. This has suggested options on how to use these labs in the classroom. In the future, we would like to simplify Lab 06.
- Lab 09c, Azure Kubernetes Service, has been changed to Azure Container Apps.

# PowerPoints (All decks)

- Demonstration slides. Added a Quickstart or Tutorial link in the Notes area.
- Introduction slides. Updated the certification information in the Notes area.

# PowerPoint 00, Introduction

- The AZ-104 Certification Areas slide has been updated to reflect the new functional group percentages.
- The **Course Schedule** slide has been updated. AKS is no longer on the exam, so Day 4 just shows Containers and ACA.

### PowerPoint 01, Administer Identity

• Marked the Configure Azure AD Device Identities, Create Bulk Accounts, and Create Administrative Units topics as optional and hid the slides. These topics are no longer on the certification. The content is still included in the Learn module.

## PowerPoint 02, Administer Governance and Compliance

• Updated the graphics on the **Metrics and Logs** slide. Made the graphics more readable.

# PowerPoint 03, Administer Azure Resources

- Removed two demonstrations: Working with PowerShell (locally) and Azure CLI.
- Marked the Demonstration Run Templates with PowerShell slide as optional.

#### PowerPoint 04, Administer Virtual Networks

• Reminder that *Configure Azure Firewall* was removed in the last update. Azure Firewall is not on the exam. A few slides are left at the end. The module is being retired and removed from the Learning Path.

### PowerPoint 05, Administer Intersite Connectivity

• During the last update, *Configure VPN Gateway* and *Configure ExpressRoute and Virtual WAN*, were marked optional. These sections have now been removed from the

- agenda and the slides hidden at the end. The modules are being retired and removed from the Learning Path.
- Moved the **Configure network routing and endpoints** module from Module 06. This gives this Module 05 two sections to cover. Adjusted the whiteboard slide.

### PowerPoint 06, Administer Network Traffic

- Moved the Configure network routing and endpoints module to Module 05. Module 06 now focuses on Load Balancer, Azure Application Gateway, and Network Watcher.
- Added a demonstration for the Load Balancer.
- Added a demonstration for the Azure Application Gateway.

## PowerPoint 07, Administer Azure Storage

• Reminder **Azure File Sync** was removed. There are a few slides left at the end. The Learn content still covers this for our self-paced users.

#### PowerPoint 08, Administer Virtual Machines

- Removed the **Configure Virtual Machine Extensions** section. This is no longer on the exam. Slides relocated to the end.
- Removed the **Demonstration: Connect to Linux VMs.** This should be part of the creation of a virtual machine demonstration. That is a good time show either RDP, SSH, or Bastion.

## PowerPoint 09, Administer PaaS Compute Options

- The **Administer PaaS Compute Options whiteboard** slide graphic was changed. Added ACA.
- Removed Azure Kubernetes Service from the agenda. The slides are at the end if you still wish to cover them.
- Azure Container Apps is new to the certification. In the Configure Azure Container
  Instances section, added an Implement Azure Container Apps slide. Also, added a
  demonstration. Didn't change the Learn content. There is an entire Learn module on
  this topic, Implement Azure Container Apps Training | Microsoft Learn.

#### PowerPoint 10, Administer Data Protection

Reworked the demonstration slides.

### PowerPoint 11, Administer Monitoring

Reworked the demonstration slides.

# **Update – 5 May 2023**

#### GitHub Labs

 The Administrator password has been removed from the JSON parameter template files. This is because of continuing security escalations for compromised virtual machines. Students will now be prompted to provide a password. This affects Lab 4-7, 10, and 11.

### All PowerPoint presentations

- Reviewed the Summary and Resources slide to ensure the latest Learn modules are referenced.
- On the whiteboard slides, put the questions in the Notes area. This gives more room for the whiteboard diagram.
- Changed screenshots and made minor bullet changes. Some of the more important changes are listed below.
- For each Agenda slide reviewed and updated the appropriate certification objectives in the Notes area.

#### PowerPoint 00, Introduction

- Changed the *Student Exercises* placeholder slide (slide 13) to be more generic without a reference to Azure passes. You will want to adjust this slide to your lab hoster's environment.
- Updated the Additional resources slide, slide 14.

#### PowerPoint 01, Administer Identity

- Moved the *Compare AD DS to Azure Active Directory* up one slide to follow the *Describe Azure Active Directory Benefits and Features* slide. This seems more logical. Did not change the Learn content order.
- Swapped the Create User Accounts graphic with the Manage User Accounts graphic.

### PowerPoint 02, Administer Governance and Compliance

- Changed slide 6, *Identity regions*, to 60+ regions.
- Changed the title on slide 11 to *Determine Service Limits and Quotas*. Adjusted the bullet to point out this is a subscription quota. Did not change the Learn content title.
- Moved the "Resource locks can be applied at any level." bullet to *Create an Azure Resource Hierarchy*, slide 12.
- Reworked the *Create Azure Policies* graphic, slide 19.
- Moved the four slides showing the Azure Policy demonstration steps to the end of the deck. These are now slides 40-43.
- Moved some Azure Resource Manager extra slides from PPT 03 to this module, slides 44-46.

#### PowerPoint 03, Administer Azure Resources

• Added a code example to the *Consider Azure Bicep Files* slide. In the title, changed *Templates* to *Files*.

#### PowerPoint 04, Administer Virtual Networks

- Marked Configure Azure Firewall as optional. This is not covered in the certification and is included in the AZ-700 exam, Designing and Implementing Microsoft Azure Networking Solutions. The slides are left in place in case your audience wants to discuss.
- Moved the *Create virtual networks* slide up one slide ahead of the *Create subnets* slide. This seems more logical, slides 7 and 8. Did not change the Learn content order.
- Updated the screenshot on Create Public IP Addresses, slide 10.
- Updated the screenshot on Create NSG rules, slide 20.

### PowerPoint 05, Administer Intersite Connectivity

- Marked Configure VPN Gateway as optional. This is not covered in the certification and is included in the AZ-700 exam, Designing and Implementing Microsoft Azure Networking Solutions. The slides are left in place in case your audience wants to discuss.
- Marked Configure ExpressRoute and Virtual WAN optional. This is not covered in the
  certification and is included in the AZ-700 exam, Designing and Implementing Microsoft
  Azure Networking Solutions. The slides are left in place in case your audience wants to
  discuss.
- Since this module now only has Virtual Network Peering, which has a lab, you may want to combine it with either the previous or following module.

#### PowerPoint 06, Administer Network Traffic

- Updated the *Create Load Balancer Rules* slide. Removed the screenshot and added a conceptual diagram instead.
- Deleted the Create Backend Pools slide.
- Removed extra PPT slides at the end of the presentation showing a custom routing example.

# PowerPoint 07, Administer Azure Storage

- Updated the Secure Storage Endpoints screenshot, slide 14.
- Updated the *Create Scale Sets*, slide 23, screenshot.
- Moved the detailed *File Sync* slides (2 each) to the end of the presentation. File Sync is not covered in the certification.
- Moved the Create virtual machines in the portal slide to the end of the presentation.
   This is covered in the demonstration.

#### PowerPoint 08, Administer Virtual Machines

• Updated the graphic on the Review Cloud Services Responsibility, slide 6.

- Change to 70+ regions on the *Plan Virtual Machines* slide, slide 7.
- Updated the screenshot on Create Scale Sets, slide 23.

### PowerPoint 09, Administer PaaS Compute Options

- Updated the *Create an App Service* screenshot, slide 15.
- Updated the *Compare Containers to Virtual Machines* graphic to include the Docker Engine, slide 25.
- Marked the Configure AKS Scaling to ACI slide as optional, slide 38. The slide is hidden.

### PowerPoint 10, Administer Data Protection

• Updated the *Manage Soft Delete* slide. The soft delete number of days can be extended beyond 14 days, although it will have a fee.

## PowerPoint 11, Administer Monitoring

• Nothing of significance

# Update – 3 February 2023

- **All PPT decks**. Reviewed the Extra Slides section at the end of each presentation. Removed any slides that are no longer applicable.
- Administer Governance and Compliance (PPT 02). Changed the 02a lab diagram (typo on the management group name). This was already fixed in the GitHub repo.
- Administer Virtual Networking (PPT 04). The *Create Subnets* (slide 6) screenshot has been updated. The minimum subnet range for the AzureBastionSubnet should be /26 or larger.
- Administer Intersite Connectivity (PPT 05). Added a review activity after the lab slides. The slide shows a network and students must identify the different components. This is a hidden optional slide.
- Administer Virtual Machines (PPT 08). The *Configure Autoscale* (slide 24) screenshot has been updated.
- New whiteboard slides with discussion questions. Each PowerPoint deck now has at least one hidden Whiteboard and Discussion slide. The slide(s) are positioned at the beginning of the presentation. You can:
  - Use the whiteboard diagram to introduce the module and spark discussion on topics that will be presented.
  - Use the whiteboard diagram at the end of the module to review the concepts presented.
  - Use the discussion questions to provide a more interactive classroom. Suggested answers are shown under the slide in the Notes area.

Use the whiteboard diagram directly or recreate the image during the class. There
are several whiteboard tools you can use like <u>Microsoft Whiteboard</u>. There are
several diagram tools that might be helpful like the Online Azure Diagram Tool.

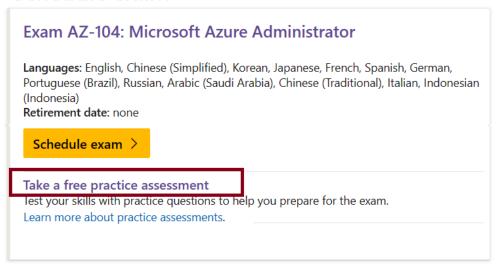
Remember, whiteboarding typically takes longer, so carefully manage your time.

- Updated Module quizzes. The Microsoft Forms quizzes (one per Module) have been reviewed and updated. Microsoft forms are free and easy to use. Here are the steps to use the quizzes.
  - Open each of the following URLs, and then click **Duplicate it**. This will create a
    personal copy of the quiz, which you can edit. For example, you could add
    branding to the top.
  - 2. **Share** the quizzes with the **anyone with the link can respond** option. This means students do not need to sign-in to complete the quizzes.
  - 3. Provide the shared URLs to your students and use the **Responses** tab to review the answers.
    - AZ-104: Administer Identity (Module 01)
    - AZ-104: Administer Governance and Compliance (Module 02)
    - AZ-104: Administer Azure Resources (Module 03)
    - AZ-104: Administer Virtual Networking (Module 04)
    - AZ-104: Administer Intersite Connectivity (Module 05)
    - AZ-104: Administer Network Traffic (Module 06)
    - AZ-104: Administer Azure Storage (Module 07)
    - AZ-104: Administer Azure Virtual Machines (Module 08)
    - AZ-104: Administer PaaS Compute (Module 09)
    - AZ-104: Administer Data Protection (Module 10)
    - AZ-104: Administer Monitoring (Module 11)
  - ✓ As a best practice it is recommended you create a new quiz and delete the old quizzes prior each class. This will keep the response URLs from being circulated and responses continuing to come in after class.
- Awareness Azure Passes. Azure Passes have been retired from this course. To complete the labs in this course, students should use the lab environment provided by an Authorized Lab Hoster (ALH). This environment includes all necessary software and services required to complete the lab exercises, which may include virtual machines, cloud subscriptions, and other software as required. As a trainer, you should familiarize yourself with the lab environment provided by your ALH before teaching the course.

**Awareness – New Practice Assessments on Learn**. An <u>AZ-104 Practice Assessment</u> is now available. Practice Assessments are informal and voluntary tests taken as preparation for one of Microsoft's certification exams. These assessments are hosted

on Microsoft Learn and contain example questions to help you prepare for the exam. Not all courses have a Practice Assessment. If there is a Practice Assessment you will find the link on the exam details page. There is a <a href="Frequently asked questions">Frequently asked questions</a> | <a href="Microsoft Learn">Microsoft Learn</a> page if you want to learn more about these assessments.

# Schedule exam



# Update – 8 November 2022

- **Demonstration Log Analytics.** The direct link to the portal in the first step was broken. We removed the link and changed the instruction (Monitor → Logs).
- **Content Implement Application Security Groups.** The <u>student content</u> and slide diagram were updated. This topic is part of the Configure Network Groups module.
- Awareness Interactive Labs Guides. There are now interactive lab guides that walk students through the GitHub labs. Links to these simulations are included at the top of each lab page in the GitHub repository. These guides are being inserted into the Learn modules. Here is an example, Interactive lab simulation peering. These simulations can be used for instructor demos or as another hands-on student activity.
- Awareness Learn content updates. As part of course maintenance, we are reviewing
  and updating the Learn student content. For example, <u>Manage user accounts</u> now has
  headings for *Things to know* and *Things to consider*. Where possible Learn content will
  follow this formatting to provide a consistent look and feel. You are teaching AZ-305,
  Azure Architect, you will find the content is also being updated.
- Awareness There are now only three AZ-900 Azure Fundamental Learning Paths.
   These paths are often referenced to help students prepare for the Administrator course.

- o Microsoft Azure Fundamentals: Describe cloud concepts
- o Azure Fundamentals: Describe Azure architecture and services
- o Azure Fundamentals: Describe Azure management and governance
- Awareness Instructor Demonstration handout. The Learning Download Center has an AZ-104T00A-ENU-Demonstration document. This document has been around for a while and includes all the instructor demonstrations organized by area. You can quickly locate the demonstration you need and add notes. For context, additional links to Docs and Tutorial pages have been added.
- Awareness Change over to the Learn content. It has been a long journey but
  Microsoft Learn is now the central location for Microsoft technical training and
  certifications. There is a lot of information on MCT Central on how you can use the
  Learn content to be successful in your course offerings. You will find answers to most of
  your questions in the Microsoft Learn Instructor FAQ.

# Update – 8 July 2022

Typically, the Change Log captures only content changes. However, this update also includes some *Awareness* items. These items can help you prepare for and teach the course.

- **Skillpipe student content update.** This update includes changes already made to the student Learn content. The changes are very minor and not enumerated in this document. For example, Azure Cost Management is now Microsoft Cost Management. Also, a note and link were added for NFS access to Azure blob storage. A new Instructor Handbook was generated to capture these changes.
- Slides Administer Governance and Compliance. This module now includes Resource
  Groups. So, the <u>Lab 03a Manage Azure resources by Using the Azure Portal</u> slides
  were moved to this module. The GitHub labs were not renumbered.
- **Slides Administer Network Traffic.** The Routing example was moved to the end of the presentation and marked optional. There is a demonstration that covers this content.
- **Slides Administer Monitoring.** Added three optional slides on the default Azure logs and metrics. These slides are at the end of the presentation and provided by a fellow MCT that thought they might be helpful. There is no associated Learn content.
- Learn Configure Web App Services. An Exercise unit was added to the Learn module.
   Thie Exercise is based on <u>Lab 09a Implement Web Apps</u> and is primarily for self-paced users.
- Awareness Preparing to teach. The Microsoft Educator program has Learn content to help prepare to teach the course. You may find this module - <u>Get tips and tricks for</u> <u>teaching AZ-104 Microsoft Azure Administrator - Learn | Microsoft Docs</u> helpful.

- Awareness Study Guide. A new <u>Study Guide Exam AZ-104: Microsoft Azure</u> <u>Administrator | Microsoft Docs</u> has been posted.
- Awareness Free sample questions. Have you noticed there are <u>free sample questions</u> for the exam. The link is on the exam page.



View free sample questions to help prepare for this exam

- Awareness Exam Readiness Zone. The <u>Exam Readiness Zone</u> is releasing exam prep videos. Videos are now available for AZ-500, Microsoft Azure Security Technologies, more are expected to be released this summer.
- Awareness Learn Live. <u>Learn Live</u> provides a variety of video content covering content modules. There is currently interesting content on Bicep solutions.
- Awareness Microsoft Learn MCT Trainer Information. The Microsoft Learn MCT
   <u>Trainer Information</u> page is live. This page provides information on content and assets
   now available on Microsoft Learn. FAQs, recordings, and office hours are available to
   Learning Partners.
- Awareness Trainer Prep Guide. The Trainer Prep Guide has an Appendix for Tips and Tricks on teaching the course. This was previously added but is worth another look.

# Update - 24 March 2022

In this update we are trying to streamline the content and address comments that the course is running too long. This means that the slide decks may not exactly align with the Skillpipe and Learn content. For example, two slides may have been combined but there are still two topics in the student content. Also, any slides that have been removed are at the end of the presentation.

#### All modules

- Reviewed screenshots (slides and student content) and updated if appropriate.
- Reviewed compliance and accessibility requirements. For example, removed the locale designation (en-us) from URLs.
- Where appropriate, added links to the slides. This was a request from the MCTs.
- Reviewed the Learn links on the Summary and Resources page and updated as needed.
   Indicated if a Sandbox was available. Learn sandboxes can be used to supplement the GitHub labs.

- Removed "Module" and "Lesson" from the slide decks. This is creating confusion for Instructors teaching from the Learn content.
- Reviewed the slide graphics. Replaced graphics with an editable version, if available.
   Ensured the alternate text was sufficient.
- Added open-ended questions to the Summary and Resources notes area. These were copied from the Education Assessment Guide in the MCT DLC.
- Removed the Course Study Guide from the MCT DLC. The document is outdated.
- Removed the Course Outline from the MCT DLC. This document is replaced by the Course Datasheet.
- Reviewed the Demonstrations PDF and added links to tutorials and Quickstarts.

# PPT 01 – Administer Identity

- Implement Azure AD Join. Changed this slide to Implement Azure AD Device Identities. Allows the discussion to include registered and hybrid devices.
- Assign Licenses to Users and Groups. Added this slide to discuss the importance of licensing.

### PPT 02 – Administer Governance and Compliance

- **Determine Resource Limits.** Moved from the Administer Azure Resources section. This slide is more appropriate in the subscription's discussion. Student content was not moved.
- Implement Cost Management and Apply Cost Savings. These slides were combined into a single Manage Costs slide. Student content was not combined.
- **Implement Management Groups.** Removed a separate slide on Management Groups and just included it on the Resource Hierarchy slide. Student content was not changed.
- **Determine Azure RBAC Roles.** Removed the slide on RBAC roles (owner, contributor, ..). Slide is at the end if you prefer. Did not remove the student content.

#### PPT 03 – Administer Azure Resources

- **Reorganized.** This now has only two sections: Tools and Templates.
- Compare Administration Tools. Created a summary slide to quickly review the Portal, Cloud Shell, CLI, and PowerShell. Other slides moved to the end. The student content still has individual topics.
- **Use Azure Resource Manager.** This section was removed. Slides moved to the end. One slide Determine Resource Limits was moved to Governance.
- Consider Azure Bicep. Added a slide to complete the templates discussion.

#### PPT 04 – Administer Virtual Networks

 Implement Application Security Groups. Added a slide on this to complete the discussion. • **Create Azure Firewall Rules**. Broaden this discussion to Azure Firewall Manager and using policy to set the rules.

### PPT 05 – Administer Intersite Connectivity

- **Determine VPN Gateway Uses.** Reworked the graphics to better match the text.
- Create Site-to-Site VPN Connections. Shortened the number of steps.
- **Demonstration VPN Gateways.** Moved the demonstration ahead of the screenshots. You can do either.
- **Determine VPN Gateway Type.** Removed to the end of the presentation.
- Create the On-premises VPN Device. Added a table and listed supported devices.

#### PPT 06 – Administer Network Traffic

- **Choose a Load Balancer Solution.** Added this slide to emphasize the Load Balancer and App Gateway are not the only choices. There is no student content for this slide.
- **Determine Azure Load Balancer Uses.** Removed this slide since it now repeats the Load Balancer Solution slide. Moved the slide to the end.
- Configure Session Persistence. Marked as optional.
- Create Health Probes. Removed the slide. Now hidden at the end.
- **Configure Network Watcher.** Moved these slides into this deck. Network Watcher is part of the lab. Previously this was in Monitoring.

## PPT 07 – Administer Azure Storage

- **Blob Upload** and **Determine Storage Pricing** slides were removed. The removed slides are hidden at the end of the presentation.
- **Configure Storage with Tools**. Combined this section into a single slide. Put the slide into the Azure Files section. The removed slides are hidden at the end of the presentation.

#### PPT 08 – Administer Azure Virtual Machines

- **Determine Virtual Machine Sizing.** Reworked the slide, again. Moved the text to the Notes area. Mentioned the Azure Compute gallery.
- **Implement Scale Sets.** Removed since it was repetitive. Slide is at the end of the presentation.
- **Implement Autoscale.** Removed since it was repetitive. Slide is at the end of the presentation.
- Demonstration Connect to Linux VMs. Marked this as optional.

## PPT 09 – Administer PaaS Compute Options

• **Explore Continuous Integration and Deployment.** Removed the slide. The slide is hidden at the end of the presentation.

- **Use Application Insights**. Removed the slide. The slide is hidden at the end of the presentation.
- **Compare Containers to Virtual Machines**. Simplified the slide. Put the text heavy original at the end of the presentation.

# PPT 11 – Administer Monitoring

- **Network Watcher.** Moved these slides to Traffic Management. The lab for that section includes Network Watcher.
- **Reworked Log Analytics.** Log Analytics has changed. Adjusted the slides and the student content.