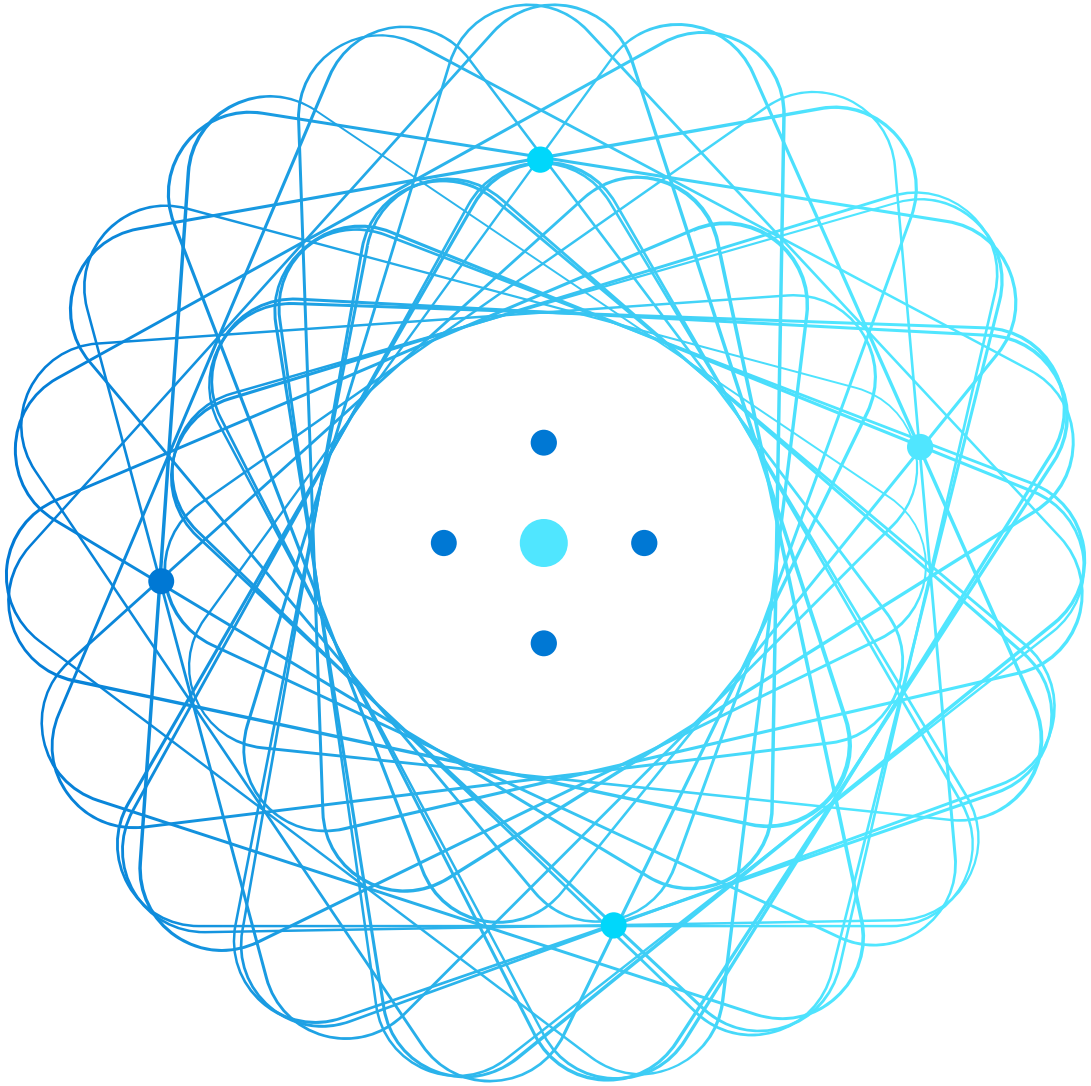
Microsoft Azure

AZ-040

Automating Administration with PowerShell



auto Rest

Rest API ⟶ cmdlet

Thomas Jäkel

brainymotion

Lead Trainer Cloud Infrastructure

Microsoft Certified Trainer since 1999

Heidelberg

github.com/www42/AZ-040

Jeff Shaver

Windows system administrator role

Windows system administrators install, configure, and maintain Windows operating systems. They also manage the transition of on-premises environments to hybrid environments that use Microsoft Azure or Microsoft 365 as the cloud component. By using PowerShell, they can automate many of their tasks.

About this course: Prerequisites

Before attending this course, students must have:

- Experience with Windows networking technologies and implementation.
- Experience with Windows Server administration, maintenance, and troubleshooting.
- Experience with Windows Client administration, maintenance, and troubleshooting.

Get-NetIpAddress

Ctrl-Space

Course outline

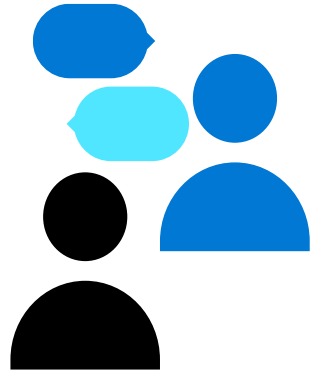
Module 1: Getting started with Windows PowerShell
Module 2: Windows PowerShell for local systems administration
Module 3: Working with the Windows PowerShell pipeline
Module 4: Using PSProviders and PSDrives
Module 5: Querying management information by using CIM and WMI
Module 6: Working with variables, arrays, and hash tables
Module 7: Windows PowerShell scripting
Module 8: Administering remote computers with Windows PowerShell
Module 9: Managing Azure resources with PowerShell
Module 10: Managing Microsoft 365 services with PowerShell
Module 11: Using background jobs and scheduled jobs

ISE (VS Code)
Lab 00
dir C: HKLM:
$date = Ge-Dat
Scripting Module

Hello! Student introduction

Let’s get acquainted:

- Your name
- Company affiliation
- Title/function
- Microsoft Azure experience
- Your expectations for the course



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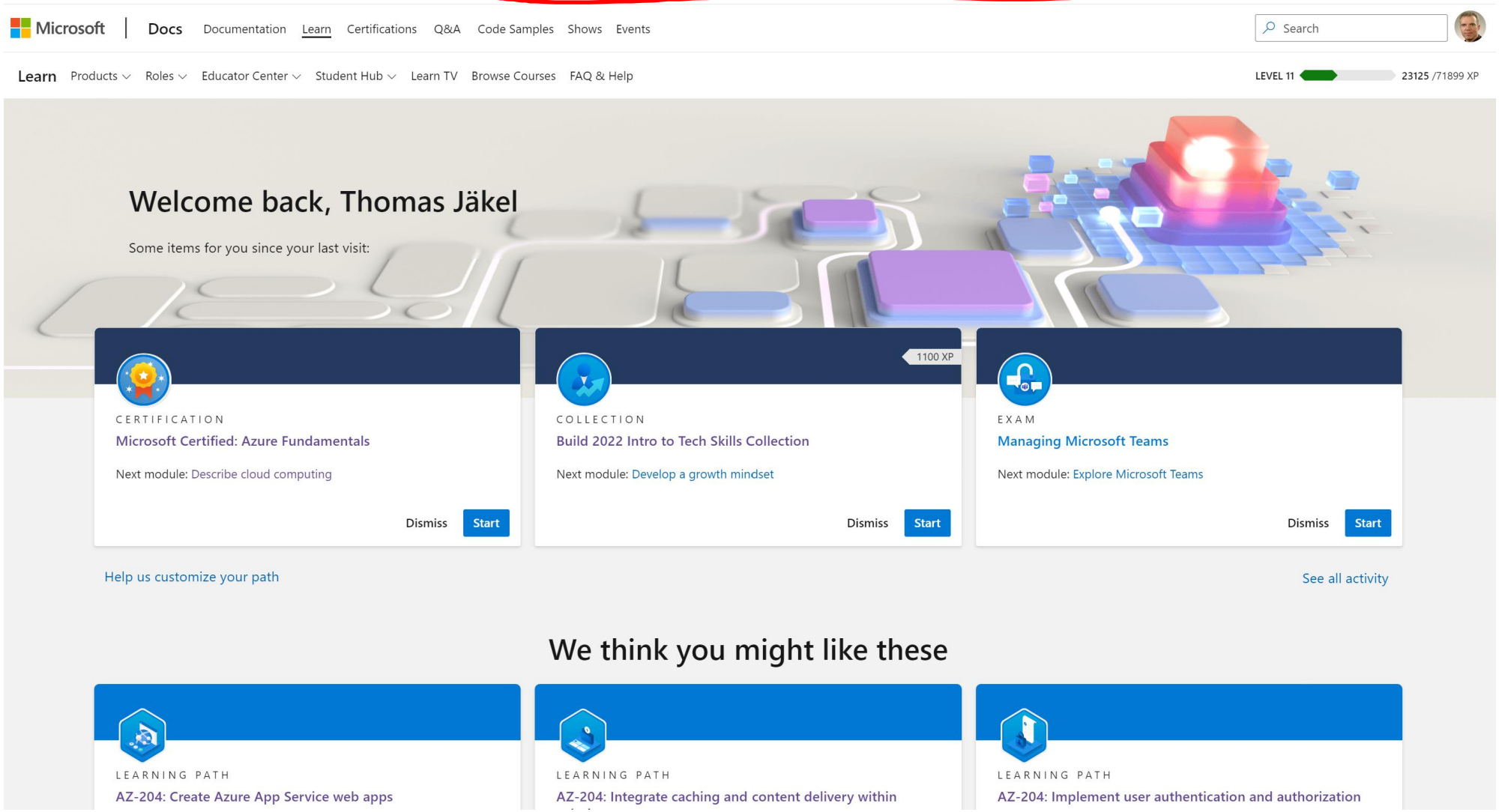
Microsoft | Docs
Documentation
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Q&A
Code Samples
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Events
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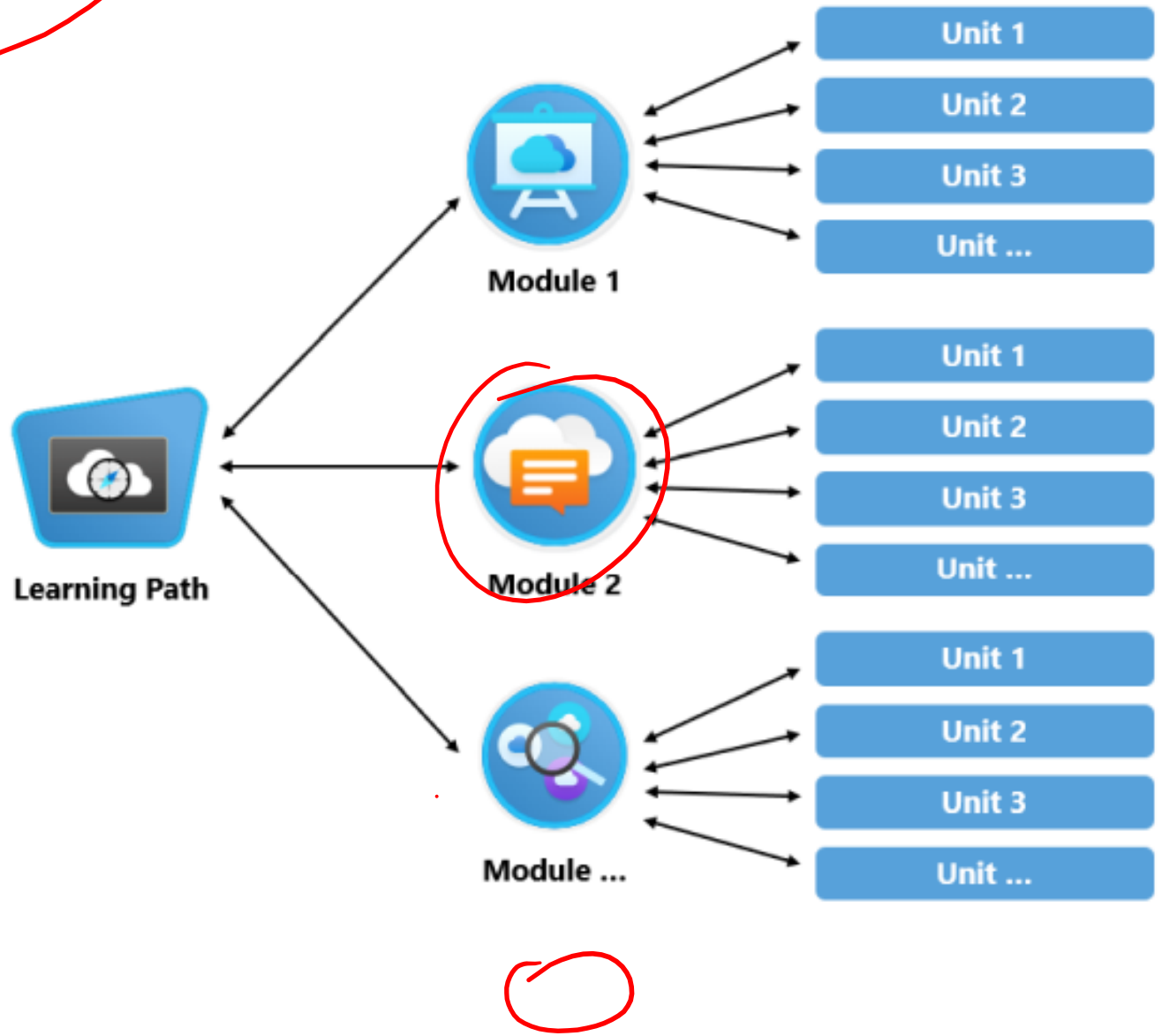
Roles
Educator Center
Student Hub
Learn TV
Browse Courses
FAQ & Help
LEVEL 11
23125 /71899 XP
Welcome back, Thomas Jäkel
Some items for you since your last visit:
CERTIFICATION
Microsoft Certified: Azure Fundamentals
Next module: Describe cloud computing
Dismiss
Start
1100 XP
COLLECTION
Build 2022 Intro to Tech Skills Collection
Next module: Develop a growth mindset
Dismiss
Start
EXAM
Managing Microsoft Teams
Next module: Explore Microsoft Teams
Dismiss
Start
Help us customize your path
See all activity
We think you might like these
LEARNING PATH
AZ-204: Create Azure App Service web apps
LEARNING PATH
AZ-204: Integrate caching and content delivery within
LEARNING PATH
AZ-204: Implement user authentication and authorization

Microsoft Learn

- Learning Paths

- Sandboxes
- Exam Registration
- Transcript
- Collections
- Badges



powershell

Search

Learning Path ×

LEARNING PATH

Automate administrative tasks by using PowerShell

2 hr 57 min

Visual Studio Code • Student • Beginner

Save

LEARNING PATH

Get started with Windows PowerShell

2 hr 13 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Create and manage background jobs and scheduled jobs in Windows PowerShell

1 hr 25 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Maintain system administration tasks in Windows PowerShell

2 hr 3 min

Azure • Administrator • Intermediate

Save

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Work with the Windows PowerShell pipeline

3 hr 30 min

Azure • Administrator • Intermediate

Save

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Create and modify scripts by using Windows PowerShell

3 hr 41 min

Azure • Administrator • Intermediate

Save

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Use variables, arrays, and hash tables in Windows PowerShell scripts

1 hr 12 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Administer remote computers by using Windows PowerShell

2 hr 23 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Manage cloud resources by using Windows PowerShell

2 hr 5 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Manage Microsoft 365 services by using Windows PowerShell

3 hr 8 min

Azure • Administrator • Intermediate

Save

LEARNING PATH

Work with PowerShell providers and PowerShell drives in Windows PowerShell

1 hr 13 min

Azure • Administrator • Intermediate

Save

100 XP

Exercise - Discover objects

1 minute

Sandbox activated! Time remaining: 1 hr 55 min

You have used 1 of 10 sandboxes for today. More sandboxes will be available tomorrow.

In some scenarios, you'll need to manage processes on a machine. If you need to stop some of the processes, you might want to track what processes are running, how many resources they're using, and their process IDs.

Discover an object by using Get-Member

You know that the `Get-Process` cmdlet lists information about processes. Now, you want to find what other cmdlets work with processes and what a process consists of.

In this scenario, you'll use the `Get-Member` cmdlet.

1. Run `Get-Process`:

   PowerShell Copy

   ```
   Get-Process
   ```

   The table-like response consists of all processes that are running on your machine. The exact response depends on what is running on your machine. Choose a process name from the column on the right, and then use it as an argument for your next command.

2. Run `Get-Process` again. This time, use the process name and pipe `Get-Member`.

   PowerShell Copy

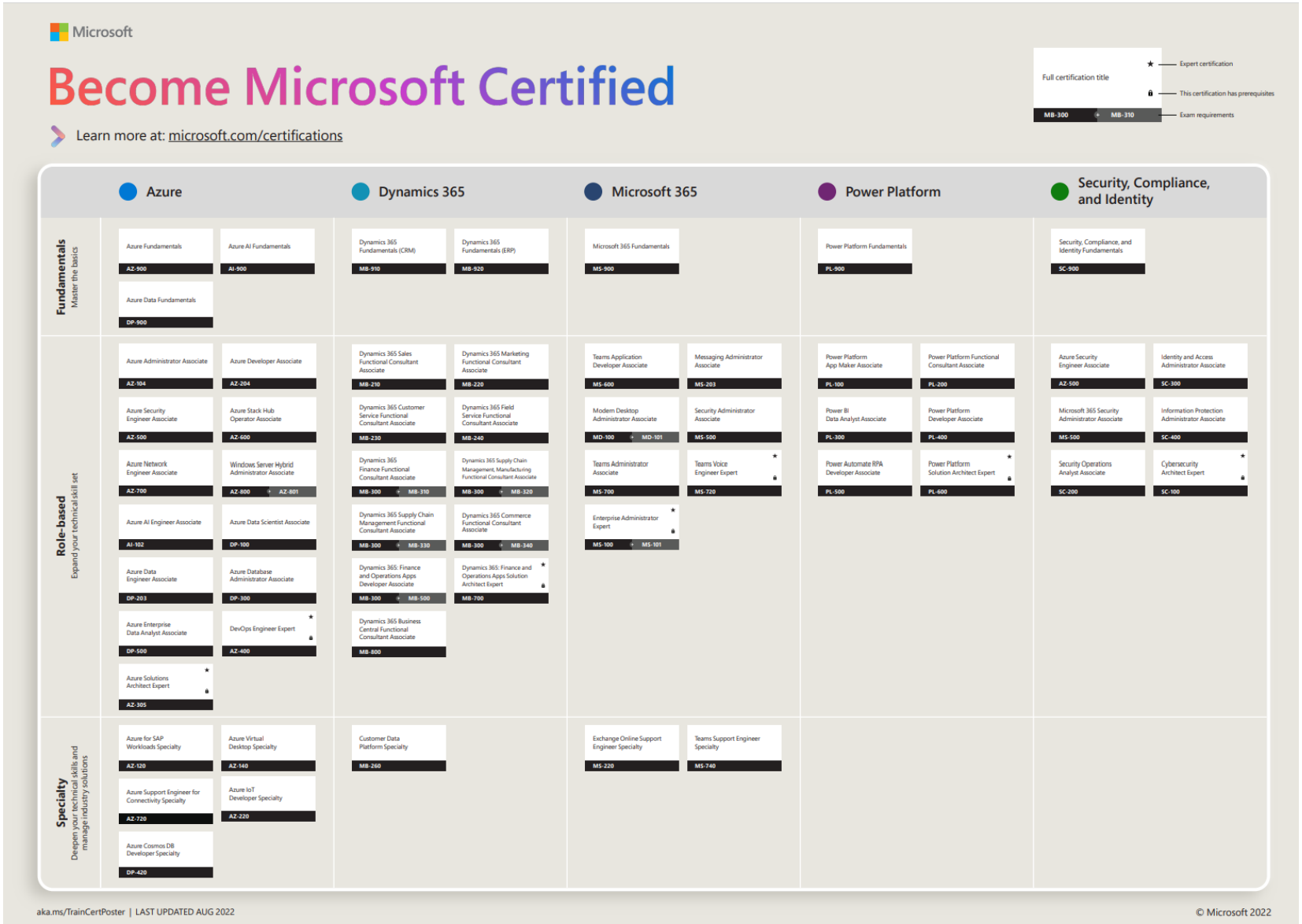
Azure Cloud Shell

```
PS /home/thomas_jaekel> Get-Process

 NPM(K)    PM(M)      WS(M)     CPU(s)      Id  SI ProcessName
 ------    -----      -----     ------      --  -- -----------
      0     0.00      93.02       2.67      20   1 node
      0     0.00     403.88      13.46     130 127 pwsh
      0     0.00       3.12       0.00     129 127 runuser
      0     0.00       3.27       0.01       1   1 startNode.sh
      0     0.00       3.16       0.00     127 127 startPwsh.sh

PS /home/thomas_jaekel>
```

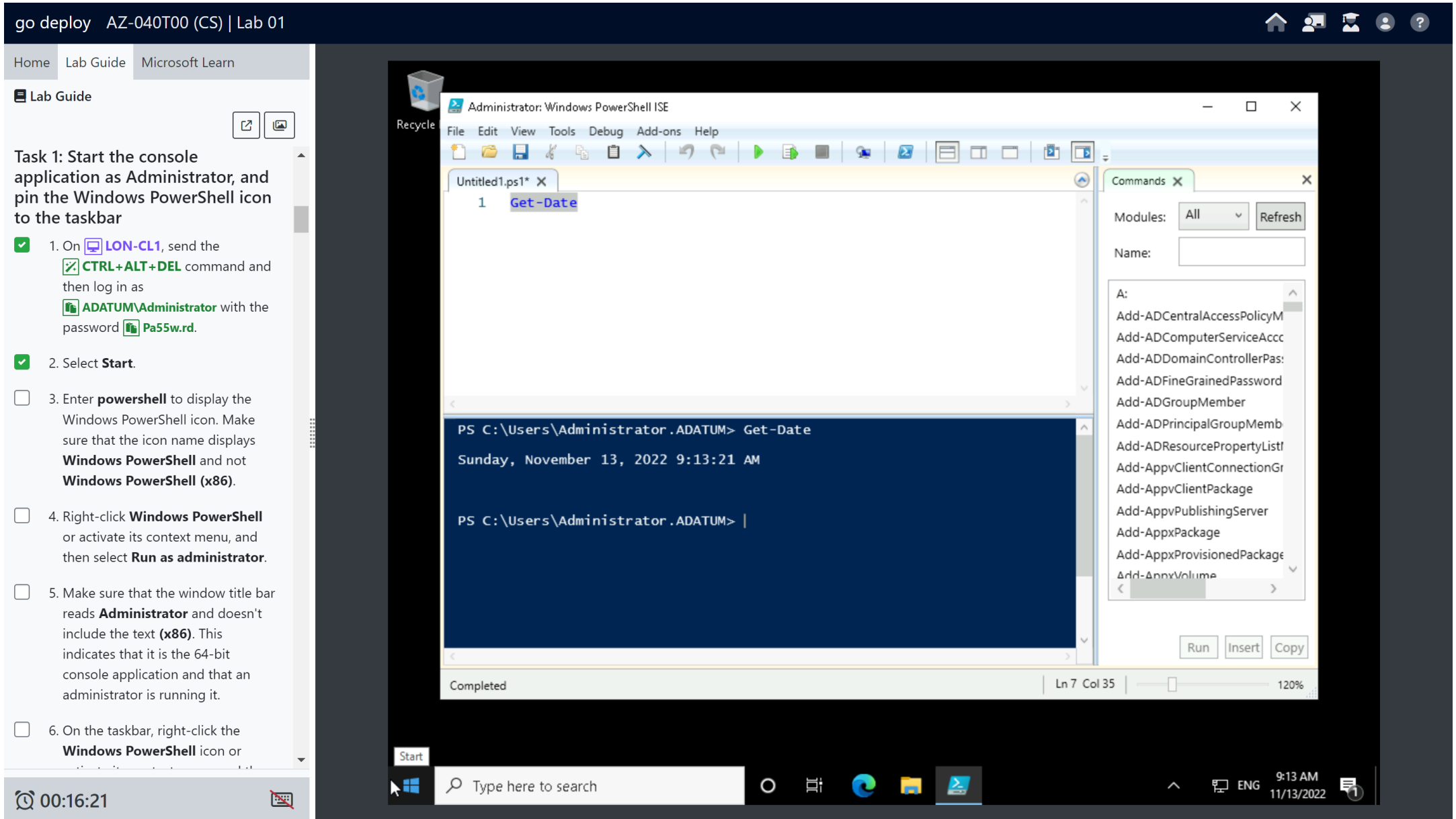
aka.ms/TrainCertPoster



Hands-on labs

- This course requires access to the Azure platform. Access to Azure might be provided through one of the following options:
  - An Azure pass that the Learning Partner or the ALH gives out to students.
  - As part of an ALH Azure solution. Your instructor will provide more information regarding access to Azure.
- You'll use a Microsoft Learning Azure Pass to access Azure.
- After you set up your subscription, check the dollar balance of your Azure Pass within Azure.
- Be aware of how much you're consuming and don't allow Azure components to run overnight or for extended periods.
- Lab instructions are in a GitHub repository. For this class use the <*your region*> location.

go deploy - Lab Umgebung



Facilities

- Class hours
- Building hours
- Parking
- Restrooms
- Meals
- Phones
- Messages
- Internet access
- Recycling
- Emergency procedures