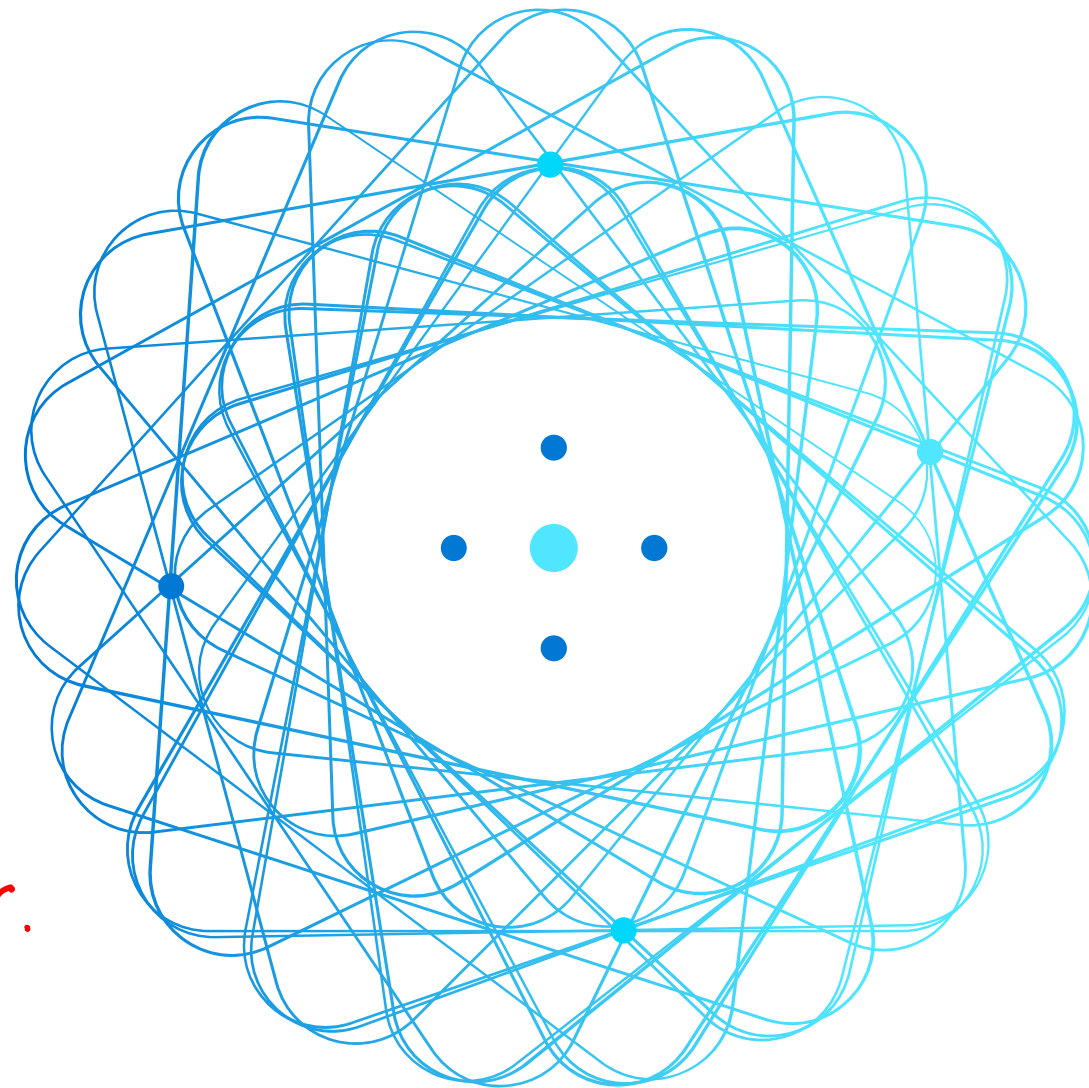


Guten Morgen!

AZ-040

Automating Administration with PowerShell

Seminar startet um 9⁰⁰ Uhr.



Fortran 77 

Heidelberg

NT 4.0

Thomas Jäkel

brainymotion

Lead Trainer Cloud Infrastructure

Microsoft Certified Trainer since 1999

AZ
MS
MD

github.com/www42/AZ-040

DevOps



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.

ipconfig

Get-Net Configuration

MOC 10961 → AZ-040

Course outline

VS Code — Windows PS — PowerShell
ISE — dir Get-ChildItem

Learning Path 1: Getting started with Windows PowerShell

Learning Path 2: Windows PowerShell for local systems administration

Learning Path 3: Working with the Windows PowerShell pipeline

Learning Path 4: Using PSProviders and PSDrives

Learning Path 5: Querying management information by using CIM and WMI

Learning Path 6: Working with variables, arrays, and hash tables

Learning Path 7: Windows PowerShell scripting

Learning Path 8: Administering remote computers with Windows PowerShell

Learning Path 9: Managing Azure resources with PowerShell

Learning Path 10: Managing Microsoft 365 services with PowerShell

Learning Path 11: Using background jobs and scheduled jobs

&
- As Job

5.1

7.3

Net

AD

IIS

Get-Item

Get-Item

Get-Item

Get-Item

C:

Cert:

HKLM:

HKCU:

WMI:

Get-CimInstance

\$PSVersionTable

Sig

Param

function

Var

Module

\$a = "foo"

Enter-PSsession

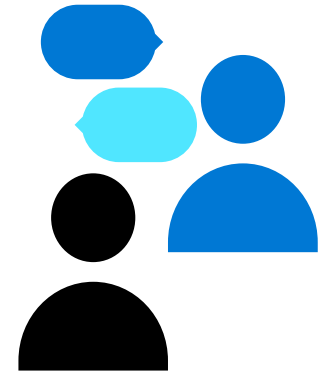
WinRM = WS-Man

Cloud

Hello! Student introduction

Let's get acquainted:

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



aka.ms/Learn



Docs

Documentation

Learn

Certifications

Q&A

Code Samples

Shows

Events

Search



Learn

Products ▾

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



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

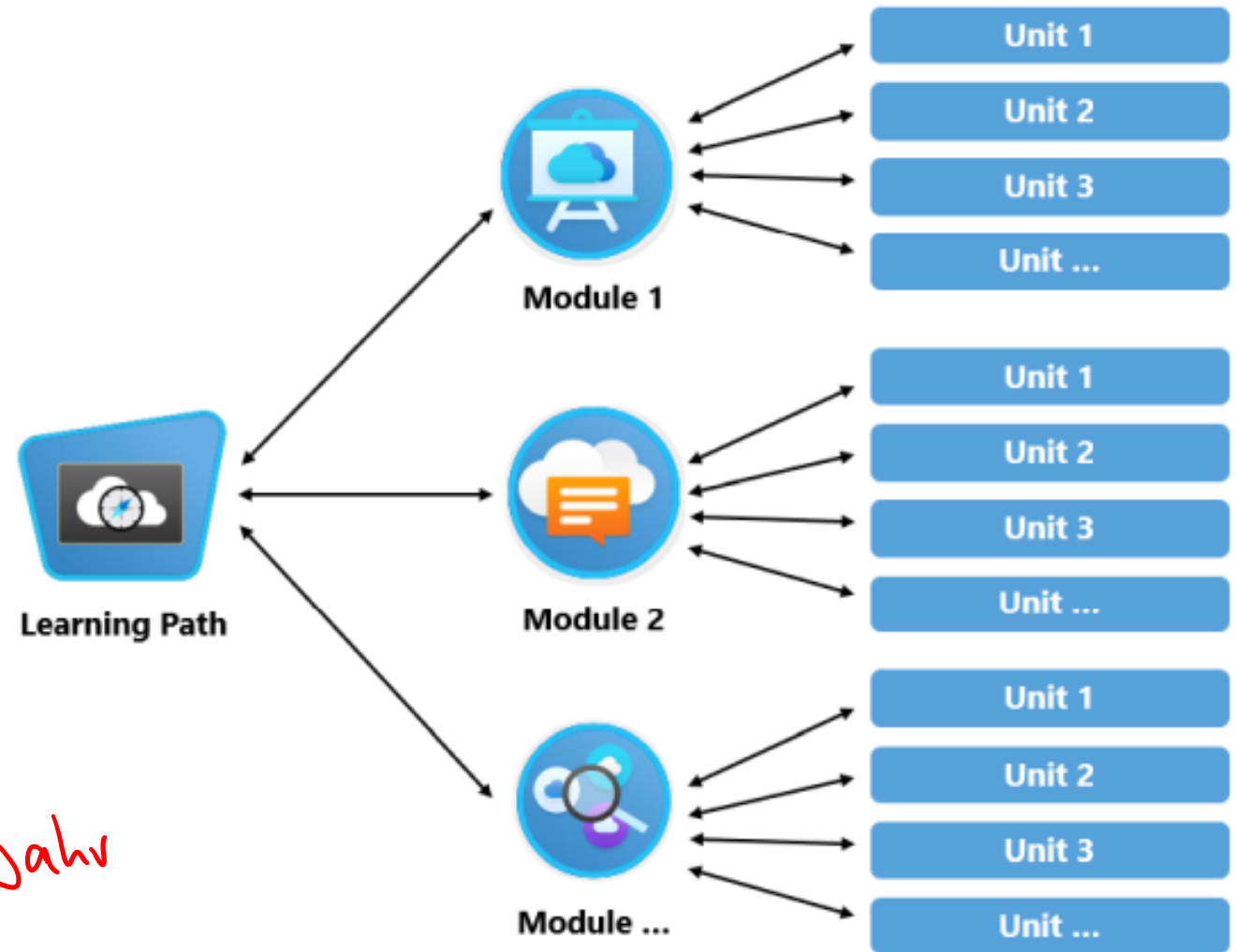


LEARNING PATH

AZ-204: Implement user authentication and authorization


Microsoft Learn

- Learning Paths
- Sandboxes
- Exam Registration
- Transcript
- Collections
- Badges
- Recertification $\times n$ Jahr




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

LEARNING PATH

Work with the Windows PowerShell pipeline

 3 hr 30 min


Azure • Administrator • Intermediate



 Save

LEARNING PATH

Create and modify scripts by using Windows PowerShell

 3 hr 41 min


Azure • Administrator • Intermediate



 Save

LEARNING PATH

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

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



Become Microsoft Certified

Learn more at: microsoft.com/certifications

★ Expert certification title

🔒 This certification has prerequisites

MB-300 + MB-310 Exam requirements

	Azure	Dynamics 365	Microsoft 365	Power Platform	Security, Compliance, and Identity
Fundamentals Master the basics	<div>Azure Fundamentals AZ-900</div> <div>Azure AI Fundamentals AI-900</div> <div>Azure Data Fundamentals DP-900</div>	<div>Dynamics 365 Fundamentals (CRM) MB-910</div> <div>Dynamics 365 Fundamentals (ERP) MB-920</div>	<div>Microsoft 365 Fundamentals MS-900</div>	<div>Power Platform Fundamentals PL-900</div>	<div>Security, Compliance, and Identity Fundamentals SC-900</div>
Role-based Expand your technical skill set	<div>Azure Administrator Associate AZ-104</div> <div>Azure Developer Associate AZ-204</div> <div>Azure Security Engineer Associate AZ-500</div> <div>Azure Stack Hub Operator Associate AZ-600</div> <div>Azure Network Engineer Associate AZ-700</div> <div>Windows Server Hybrid Administrator Associate AZ-800 + AZ-801</div> <div>Azure AI Engineer Associate AI-102</div> <div>Azure Data Scientist Associate DP-100</div> <div>Azure Data Engineer Associate DP-203</div> <div>Azure Database Administrator Associate DP-300</div> <div>Azure Enterprise Data Analyst Associate DP-500</div> <div>DevOps Engineer Expert AZ-400</div> <div>Azure Solutions Architect Expert AZ-305</div>	<div>Dynamics 365 Sales Functional Consultant Associate MB-210</div> <div>Dynamics 365 Marketing Functional Consultant Associate MB-220</div> <div>Dynamics 365 Customer Service Functional Consultant Associate MB-230</div> <div>Dynamics 365 Field Service Functional Consultant Associate MB-440</div> <div>Dynamics 365 Finance Functional Consultant Associate MB-300 + MB-310</div> <div>Dynamics 365 Supply Chain Management, Manufacturing Functional Consultant Associate MB-300 + MB-320</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate MB-300 + MB-330</div> <div>Dynamics 365 Commerce Functional Consultant Associate MB-300 + MB-340</div> <div>Dynamics 365 Finance and Operations Apps Developer Associate MB-300 + MB-500</div> <div>Dynamics 365 Finance and Operations Architect Expert MB-700</div> <div>Dynamics 365 Business Central Functional Consultant Associate MB-400</div>	<div>Teams Application Functional Consultant Associate MS-600</div> <div>Messaging Administrator Associate MS-203</div> <div>Modern Desktop Administrator Associate MD-100 + MD-101</div> <div>Security Administrator Associate MS-500</div> <div>Teams Administrator Associate MS-700</div> <div>Teams Voice Engineer Expert MS-720</div> <div>Enterprise Administrator Expert MS-100 + MS-101</div>	<div>Power Platform App Maker Associate PL-100</div> <div>Power Platform Functional Consultant Associate PL-200</div> <div>Power BI Data Analyst Associate PL-300</div> <div>Power Platform Developer Associate PL-400</div> <div>Power Automate RPA Developer Associate PL-500</div> <div>Power Platform Solution Architect Expert PL-600</div>	<div>Azure Security Engineer Associate AZ-500</div> <div>Identity and Access Administrator Associate SC-300</div> <div>Microsoft 365 Security Administrator Associate MS-500</div> <div>Information Protection Administrator Associate SC-400</div> <div>Security Operations Analyst Associate SC-200</div> <div>Cybersecurity Architect Expert SC-100</div>
Specialty Deepen your technical skills and manage industry solutions	<div>Azure for SAP Workloads Specialty AZ-120</div> <div>Azure Virtual Desktop Specialty AZ-140</div> <div>Azure Support Engineer for Connectivity Specialty AZ-720</div> <div>Azure IoT Developer Specialty AZ-220</div> <div>Azure Cosmos DB Developer Specialty DP-420</div>	<div>Customer Data Platform Specialty MB-260</div>	<div>Exchange Online Support Engineer Specialty MS-220</div> <div>Teams Support Engineer Specialty MS-740</div>		

aka.ms/TrainCertPoster | LAST UPDATED AUG 2022

© Microsoft 2022

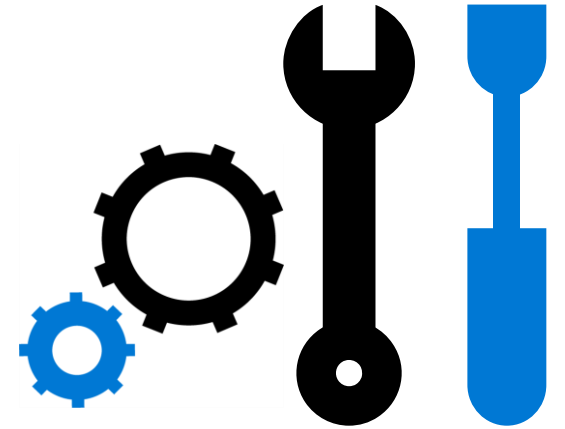
Hands-on labs

- 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.

Prepare for the labs

You'll work in a virtual machine environment to:

- Configure PowerShell and use it for local system administration.
- Use PowerShell pipeline, PSProviders, and PSDrives.
- Use scripts, variables, arrays, and hash tables in PowerShell.
- Administer remote computers and manage Azure resources with PowerShell.
- Manage Microsoft 365 with PowerShell.
- Manage jobs with PowerShell.



skillable (LODS)
Training key

Facilities

9⁰⁰

12³⁰ - 13³⁰

17⁰⁰

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

