Azure CLI (az)

Simplifying Cloud Development

From Zero to Deployed in Minutes

Agenda

- What is Azure CLI?
- Installation & Setup
- Demo(s)
- Queries/Output Formatting
- Automating tasks w/ scripts
- Q&A

What is Azure CLI?

Cross-platform command-line tool

Manages Azure resources via commands

Runs on Windows, macOS, Linux, Cloud Shell, and Docker

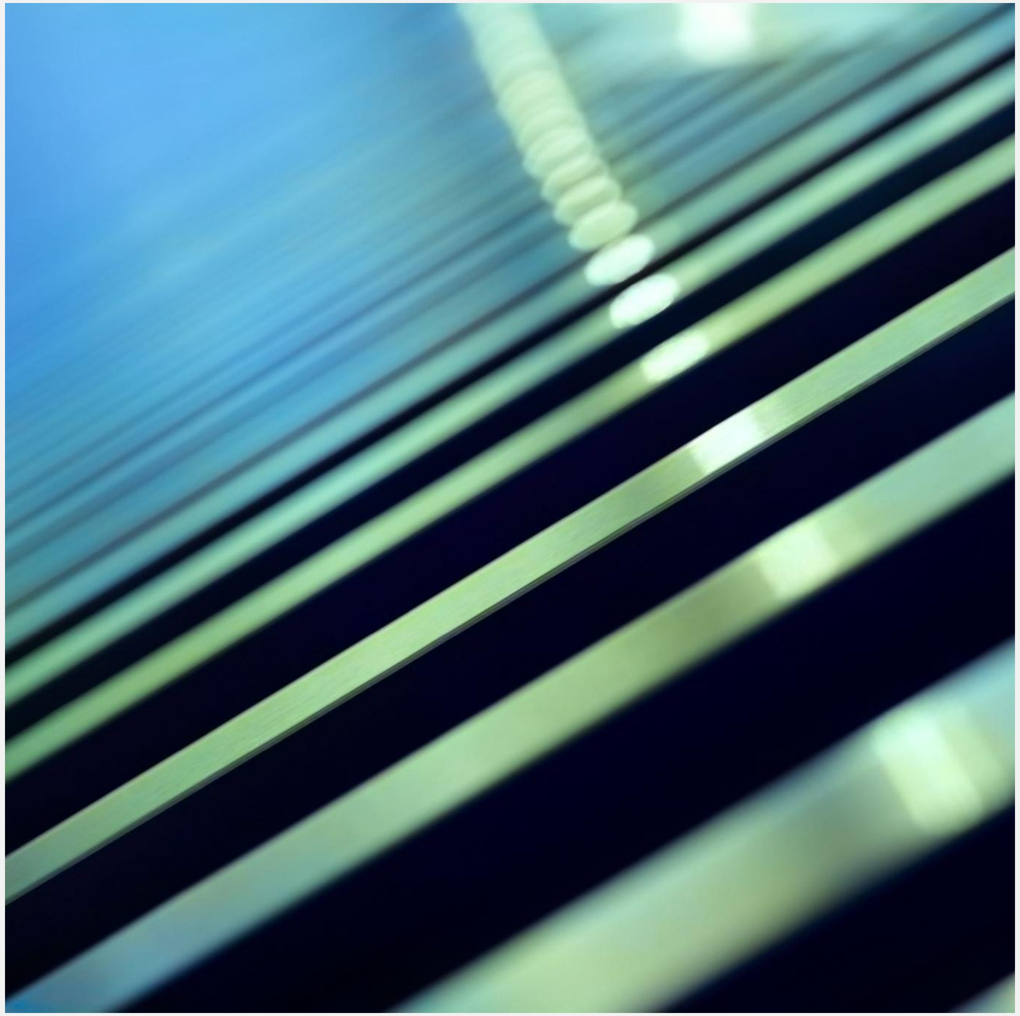
Why Azure CLI?

Speed & Automation

Scriptable & Reproducible

Ideal for DevOps & CI/CD

Complements (not replaces) Portal and PowerShell



Installation & Setup

- Install on Windows/macOS/Linux
- `az login` for authentication
- Works with Service Principals & Managed Identity

Command Structure

- Pattern:
  ```
  az <group> <subgroup> <command> [parameters]
  ```
- Example:
  ```
  az group create --name MyResourceGroup --location eastus
  ```

Environment-specific guidance

Shell	Line Continuation Character	Script extension
Bash	\	.sh
PowerShell	`	.ps1
Cmd	^	.bat

Additional References

How-to use the Azure CLI in a Bash environment | Microsoft Learn

Tips to use the Azure CLI successfully in PowerShell | Microsoft Learn

Quoting differences in scripting languages | Microsoft Learn

Demo 1 — Resource Groups

- Create a resource group

  ```
  az group create --name rg-azclidemo --location eastus
  ```

- List resource groups

  ```
  az group list
  ```

- Does Group exist

  ```
  az group exists --name rg-azclidemo
  ```

- Delete a resource group

  ```
  az group delete --name rg-azclidemo
  ```

Demo 2 — Networking

- Create a Virtual Network

```
az network vnet create `
--name vnet-demo-eastus-001 `
--resource-group rg-azclidemo `
--address-prefixes 10.0.0.0/16 `
--subnet-name snet-demo-eastus-001 `
--subnet-prefixes 10.0.0.0/24
```

Demo 3 — Storage

- Create a storage account

```
az storage account create `
--name stazclidemo003 `
--resource-group rg-azclidemo `
--location eastus `
--sku Standard_LRS `
--kind StorageV2
```

Demo 4 — Compute

- Create a VM

```
az vm create `
--name vm-demo-001 `
--resource-group rg-azclidemo `
--image Win2022DataCenter `
--vnet-name vnet-demo-eastus-001 `
--subnet snet-demo-eastus-001 `
--admin-user adminuser1 `
--admin-password HNdoulc2025# `
--size Standard_D2s_v3
```

Demo 5

Putting it all together

Environment-specific guidance

Shell	Line Continuation Character	Script extension
Bash	\	.sh
PowerShell	`	.ps1
Cmd	^	.bat

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Output Format

--output or -o	Description
json	JSON string. This setting is the default
jsonc	Colorized JSON
table	ASCII table with keys as column headings
tsv	Tab-separated values, with no keys
yaml	YAML, a human-readable alternative to JSON
yamlc	Colorized YAML
none	No output other than errors and warnings

Examples

```
    az account list-locations –o table

    az account list-locations –o yamlc
```

https://learn.microsoft.com/en-us/cli/azure/format-output-azure-cli?view=azure-cli-latest&tabs=bash

Querying

JMESPath (JSON Matching Expression Paths)

az account list-locations --query
"[].displayName"
"[].{Name:displayName, Location:metadata.physicalLocation} "
"[].displayName | [0:5] "
"[?metadata.geographyGroup=='US'].displayName | [0:5] "
"sort_by([].{Name:displayName, Location:metadata.physicalLocation}, &Name)"

https://jmespath.org/

Advanced Feature — Interactive Mode

- `az interactive`
- Autocomplete & suggestions
- Great for learning

Advanced Feature — Automation

- Bash, PowerShell, GitHub Actions, Azure DevOps
- Example: `az deployment group create` with ARM/Bicep
- Useful for CI/CD

Tips & Tricks

- Use `--output table` for readability
- Use defaults with `az configure`
- Use tags for organization
- `az find <command>` for quick help

Resources

- Microsoft Docs: Azure CLI
  https://learn.microsoft.com/cli/azure
- Azure Samples on GitHub
  https://github.com/Azure/azure-cli

Recap & Q&A

- Azure CLI is powerful, cross-platform, scriptable
- Complements Portal & PowerShell
- Great for automation and DevOps
- Explore interactive mode, queries, and pipelines