Azure CLI (az)
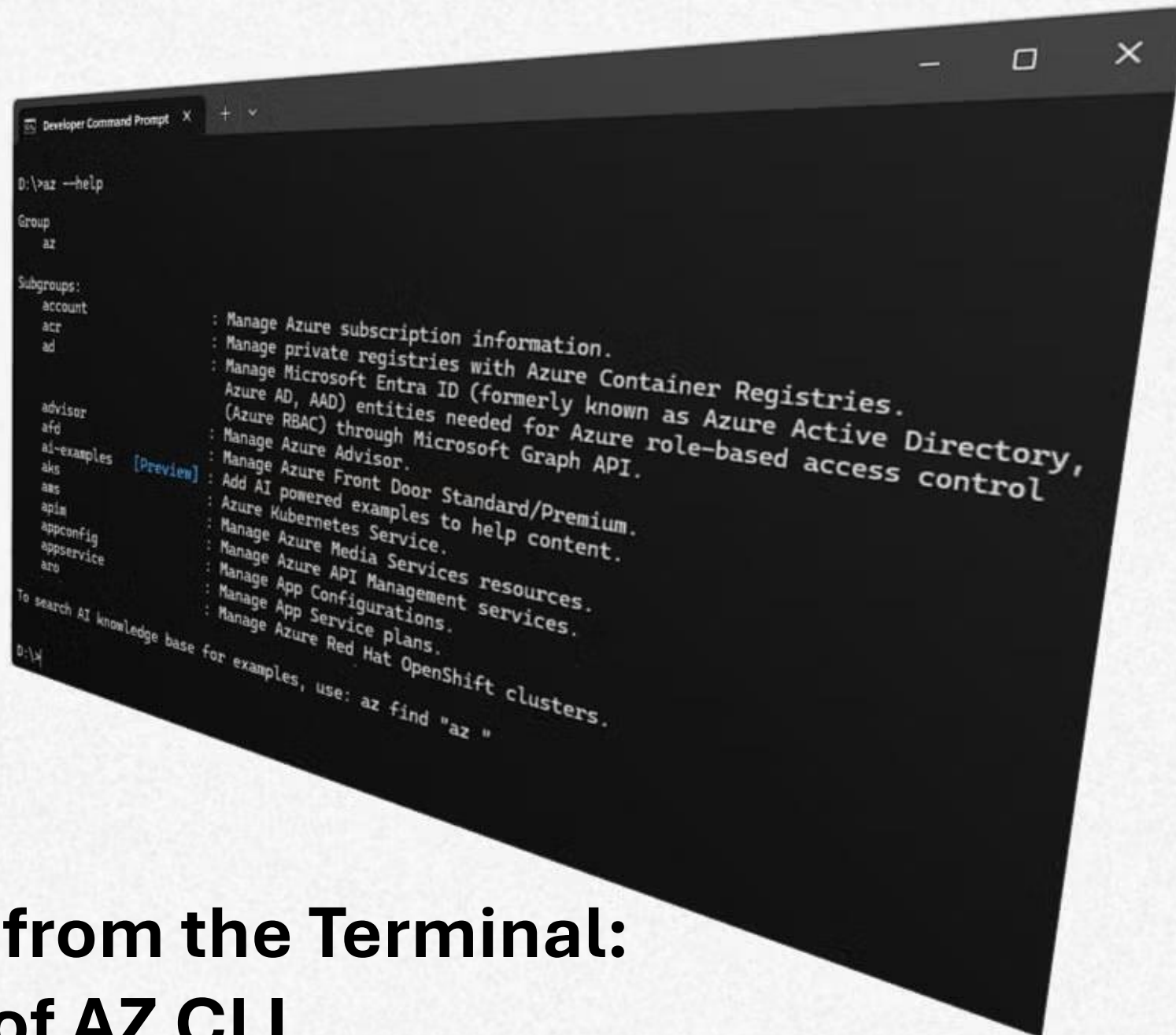## Simplifying Cloud Development
From Zero to Deployed in Minutes

Command Your Cloud:
Mastering Azure with AZ CLI

Rule Azure from the Terminal:
The Power of AZ CLI

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
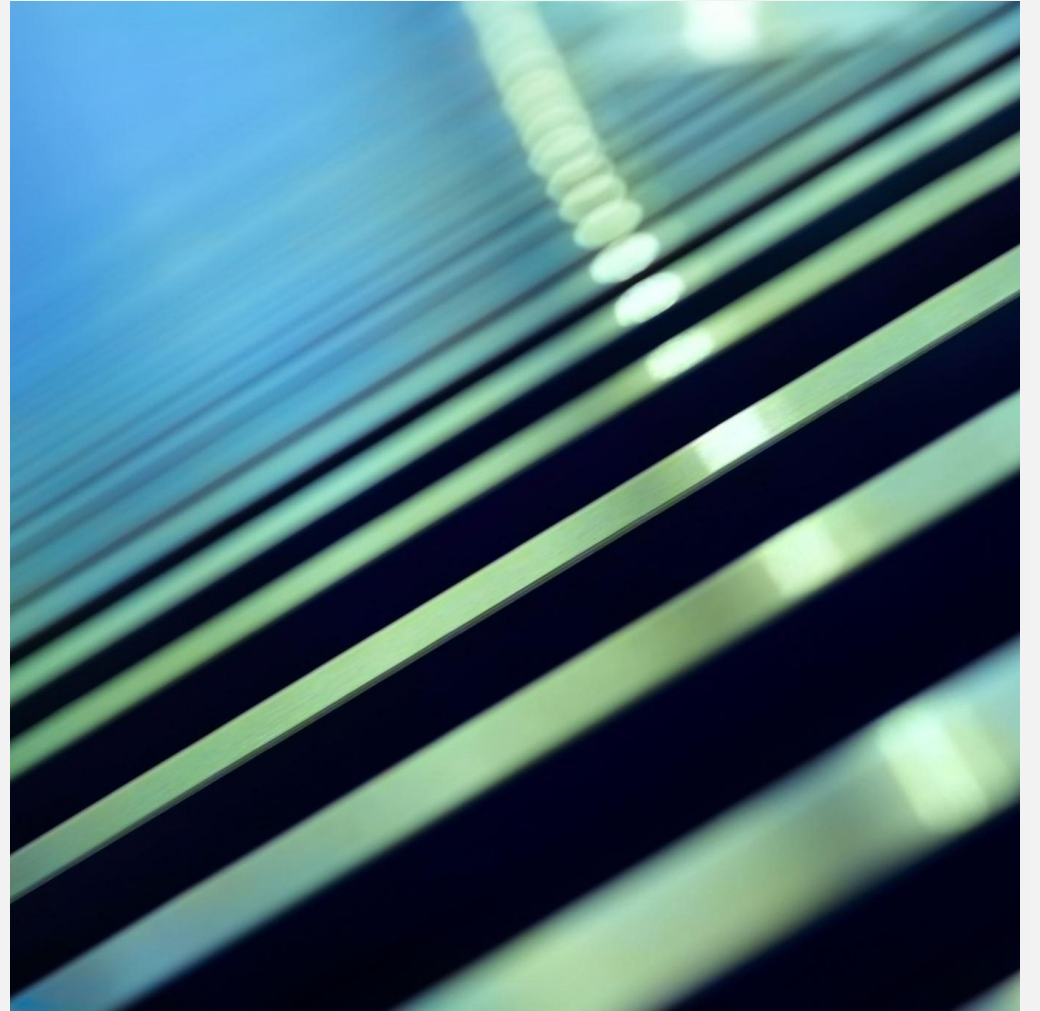
Scriptable & Reproducible

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

Creating Resource Groups with az cli

- 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 1a — Resource Groups

```
# Create Resource Group
az group create --name rg-azclidemo-001 --location eastus
```

Demo 1b — Networking

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

Demo 1c — Storage

```
# Create Storage
az storage account create `
--name stazclidemox001 `
--resource-group rg-azclidemo-001 `
--location eastus `
--sku Standard_LRS `
--kind StorageV2
```

Note: Storage account must have globally unique names.
     If you are having trouble with the script change the storage account name

Demo 1d — Compute

```
# Create VM
az vm create `
--name vm-azclidemo-001 `
--resource-group rg-azclidemo-001 `
--vnet-name vnet-azclidemo-eastus-001 `
--subnet snet-azclidemo-eastus-001 `
--image Ubuntu2404 `
--size Standard_B1s `
--admin-user adminuser1 `
--generate-ssh-keys
```

Demo 2

A. Putting it all together

B. Variables

C. Output

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

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)"

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