

Azure에도 명령 프롬프트가 있다고?

Azure CLI 2.0

with Bash & Raspberry Pi!

with Openstack Korea & Ubuntu Korea

Azure CLI 2.0이란

최영락

- 오픈스택 한국 커뮤니티 3기 대표
- Microsoft MVP (Cloud & Datacenter Mgmt., 2016 Jul ~ 2017 Jun)

모듈 개요

- More on Backgrounds
- Azure 관리 도구와 Azure CLI
- Azure CLI 2.0 개요

Lesson 1: Azure 관리 도구와 Azure CLI

- Azure REST API
- Azure 클라이언트 SDK 라이브러리
- Azure 관리 도구
- Azure CLI

Azure REST API

- Azure REST (Representational State Transfer) API
 - Azure 서비스 자원에 대한 CRUD (create / retrieve / update / delete)를 수행
 - API 공식 사이트: <https://docs.microsoft.com/en-us/rest/api/>

Azure REST API

Filter

Getting Started with REST

- > Analysis Services
- > API Management
- > Application Gateway
- > App Service
- > Authorization
- > Batch Management
- > Batch Service
- > Billing
- > CDN
- > Cognitive Services
- > Compute

Azure REST API Reference

2016. 11. 30. • 13 min to read • Contributors

Welcome to the Azure REST API Reference.

Representational State Transfer (REST) APIs are service endpoints that support sets of HTTP operations (methods), which provide create/retrieve/update/delete access to the service's resources. The sections below will walk you through:

- The basic components of a REST API request/response pair
- How to register your client application with Azure Active Directory (Azure AD) to secure your REST requests
- Overviews of creating and sending a REST request, and handling the response

Note

Most Azure service REST APIs have a corresponding client SDK library, which handles much of the client code for you. See:

- [Azure .NET SDK](#)
- [Azure Java SDK](#)
- [Azure CLI 2.0 SDK](#)

Azure 클라이언트 SDK 라이브러리

- Azure NET SDK
 - <https://docs.microsoft.com/en-us/dotnet/api/>
- Azure Java SDK
 - <https://docs.microsoft.com/en-us/java/api/>
- Azure CLI 2.0 SDK
 - <https://docs.microsoft.com/en-us/cli/azure/>

Azure 관리 도구

- Azure 포탈
- Windows PowerShell
- Azure Automation
- Azure CLI
- Visual Studio

- CLI: Command-Line Interfaces
- Azure CLI
 - PowerShell 방식이 아닌 MacOS, Linux 등에도 설치 가능하며 공통된 명령어 집합을 사용하는 관리 도구

Lesson 2: Azure CLI 2.0 개요

- Azure CLI 발전
- Azure CLI 2.0 특징
- 데모: Azure CLI 2.0 설치 & 사용

- xPlat Azure CLI: the cross-platform Microsoft Cloud CLI tool

- NodeJS (npm) 기반

```
Trevors-MacBook-Pro:MMS 2015 trevorsullivan$ azure
info:
info:      _/ \_  | _/ | | | _ \_ |
info:  _ _ _/ _ \_ / | | | | / _ | _ _
info: ( _ _ / / \ \ V _ _ \ _ / | | \ _ _ )
info:  ( _ _ _ _ _ _ _ )          _ _ _ _ _ _ _ ) _ _
info:      ( _ _ _ _ _ _ _ _ _ _ ) ( _ _ _ _ _ )
info:
info: Microsoft Azure: Microsoft's Cloud Platform
info:
```

- <https://github.com/Azure/azure-xplat-cli>

- Python 기반 새로운 Azure CLI 개발

➔ Azure CLI 2.0: 2017년 2월 27일 릴리즈

- <https://docs.microsoft.com/en-us/cli/azure/release-notes-azure-cli>

- 참고 – GA (Generally Available)

- <https://github.com/Azure/azure-cli>

Azure CLI 2.0 특징

- Compute를 포함한 다양한 명령어 집합 지원
- MacOS, Linux, Windows 모두 설치 가능
(심지어 라즈베리파이에서도 가능)
 - 단, Windows에서는 Cygwin, Python, Bash on Windows 등의 환경을 추가로 필요로 함
- NodeJS 기반보다 설치가 상대적으로 쉬움
- 모두 동일한 명령어 집합 사용

데모: Azure CLI 2.0 설치 및 사용

- Azure CLI 2.0 설치: 의존성 확인

```
ian@LOCK-DESKTOP:~$ curl -L https://aka.ms/InstallAzureCli | bash
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100  167  100  167    0    0   252      0 --:--:-- --:--:-- --:--:--   254
100  989  100  989    0    0   639      0 0:00:01 0:00:01 --:--:--   639
Downloading Azure CLI install script from https://azurecliprod.blob.core.windows.net/install.py to /
/tmp/tmp_ywOE.
##### 100.0%
5.84
/tmp/azure_cli_install_tmp_ywOE: OK
Running install script.
-- Verifying Python version.
-- Python version 2.7.6 okay.
-- Verifying native dependencies.
-- Executing: 'dpkg --get-libs libssl-dev libffi-dev python-dev'
-- One or more of the following native dependencies are not currently installed and may be required.
"apt-get update && apt-get install -y libssl-dev libffi-dev python-dev"

==> Attempt to continue anyway? (y/N): N
ERROR: Please install the native dependencies and try again.
```

데모: Azure CLI 2.0 설치 및 사용

- Azure CLI 2.0 설치: 의존성 패키지 설치
 - (build-essential 추가 필요)

```
ian@LOCK-DESKTOP:~$ sudo apt update && sudo apt install -y libssl-dev libffi-dev python-dev
sudo: unable to resolve host LOCK-DESKTOP
[sudo] password for ian:
받기:1 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
무시: http://archive.ubuntu.com trusty InRelease
받기:2 http://archive.ubuntu.com trusty-updates InRelease [65.9 kB]
받기:3 http://security.ubuntu.com trusty-security/main amd64 Packages [593 kB]
기존: http://archive.ubuntu.com trusty-backports InRelease
기존: http://archive.ubuntu.com trusty Release.gpg
받기:4 http://archive.ubuntu.com trusty-updates/main amd64 Packages [958 kB]
받기:5 http://security.ubuntu.com trusty-security/restricted amd64 Packages [13.4 kB]
받기:6 http://security.ubuntu.com trusty-security/universe amd64 Packages [154 kB]
받기:7 http://security.ubuntu.com trusty-security/multiverse amd64 Packages [4,139 B]
받기:8 http://security.ubuntu.com trusty-security/main Translation-en [324 k
받기:9 http://security.ubuntu.com trusty-security/multiverse Translation-en [2,201 B]
받기:10 http://security.ubuntu.com trusty-security/restricted Translation-en [3,357 B]
받기:11 http://security.ubuntu.com trusty-security/universe Translation-en [89.9 kB]
받기:12 http://archive.ubuntu.com trusty-updates/restricted amd64 Packages [16.4 kB]
받기:13 http://archive.ubuntu.com trusty-updates/universe amd64 Packages [400 kB]
받기:14 http://archive.ubuntu.com trusty-updates/multiverse amd64 Packages [14.0 kB]
받기:15 http://archive.ubuntu.com trusty-updates/main Translation-en [472 kB]
받기:16 http://archive.ubuntu.com trusty-updates/multiverse Translation-en [7,340 B]
받기:17 http://archive.ubuntu.com trusty-updates/restricted Translation-en [3,847 B]
받기:18 http://archive.ubuntu.com trusty-updates/universe Translation-en [212 kB]
기존: http://archive.ubuntu.com trusty-backports/main amd64 Packages
기존: http://archive.ubuntu.com trusty-backports/restricted amd64 Packages
기존: http://archive.ubuntu.com trusty-backports/universe amd64 Packages
기존: http://archive.ubuntu.com trusty-backports/multiverse amd64 Packages
기존: http://archive.ubuntu.com trusty-backports/main Translation-en
```

데모: Azure CLI 2.0 설치 및 사용

- Azure CLI 2.0 설치: 의존성 통과 후 설치

```
% Total      % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left     Speed
100 167 100 167  0  0  356      0 --:--:-- --:--:-- --:--:-- 356
100 989 100 989  0  0  707      0 0:00:01 0:00:01 --:--:--  0
Downloading Azure CLI install script from https://azurecliproduct.blob.core.windows.net/install.py to /tmp/azure_cli_install_tmp_gHCs.
##### 100.0%
5.84
/tmp/azure_cli_install_tmp_gHCs: OK
Running install script.
-- Verifying Python version.
-- Python version 2.7.6 okay.
-- Verifying native dependencies.
-- Executing: 'dpkg --get-libs libssl-dev libffi-dev python-dev'
-- Native dependencies okay.

==> In what directory would you like to place the install? (leave blank to use '/home/ian/lib/azure-cli'):
-- Creating directory '/home/ian/lib/azure-cli'.
-- We will install at '/home/ian/lib/azure-cli'.

==> In what directory would you like to place the 'az' executable? (leave blank to use '/home/ian/bin'):
-- Creating directory '/home/ian/bin'.
-- The executable will be in '/home/ian/bin'.
-- Downloading virtualenv package from https://pypi.python.org/packages/source/v/virtualenv/virtualenv-15.0.0.tar.gz.
-- Downloaded virtualenv package to /tmp/tmpWFGdQD/virtualenv-15.0.0.tar.gz.
```

데모: Azure CLI 2.0 설치 및 사용

- Azure CLI 2.0 설치: 설치 완료 후 Shell 재로딩
 - `$ exec -l $SHELL`

```
l-2.6.0 pyyaml-3.12 requests-2.13.0 requests-oauthlib-0.8.0 scp-0.10.2 secretstorage-2.3.1 sshunnel-0.1.2 tabulate-0.7.7 urllib3-1.16
-- The executable is available at '/home/ian/bin/az'.
-- Created tab completion file at '/home/ian/lib/azure-cli/az.completion'

==> Modify profile to update your $PATH and enable shell/tab completion now? (Y/n):

==> Enter a path to an rc file to update (leave blank to use '/home/ian/.bashrc'):
-- Backed up '/home/ian/.bashrc' to '/home/ian/.bashrc.backup'
-- Tab completion set up complete.
-- If tab completion is not activated, verify that '/home/ian/.bashrc' is sourced by your shell.
--
-- ** Run `exec -l $SHELL` to restart your shell. **
--
-- Installation successful.
-- Run the CLI with /home/ian/bin/az --help
ian@LOCK-DESKTOP:~$ exec -l $SHELL
ian@LOCK-DESKTOP:~$ █
```

데모: Azure CLI 2.0 설치 및 사용

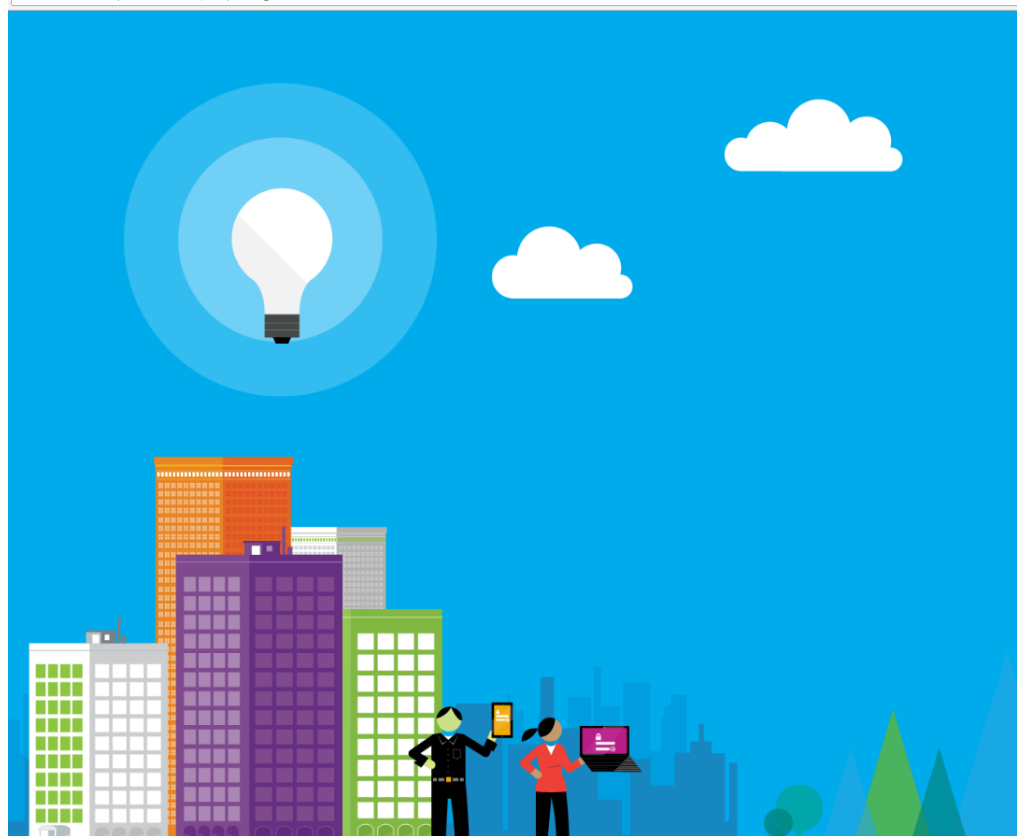
- Azure CLI 2.0 사용 로그인: \$ az login

```
ian@LOCK-DESKTOP:~$ az login
```

```
To sign in, use a web browser to open the page https://aka.ms/devicelogin and enter the code HL88ZR4R9 to authenticate.
```

```
{  
  "cloudName": "AzureCloud",  
  "id": "",  
  "isDefault": true,  
}
```

Microsoft Corporation [US] | <https://login.microsoftonline.com/common/oauth2/deviceauth>



장치 로그인

장치의 응용 프로그램에서 받은 코드!

HL88ZR4R9

Microsoft Azure
Cross-platform Command Line
Interface

응용 프로그램 게시자:

다른 응용 프로그램에서 이
를 클릭하세요.

계속

취소

Microsoft Azure Cross- platform Command Line Interface

장치에서 Microsoft Azure Cross-platform Command Line Interface 응용 프로그램에 로그인하셨습니다. 이제 이 창을 닫아도 됩니다.