

AI Bootcamp

SDKs and Mini In-Class Project

Module 6 Day 3



Class Objectives

By the end of class, you will be able to:

- 1 Explain the difference between an API and an SDK.
- 2 Set authentication for a Python SDK.
- 3 Use a Python SDK to fetch US Census data.
- 4 Create applications from scratch by using nothing but your knowledge of Python and an API's documentation.



Activity:

API Warm Up

In this activity, you will review API keys, environment variables, **try-except**, and use the Pandas method **to_list()**.

Suggested Time:

10 Minutes



Time's up!
Let's review



Questions?



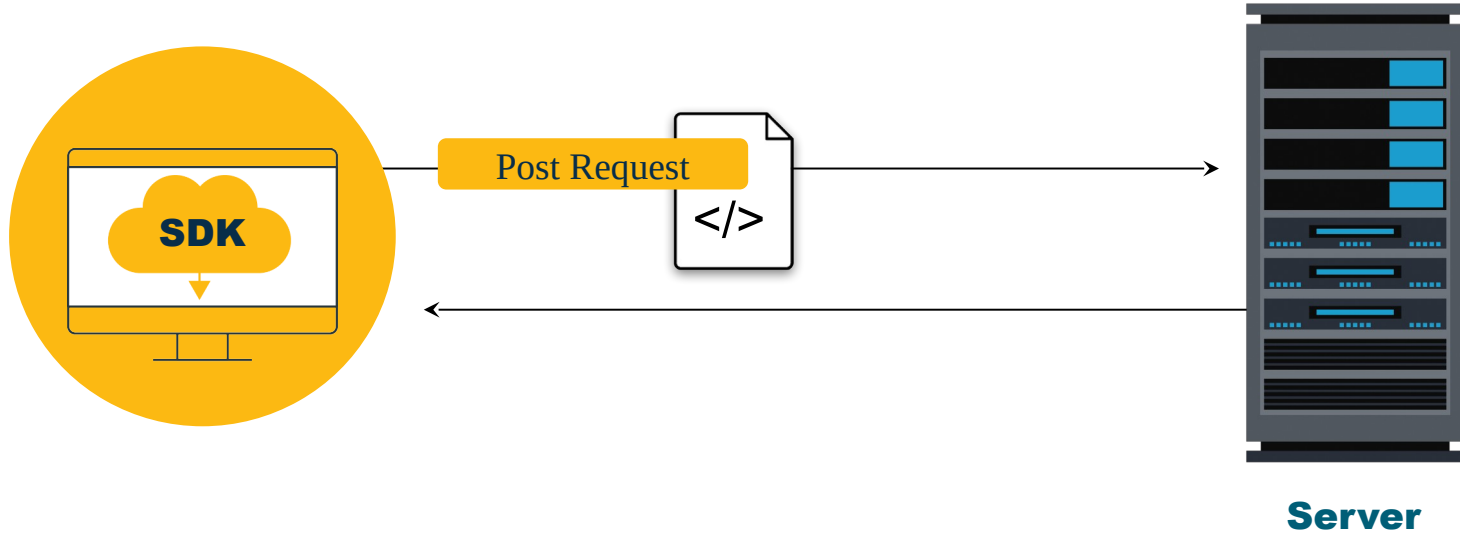


Instructor **Demonstration**

SDKs

SDKs

Software development kits (SDKs) work in the same fashion as the Python requests library: they provide functions to submit GET and POST API requests.



SDKs

Some companies, like IBM and OpenAI, offer Software Development Kits as a means to submit requests to their APIs.

The screenshot displays the IBM Cloud documentation page for Watson SDKs. The page is structured with a dark sidebar on the left containing navigation links such as 'Product guide', 'Natural Language Understanding', 'Reference', and 'Help'. The main content area features the title 'Watson SDKs' with a sub-header 'Natural Language Understanding /'. Below the title, it states 'Last updated 2022-10-05'. The main text explains that SDKs abstract complexity and provide programming interfaces. A section titled 'Supported SDKs' lists four supported languages: Java, Node.js, Python, and .NET, each with a link to its respective SDK. A tip box indicates that the API reference for each service includes information and examples. Another section, 'Community SDKs', lists seven community-developed SDKs: ABAP for IBM Watson, Android, Go, Ruby, Salesforce, Swift, and Unity. A final section, 'SDK updates and deprecation', states that supported SDKs are updated according to guidelines. The bottom of this section, 'Semantic versioning', notes that releases are labeled with semantic versioning (major, minor, patch). The right sidebar contains a search bar, a language selector (English), and a 'Create IBM Cloud account' button. Below these, a 'Supported SDKs' section lists 'Community SDKs' and 'SDK updates and deprecation'.

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Product guide
Natural Language Understanding

Public and private network endpoints

Reference

API reference

Activity Tracker events for Natural Language Understanding

Categories type system

Detectable languages

Entity types

Language support

Relation types

Tone analytics (Classifications)

Sample apps

Usage limits

Versioning

High availability and disaster recovery

Information security

Watson SDKs

Watson GitHub repos

Help

Troubleshooting

Pricing

Developer community

Go to product UI

About this product

IBM Cloud Docs / Natural Language Understanding /

Watson SDKs

Last updated 2022-10-05

SDKs abstract much of the complexity associated with application development. By providing programming interfaces in languages that you already know, they can help you get up and running quickly with IBM Watson services.

Supported SDKs

The following Watson SDKs are supported by IBM:

- Java SDK
- Node.js SDK
- Python SDK
- .NET SDK

☒ Tip: The [API reference](#) for each service includes information and examples for these SDKs.

Community SDKs

The following SDKs are available from the Watson community of developers:

- ABAP SDK for IBM Watson, using SAP NetWeaver
- Android SDK
- Go SDK
- Ruby SDK
- Salesforce SDK
- Swift SDK
- Unity SDK

SDK updates and deprecation

The supported Watson SDKs are updated according to the following guidelines.

Semantic versioning

Supported Watson SDKs adhere to semantic versioning with releases labeled as `{major}.{minor}.{patch}`.

On this page

Supported SDKs

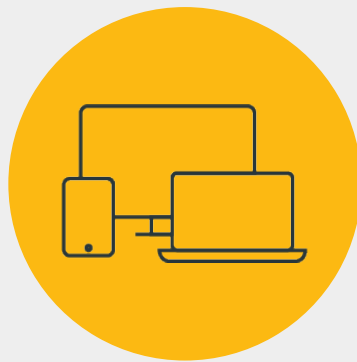
Community SDKs

SDK updates and deprecation

SDKs

In addition to the generic GET and POST functions, SDKs offer functions that are specific to their services/API. For example, the US Census SDK lets you execute a function that returns historical census data.

```
# Using the Census SDK
c.acs5.get(
    "NAME",
    "B19013_001E",
    "B01003_001E",
    "B01002_001E",
    "B19301_001E",
    "B17001_002E"
),
{'for': 'zip code tabulation area:*'}
)
```



Instructor **Demonstration**

US Census Demo



Activity:

Census

In this activity, you will review documentation for an SDK and make requests with an SDK.

Suggested Time:

10 Minutes



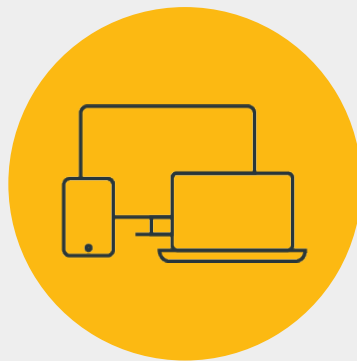


Time's up!
Let's review



Questions?





Instructor **Demonstration**

Introduction to Mini Project



Activity:

Mini Project Part 1: Explore APIs and Documentation

In this activity, you will read API documentation.

Suggested Time:

25 Minutes





Questions?





Break

15 mins



Activity:

Mini Project Part 2: Write API Application

In this activity, you will apply what you've learned so far to a group project and exhibit your collaboration skills.

Suggested Time:

60 Minutes





Questions?





Activity:

Mini Project Part 3: Discuss and Share Mini Projects

In this activity, you will present and discuss your projects.

Suggested Time:

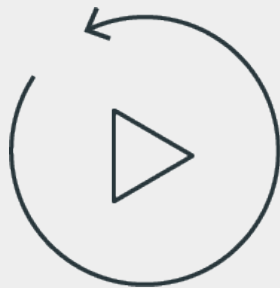
25 Minutes





Questions?





Let's **recap**



Recap

After today's lesson, you are able to:

- 1 Explain the difference between an API and an SDK.
- 2 Set authentication for a Python SDK.
- 3 Use a Python SDK to fetch US Census data.
- 4 Create applications from scratch by using nothing but your knowledge of Python and an API's documentation.



Challenge

Collect and Merge Movie Data from Different APIs



Questions?





The End