

AI Bootcamp

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# SDKs and Mini In-Class Project

Module 6 Day 3



# Class Objectives

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

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- 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

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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?**



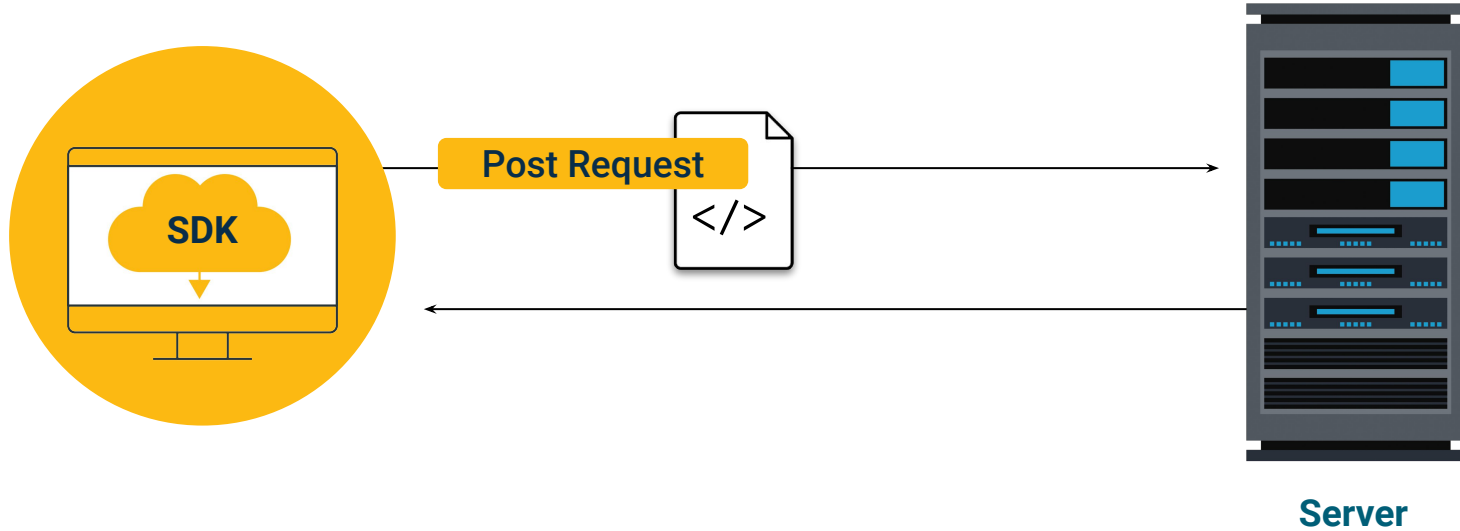


# Instructor **Demonstration**

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 shows the IBM Cloud documentation page for Watson SDKs. The page is titled "Watson SDKs" and is part of the "Natural Language Understanding" section. It includes a sidebar with navigation links, a main content area with sections for "Supported SDKs" and "Community SDKs", and a right sidebar with additional links. The "Supported SDKs" section lists Java, Node.js, Python, and .NET SDKs. The "Community SDKs" section lists various SDKs available from the Watson community, including ABAP, Android, Go, Ruby, Salesforce, Swift, and Unity. The "SDK updates and deprecation" section provides guidelines for updates and semantic versioning.

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## 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

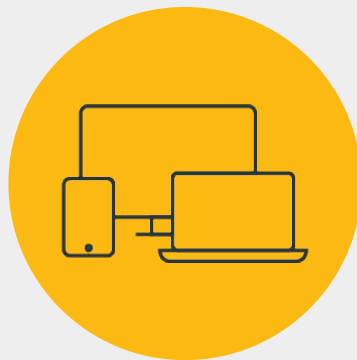
- Supported SDKs
- Community SDKs
- SDK updates and deprecation



# 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

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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

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In this activity, you will read API documentation.

**Suggested Time:**

25 Minutes





**Questions?**







**Break**

15 mins



# Activity:

## Mini Project Part 2: Write API Application

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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

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

**Suggested Time:**

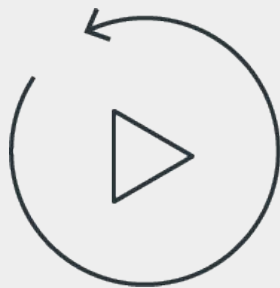
25 Minutes





# Questions?





Let's **recap**



## Recap

After today's lesson, you are able to:

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- 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**