Python Packages And Libraries

Resources

Resource Name	Resource Definition
API (REST) Connector	Explains how to connect to REST APIs via Python data pipelines
API (SOAP) Connector	Explains how to connect to SOAP APIs via Python data pipelines
AWS S3 Bucket	Explains how to connect to AWS S3 Bucket via Python data pipelines
Azure Blob Storage Python Connector	Explains how to connect to Azure blob Storage via Python data pipelines
Datetime Module	Explains how to enable and utilize the datetime module
Salesforce Connector	Explains how to connect to Salesforce via Python data pipelines
SFTP Connector	Explains how to connect to SFTPs via Python data pipelines
Snowflake Python Connector	Explains how to connect to Snowflake via Python data pipelines

Package & Libraries

- **Package - A Python package is a collection of libraries**

  - **Install Package** - Install python packages by typing **"pip install"** followed by the *package name*
    - **Example:** pip install azure-storage-blob
  - *Note: to see a list of packages that have been installed type "**pip list**"*

- **Library - A Python library is a collection of precompiled code that can be used for specific well-defined operations**

  - **Import Library** - Import python libraries from installed packages by typing **"import"** followed by the *library name*
    - **Example 1:** from snowflake import connector
    - **Example 2:** import snowflake.connector
      - **Examples 2** is an alternative way to **Example 1**, to import a library from a non-standard python package
        - **snowflake** is the python package
        - **connector** is the python library
    - **Example 3:** import pandas
  - **Alias Library -** Alias libraries if desired by typing **"as"** followed by the *alias name* to the end of the import statement
    - **Example:** import pandas as pd

Common Python Packages

Package	Library	Use Case	Python Code
azure-identity		Used to connect to Azure Blob Storage	pip install azure-identity
azure-storage-blob		Allows you to manipulate Azure Storage resources and blob containers	pip install azure-storage-blob
boto3		Used to connect to AWS services, like S3 Bucket	pip install boto3
datetime		Used when working with and manipulating dates and times	pip install datetime

Package	Library	Use Case	Python Code
Pandas		Used to store data in Series and DataFrames	pip install pandas
paramiko		Used to connect to SFTP environments	pip install paramiko
pyjwt		Used to create JSON Web Tokens (JWTs), that are used to make requests to specific Rest APIs that require the use of JWTs	pip install pyjwt
simple_salesforce		Used to connect to Salesforce environments	pip install simple_salesforce
snowflake-connector-python[pandas]		Used to connect to Snowflake and utilize Pandas DataFrames	pip install snowflake-connector-python[pandas]

Common Python Libraries

Package	Library	Use Case	Python Code
azure-identity	DefaultAzureCredential	Used to connect to Azure Blob Storage	from azure.identity import DefaultAzureCredential
azure-storage-blob	BlobServiceClient	Allows you to manipulate Azure Storage resources and blob containers	from azure.storage.blob import BlobServiceClient
azure-storage-blob	BlobClient	Allows you to manipulate Azure Storage blobs	from azure.storage.blob import BlobClient
azure-storage-blob	ContainerClient	Allows you to manipulate Azure Storage containers and their blobs	from azure.storage.blob import ContainerClient

Package	Library	Use Case	Python Code
boto3	boto3	Used to connect to AWS services, like S3 Bucket	import boto3
datetime	datetime	Used when working with and manipulating dates and times	from datetime import date
datetime	timedelta	Used to add and subtract from date to generate new date	from datetime import timedelta
Pandas	Pandas	Built on top of the NumPy library, it introduces two primary data structures Series and DataFrame • Series - One-dimensional arrays • DataFrame - Two-dimensional tabular data	import pandas
paramiko	paramiko	Used to connect to SFTP environments	import paramiko
pyjwt	utils	Used to create an access token to connect to a Rest API	import jwt.utils
simple_salesforce	Salesforce	Used to connect to Salesforce environments	from simple_salesforce import Salesforce
snowflake-connector-python[pandas]	connector	Used to connect to Snowflake	import snowflake.connector

Package	Library	Use Case	Python Code
standard	BeautifulSoup	Used for parsing XML and HTML documents and extracting data from web pages	import beautifulsoup
standard	config	Used to read and import the schema and configuration of a file	import config
standard	fnmatch	Used to find file names based on a specified pattern	import fnmatch
standard	json	Used to be able to work with JSON (semi-structured) files	import json
standard	Keras	Used for machine learning and artificial intelligence	import keras
standard	NumPy	Short for Numerical Python, it is used for technical and scientific computing, such as linear algebra, statistical analysis, and machine learning	import numpy
standard	os	Used to setup directories as well as read and write files to a local path	import os
standard	PyBrain	Provide tools for artificial intelligence, machine learning, and neural network research	import pybrain

Package	Library	Use Case	Python Code
standard	PySpark	Used for big data processing	import pyspark
standard	PyTorch	Used for machine learning and artificial intelligence	import pytorch
standard	requests	Used to connect to APIs	import requests
standard	Scikit-learn	A machine learning library containing lots of machine learning algorithms that provide tools for data mining and analysis Can be integrated with NumPy and Pandas libraries to help work with different data formats	import scikitlearn
standard	SQLAlchemy	Used to access and interact with databases	import sqlalchemy
standard	TensorFlow	Used for machine learning and artificial intelligence, particularly used for training and inference of deep neural networks	import tensorflow

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