



Pinecone Connected System Plugin for **Appian**

V3.0.0

# Appian Corporation

Version 3.0.0

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## Overview

Pinecone makes it easy to build high-performance vector search applications. It's a managed, cloud-native vector database with a simple API and no infrastructure hassles. Unlike traditional search methods that revolve around keywords, vector databases index and search through ML-generated representations of data, called vector embeddings, to find items most similar to the query.

Pinecone indexes and stores vector embeddings for efficient management and fast retrieval. Unlike a standalone vector index, a vector database like Pinecone provides additional capabilities such as index management, data management, metadata storage and filtering, and horizontal scaling.

## Features


The Pinecone Connected System includes the following features :

- Create, Get, List and Delete Index in Pinecone
- Upsert, Delete and Query Document/Text Vectors and Get Vector Details.

# Connected System Configuration

## 1. OpenAI Embedding

### Connected System Properties



**Pinecone**  
Uses the Pinecone Vector Database to chat with a PDF.  
Version: 1

**Name \***

**Description**

**Pinecone Configuration**

**Authentication**

Use OpenAI embedding service

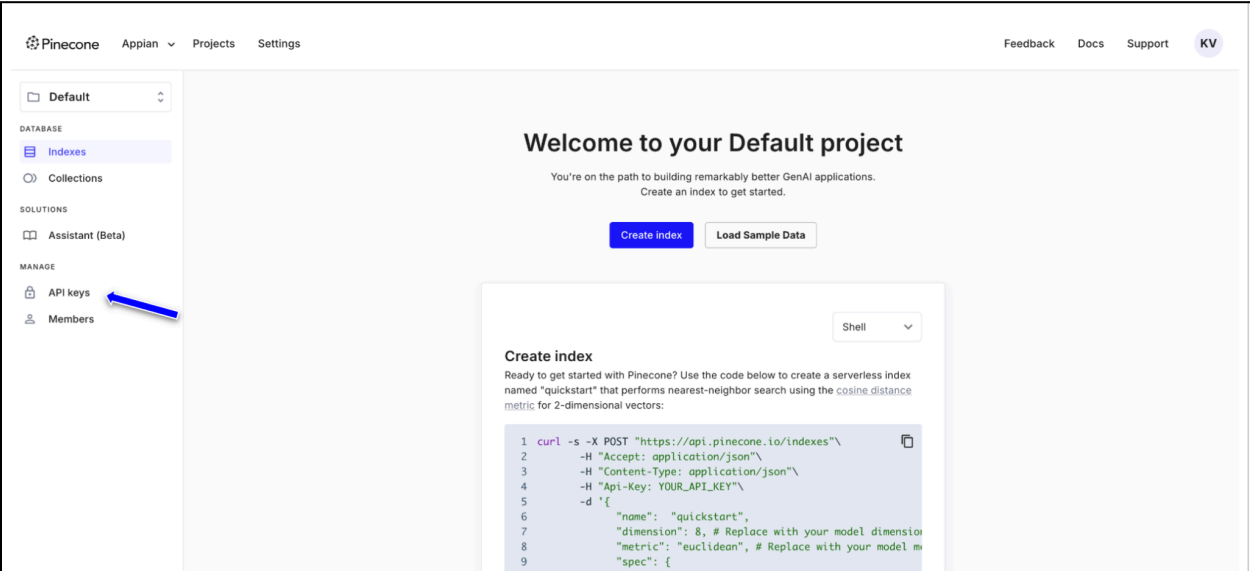
**Pinecone API Key**  
\*\*\*\*\* [\(Clear\)](#)  
Provide the API Key obtained from the Pinecone console.

**OpenAI API Key**  
\*\*\*\*\* [\(Clear\)](#)  
Provide the API Key obtained from OpenAI

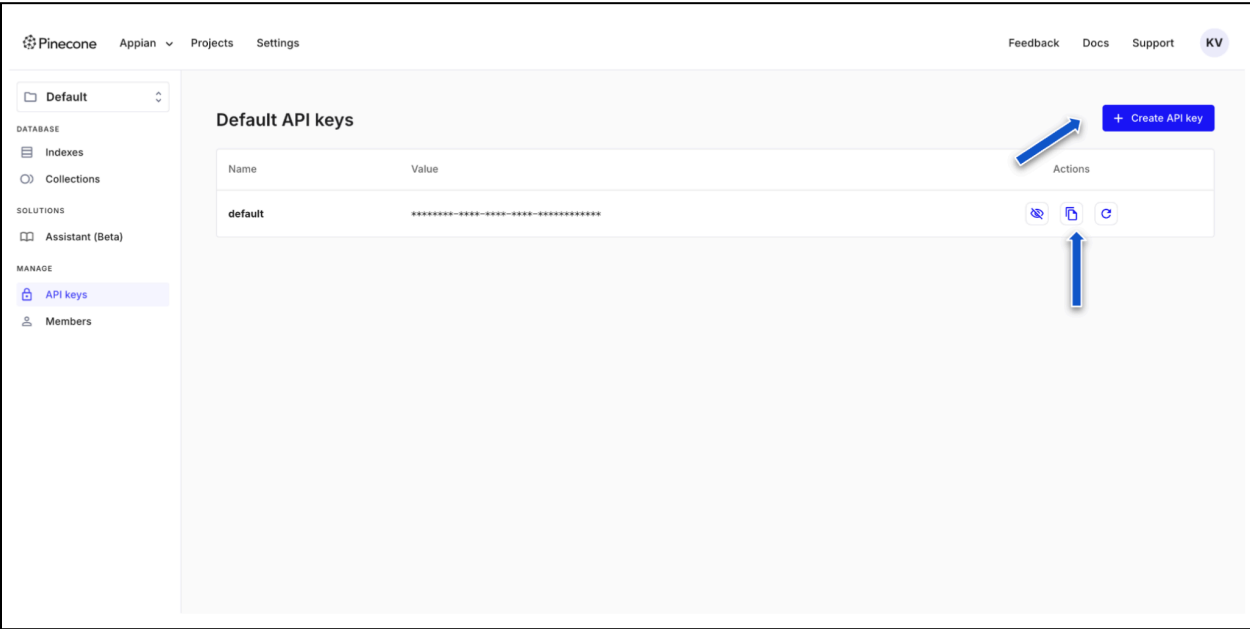
**TEST CONNECTION**

To authenticate to the Pinecone Connected System using an OpenAI Embedding, the following credentials are required: PineconeAPI Key and OpenAI API Key. Instructions on obtaining these keys are described below.

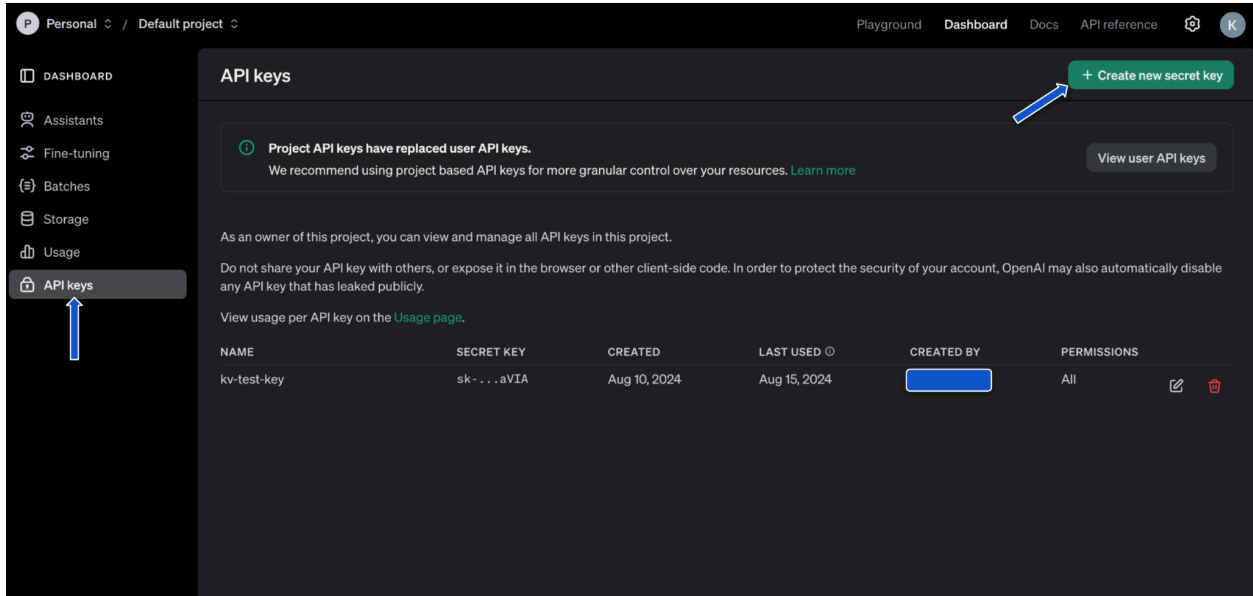
1. Go to the [Pinecone console](#) and create a new account if you don't have one already. Go to **API Keys**.



2. Click on **Create API Key** to generate a new API key and copy the generated API key. Paste the API key value in the connected system dialog box.

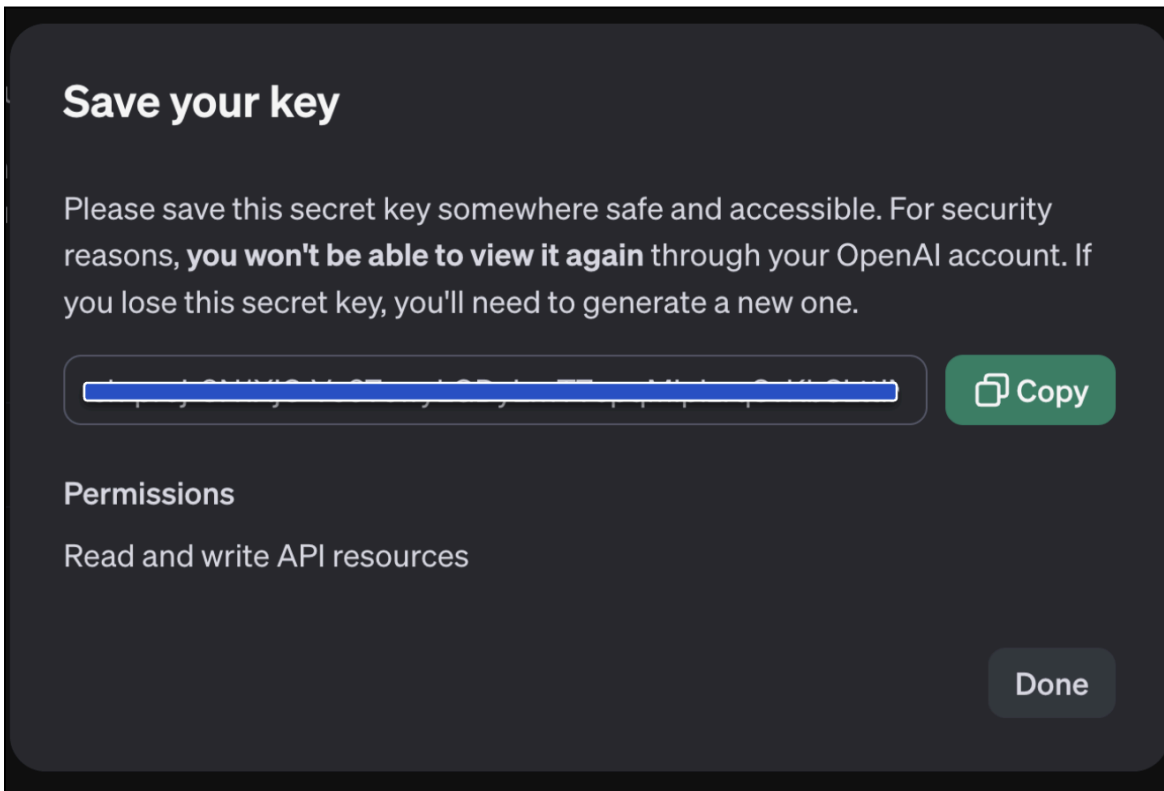


3. Now, go to the [OpenAI console](#). Make sure that the **API keys** menu is selected.



Click on **Create new secret key** to generate a new API key.

4. Copy the value and save it separately as we won't be able to access it again. Paste the API key in the connected system dialog box.



5. Once you have entered all the credentials, click on **Test Connection**. A success message will be shown if the provided credentials are correct.

## 2. Azure OpenAI Embedding

### Connected System Properties

KVPT Pinecone Connected System

**Description**

Connected System for Pinecone Vector DB

**Pinecone Configuration**

**Authentication**

Azure OpenAI Embedding

Use Azure OpenAI embedding service

**Pinecone API Key**

\*\*\*\*\* (Clear)

Provide the API Key obtained from the Pinecone console.

**Azure Region \***

eastus

Provide the Azure region.

**Azure Deployment ID \***

text-embedding-3-small

Provide the deployment Id.

**Azure API Key \***

.....

Provide the API Key obtained from OpenAI

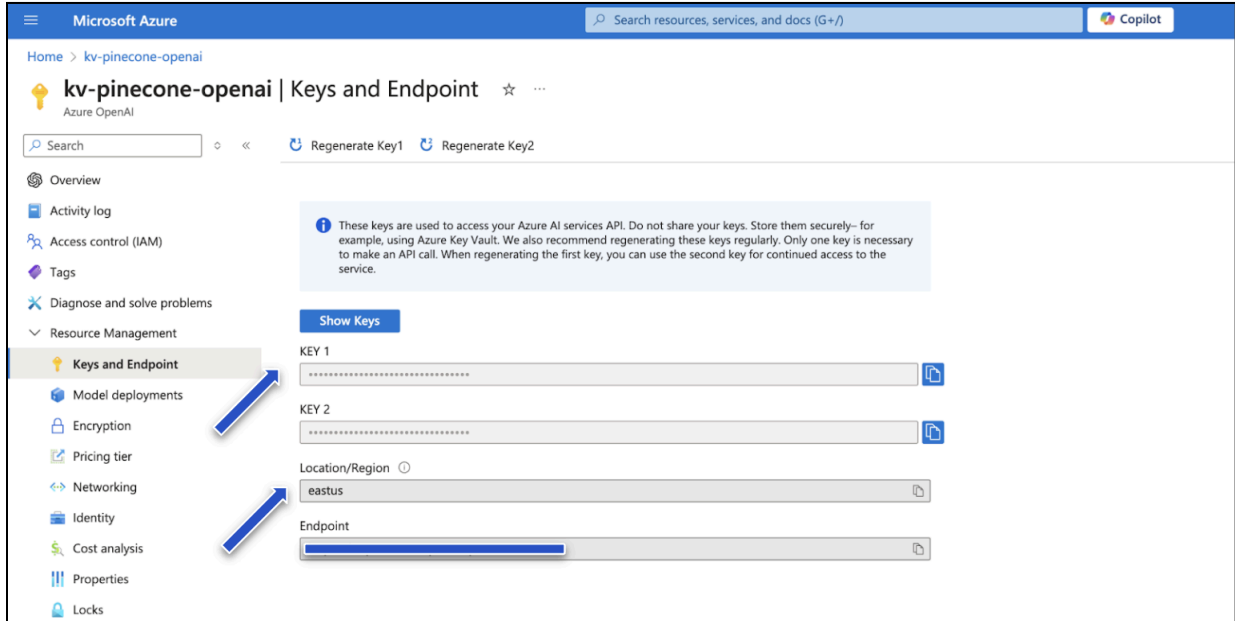
Connection successful

TEST CONNECTION

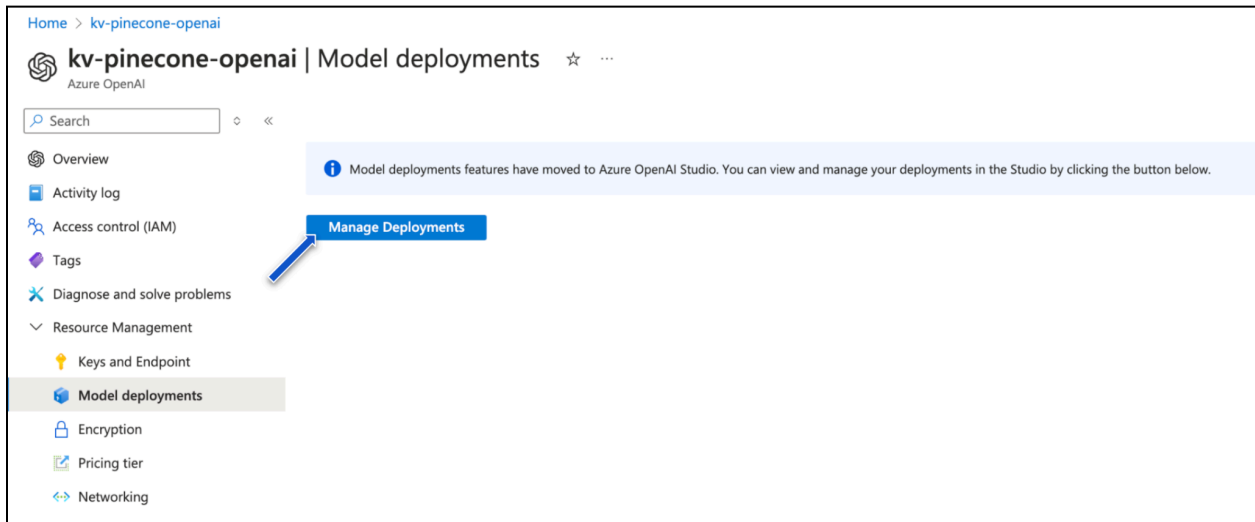
CANCEL USE IN NEW INTEGRATION SAVE

Authentication to Azure OpenAI requires the following credentials: Pinecone API Key, Azure Region, Azure Deployment ID and Azure API Key

1. Follow the steps provided in the previous authentication type to get the Environment and Pinecone API Key.
2. Go to your [Azure portal](#) and navigate to your Azure-OpenAI Application. From here, navigate to the **Keys and Endpoint** tab under **Resource Management**.

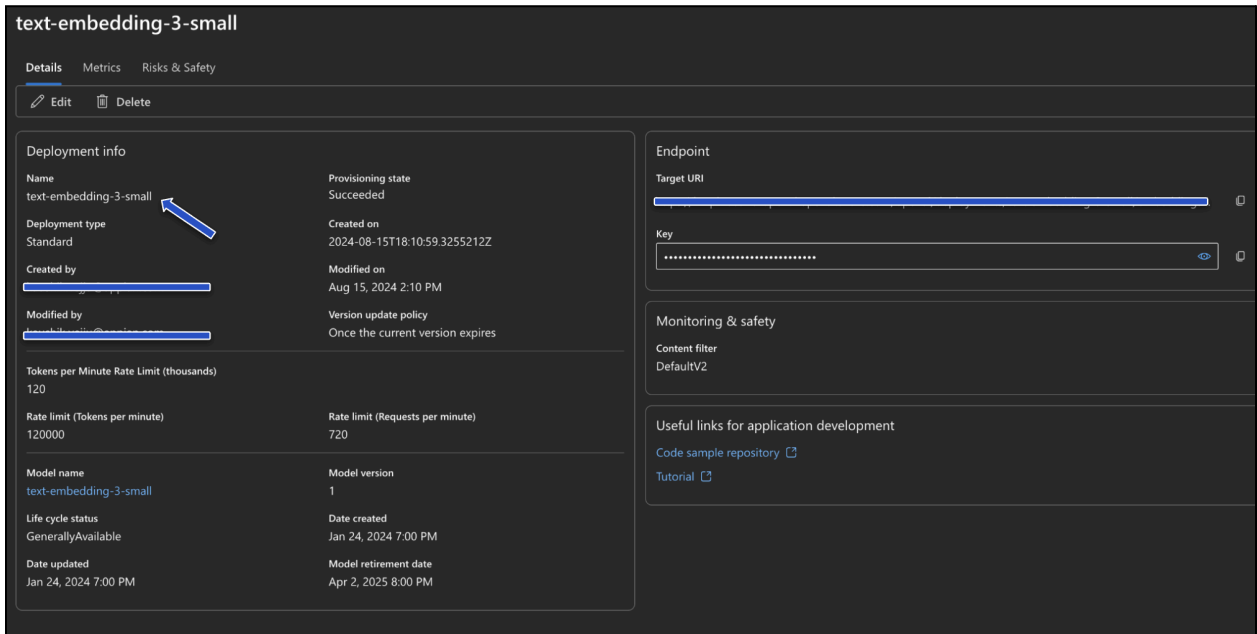
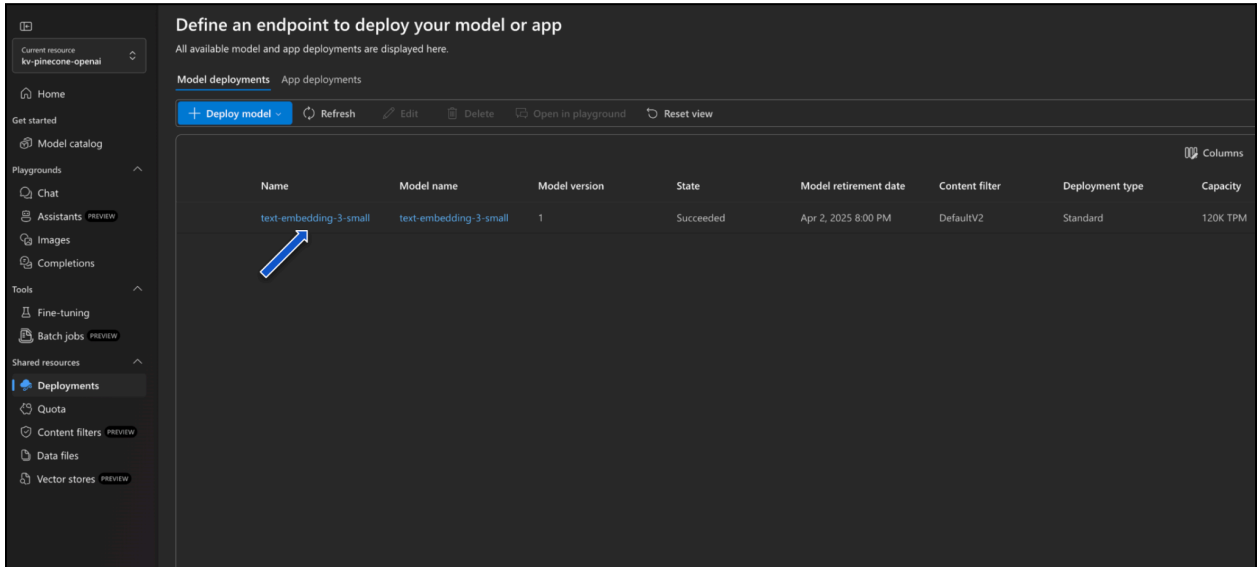


3. Copy one of the Key values above to use as your Azure Open AI Key. Paste it in the appropriate input box in the connected system dialogue box. Repeat the same for the Region.
4. To obtain the Azure Deployment ID, navigate to the **Model Deployments** tab under **Resource Management**. Click the Manage Deployments button.





- This will direct you to Azure OpenAI Studio, displaying a list of deployments. Click on your text embedding deployment, and copy its name to use as the Azure Deployment ID.



- Click on **Test Connection**. A success message will be shown if the provided credentials are correct.

## Create Index

Creates a [Pinecone Index](#). A Pinecone Index accepts and stores vectors, and serves queries over the vectors it contains.

### Inputs:

**Index Name** (Text) - Required

**Environment Name** (Text) - Required

**Metric** (Text) - Optional

**Description:** Provide the distance metric to be used for similarity search. Valid values are : 'cosine', 'dotproduct', 'euclidean'. **The default metric is 'cosine'**. For more details, refer to <https://docs.Pinecone.io/docs/indexes#distance-metrics>.

**Pods** (Number(Integer)) - Optional

**Description:** Provide the number of pods for the index to use, including replicas. **The default number of pods is 1.**

**Pod Type** (Text) - Optional

**Description:** Provide the type of pod to use. Types of pods include s1, p1, or p2 appended with a '.' and one of x1, x2, x4, or x8. **The default pod type is p1.x1.** For more details, refer to <https://docs.Pinecone.io/docs/indexes#pods-pod-types-and-pod-sizes>.

**Replicas** (Number(Integer)) - Optional

**Description:** Provide the number of replicas. Replicas duplicate your index, and they provide higher availability and throughput. **The default number of replicas is 1.**

**Connected System \***  
KVPT Pinecone Connected System X

**Operation \***  
Create Index

Create a Pinecone index (Index accepts and stores vectors, serves queries over the vectors it contains).

**Index name \***  
pinecone-demo-idx

Provide the name of the index to be created. The maximum length is 45 characters.

**Environment name \***  
us-east-1-aws

Provide the name of the environment you'd like this pod to be in.

**Metric**  
Cosine

Provide the distance metric to be used for similarity search. Valid values are: 'cosine', 'dotproduct', 'euclidean'. Default: 'cosine'. Refer <https://docs.pinecone.io/docs/indexes#distance-metrics> for more details.

**Pods**  
1

Provide the number of pods for the index to use, including replicas. Default: 1

**Replicas**  
1

Provide the number of replicas. Replicas duplicate your index and provide higher availability and throughput. Default: 1

**Pod Type**  
s1

Provide the type of pod to use. One of s1, p1, or p2 appended with . and one of x1, x2, x4, or x8. Default: p1.x1 Refer to <https://docs.pinecone.io/docs/indexes#pods-pod-types-and-pod-sizes> for more details.

**TEST REQUEST**

**Result** Request Response

**Success!**

**Time**  
291 ms  
Prepare: < 1 ms - Execute: 290 ms (Send) / Wait / Receive: 1 ms - Transform: 1 ms

**Value: Result**

- Dictionary
  - metric "cosine" (Text)
  - deletion\_protection "disabled" (Text)
  - name "pinecone-demo-idx" (Text)
  - host "pinecone-demo-idx-543u2jk.svc.us-east-1-aws.pinecone.io" (Text)
  - dimension 1536 (Number (Integer))
  - spec Dictionary
    - pod Dictionary
      - shards 1 (Number (Integer))
      - environment "us-east-1-aws" (Text)
      - replicas 1 (Number (Integer))
      - pod\_type "s1" (Text)
      - pods 1 (Number (Integer))
  - status Dictionary
    - ready false (Boolean)
    - state "initializing" (Text)

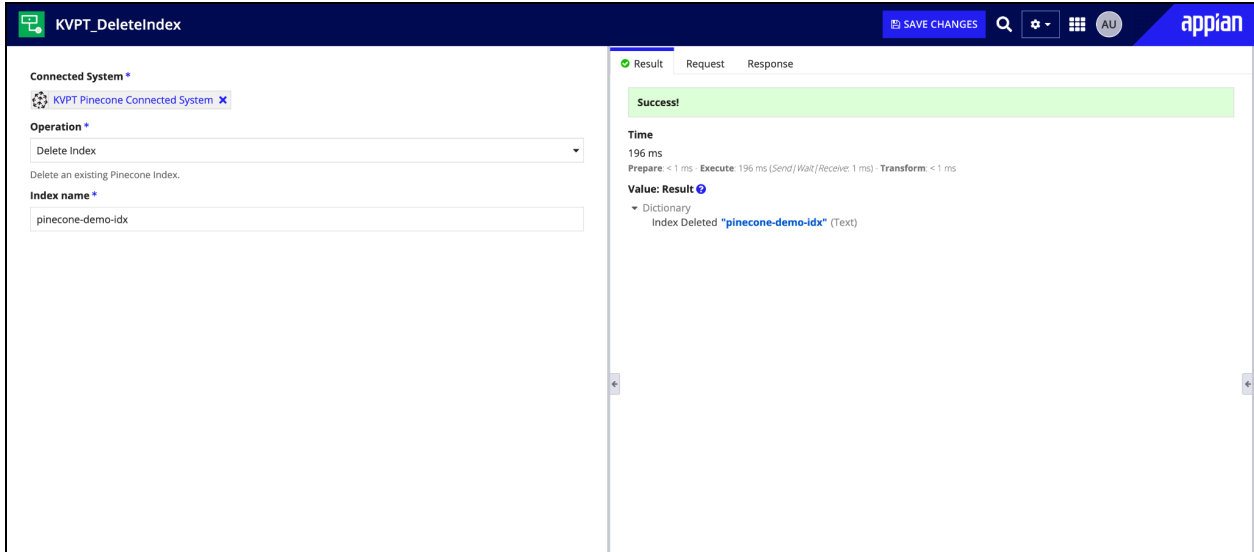
## Delete Index

Deletes an existing Pinecone index.

### Inputs:

**Index Name** (Text) - Required

**Description:** Provide the name of the index to be deleted.



## Get Index Details

Returns the pod details and status of the given Pinecone index.

### Inputs:

**Index Name** (Text) - Required

**Description:** Provide the name of the Pinecone index.

The screenshot displays the Appian interface for the 'KVPT\_GetIndexDetails' operation. On the left, the 'Index name' field is populated with 'kv-pinecone-idx'. The right pane shows the 'Result' tab with a green 'Success!' banner. Below this, the 'Time' section indicates a total of 105 ms, broken down into Prepare (< 1 ms), Execute (105 ms), and Transform (< 1 ms). The 'Value' section contains a detailed JSON-like response structure:

- Dictionary
  - success: true (Boolean)
  - result: Dictionary
    - metric: "cosine" (Text)
    - deletion\_protection: "disabled" (Text)
    - name: "kv-pinecone-idx" (Text)
    - host: "kv-pinecone-idx-543u2jx.svc.us-east-1-aws.pinecone.io" (Text)
    - dimension: 1536 (Number (Integer))
    - spec: Dictionary
      - pod: Dictionary
        - shards: 1 (Number (Integer))
        - environment: "us-east-1-aws" (Text)
        - replicas: 1 (Number (Integer))
        - pod\_type: "p1" (Text)
        - pods: 1 (Number (Integer))
    - status: Dictionary
      - ready: true (Boolean)
      - state: "Ready" (Text)
      - error: null (Null)
    - authType: Diagnostic
      - name: "authType" (Text)
      - value: "PineconeCS" (Text)
      - timestamp: 8/18/2024 9:04 PM GMT+00:00 (Date and Time)

## Get Vector Details

Returns the total vectors (chunks) and number of vectors in each namespace.

### Inputs:

**Index Name** (Text) - Required

**Description:** Provide the name of the Pinecone index.

**KVPT\_GetVectorDetails**

Connected System \*  
KVPT Pinecone Connected System X

Operation \*  
Get Vector Details v3  
Get vectors count v3

Index name \*  
kv-pinecone-idx

TEST REQUEST

Result Request Response

Success!

Time  
192 ms  
Prepare: < 1 ms - Execute: 192 ms (Send/Wait/Receive: 1 ms) - Transform: < 1 ms

Value

- Dictionary
  - success **true** (Boolean)
  - result Dictionary
    - totalVectorCount **11** (Number (Integer))
    - dimension **1536** (Number (Integer))
    - namespaces Dictionary
      - test Dictionary
      - test\_ns Dictionary
      - azure-ns Dictionary
      - test-ns Dictionary
        - vectorCount **11** (Number (Integer))
      - news-ns Dictionary
      - error **null** (Null)
      - authType Diagnostic
        - name **"authType"** (Text)
        - value **"PineconeCS3"** (Text)
        - timestamp **8/19/2024 2:23 PM GMT+00:00** (Date and Time)

## List Indices

Lists all the indices present in the environment.

**KVPT\_ListIndex**

Connected System \*  
KVPT Pinecone Connected System X

Operation \*  
List Indices  
List all the indices

TEST REQUEST

Result Request Response

Success!

Time  
836 ms  
Prepare: < 1 ms - Execute: 835 ms (Send/Wait/Receive: 1 ms) - Transform: 1 ms

Value

- Dictionary
  - success **true** (Boolean)
  - result Dictionary
    - indices List of Dictionary - 3 items
      - Dictionary
        - metric **"cosine"** (Text)
        - deletion\_protection **"disabled"** (Text)
        - name **"pinecone-demo"** (Text)
        - host **"pinecone-demo-543u2jx.svc.us-east-1-aws.pinecone.io"** (Text)
        - dimension **1536** (Number (Integer))
        - spec Dictionary
          - pod Dictionary
            - shards **1** (Number (Integer))
            - environment **"us-east-1-aws"** (Text)
            - replicas **1** (Number (Integer))
            - pod\_type **"s1"** (Text)
            - pod\_size **1** (Number (Integer))
          - status Dictionary
            - ready **true** (Boolean)
            - state **"Ready"** (Text)
        - Dictionary
          - metric **"cosine"** (Text)
          - deletion\_protection **"disabled"** (Text)
          - name **"pinecone-demo-idx"** (Text)
          - host **"pinecone-demo-idx-543u2jx.svc.us-east-1-aws.pinecone.io"** (Text)
          - dimension **1536** (Number (Integer))
          - spec Dictionary
            - pod Dictionary
              - shards **1** (Number (Integer))
              - environment **"us-east-1-aws"** (Text)
              - replicas **1** (Number (Integer))
              - pod\_type **"s1"** (Text)
              - pod\_size **1** (Number (Integer))
            - status Dictionary
              - ready **true** (Boolean)
              - state **"Ready"** (Text)

## Upsert Document

Creates embeddings using OpenAI for the given document and stores them as vectors in the Pinecone database.

### Inputs:

**Source Document** (Document) - Required

**Description:** Document to be uploaded as vector in Pinecone.

**Index name in Pinecone** (Text) - Required

**Description:** Name of the Pinecone index in which the given document has to be uploaded.

**Chunk Size** (Text) - Optional

**Description:** Provide the size of chunks to be created for the document. Valid values : SMALL, MEDIUM, LARGE. **By default, the chunk size is SMALL.**

The above chunk sizes represent the number of characters in each chunk(vector) that is upserted to Pinecone. The number of characters for each chunk size values are as follows :

SMALL = 600 characters

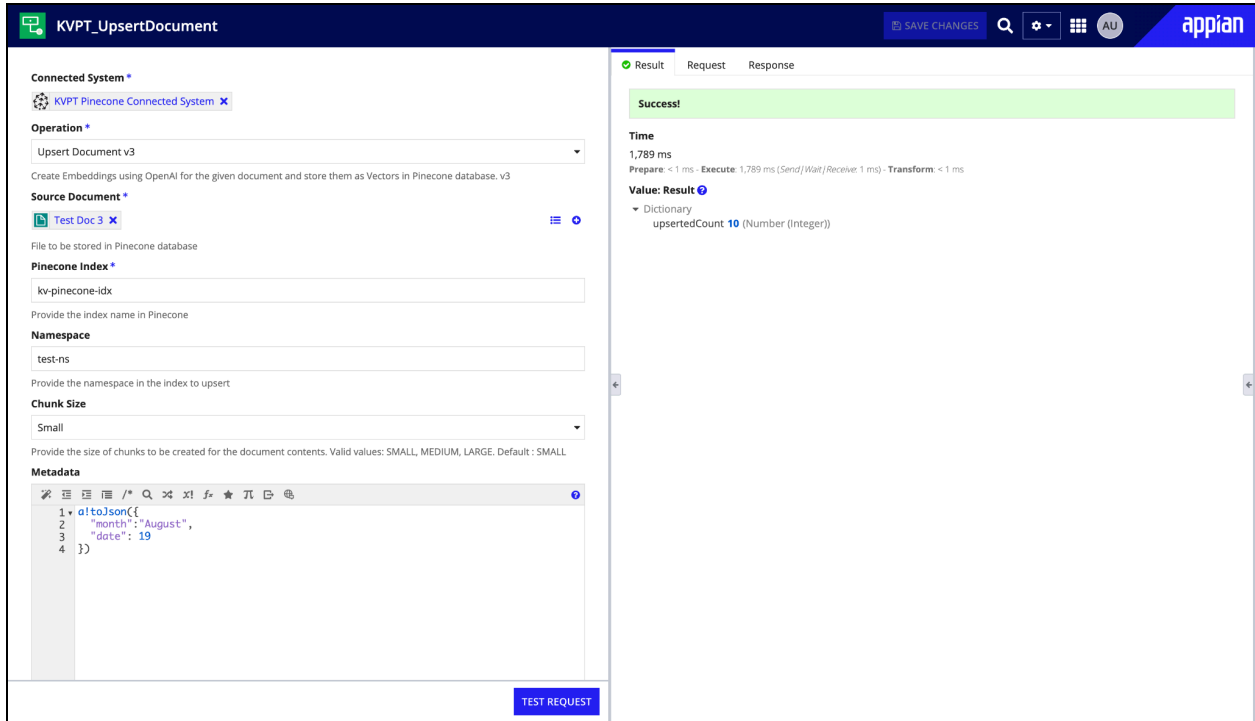
MEDIUM = 1000 characters

LARGE = 2000 characters

**Note:** *If you are using the queried results from Pinecone to any Large Language Model(LLM) for further processing, consider if there are any size limits for the LLM while choosing the chunk size when upserting into Pinecone.*

**Metadata** (Text) - Optional

**Description:** Provide the additional metadata to be upserted into Pinecone in JSON format using `toJson()`. **By default, chunkNumber, text, documentId, documentName, pageNo will be added.**



## Upsert Text

Creates embeddings using OpenAI for the given raw text or text document and stores them as vectors in the Pinecone database.

### Inputs:

**Input Type** (Text) - Required

**Description:** Provide the input type for upserting text into Pinecone. Valid values are: DOCUMENT, RAW\_TEXT.

**Document** (Document) - Required (when input type is DOCUMENT)

**Description:** Provide the text document (.txt) to upsert its contents to Pinecone.

**Text** (Text) - Required (when input type is RAW\_TEXT)

**Description:** Provide the raw text content to upsert.

**Metadata** (Text) - Optional

**Description:** Provide the metadata to upsert into Pinecone in JSON format using a!toJson(). **By default, chunks of the raw/text or text document contents will be added to this metadata with a property name 'text'.**



**Index name in Pinecone** (Text) - Required

**Description:** Name of the Pinecone index in which the given document has to be uploaded.

**Chunk Size** (Text) - Optional

**Description:** Provide the size of chunks to be created for the document. Valid values : SMALL, MEDIUM, LARGE. **By default, the chunk size is SMALL.**

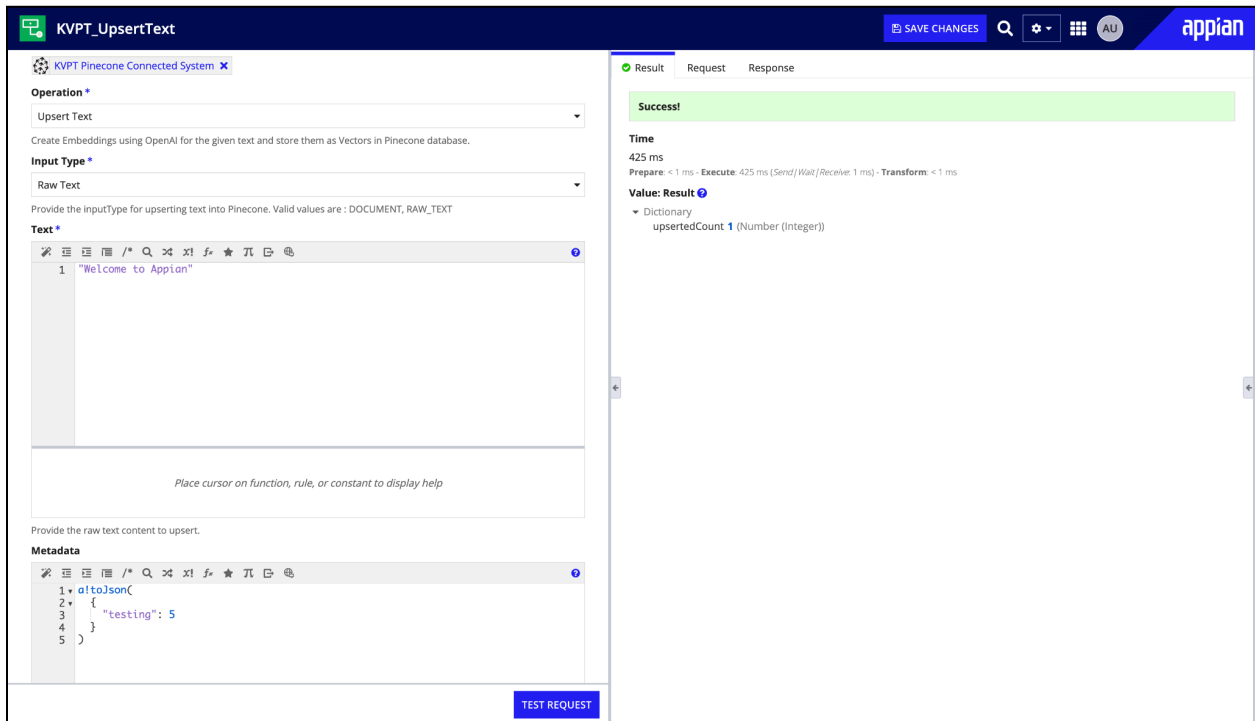
The above chunk sizes represent the number of characters in each chunk(vector) that is upserted to Pinecone. The number of characters for each chunk size values are as follows :

SMALL = 600 characters

MEDIUM = 1000 characters

LARGE = 2000 characters

**Note:** *If you are using the queried results from Pinecone to any Large Language Model(LLM) for further processing, consider if there are any size limits for the LLM while choosing the chunk size when upserting into Pinecone.*



## Delete Vectors

Deletes an index's vectors based on the listed `documentIds`, `filter`, and `metadata`. Alternatively, the whole index can be cleared by providing `true` to the `Delete all contents` field.

### Inputs:

**Index name** (Text) - Required

**Description:** Name of the Pinecone index in which the given documents have to be deleted.

**Delete all contents** (Boolean) - Required

**Description:** Provide true to delete all the vectors (chunks) in the Pinecone index.

**Documents** (List of Document IDs (Integers)) - Required when Delete all contents is false

**Description:** List of `documentIds` that represent Documents to be deleted from the Pinecone index.

*Example:*

```
Unset
```

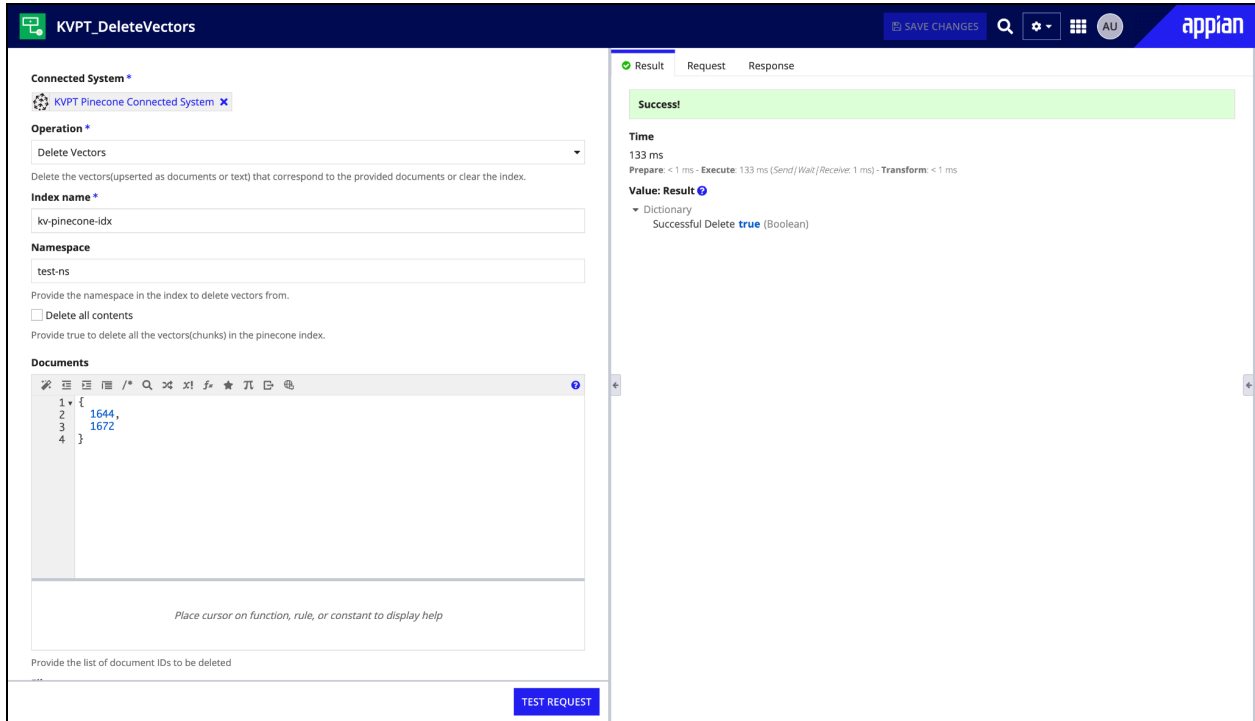
```
/* Integer Values for documentIds */
```

```
{
```

```
    654321,
```

```
    765432
```

```
}
```



## Query Vectors

Provides the matches and scores for the given query using the index's vector data (upserted as documents) stored in Pinecone.

### Inputs:

**Query** (Text) - Required

**Description:** Document to be uploaded as vector in Pinecone.

**Index name** (Text) - Required

**Description:** Name of the Pinecone index in which the given query has to be executed.

**Namespace** (Text) - Optional

**Description:** Provide the namespace in the index to query.

**topK** (Integer) - Optional

**Description:** Provide the topK value for Pinecone. **By default, this is 2.**

**Include Vectors** (Boolean) - Optional

**Description:** Provide true to include the vector values in the response. **By default, the value is false.**

**Exclude Metadata** (Boolean) - Optional

**Description:** Provide true to exclude the metadata in the query results. The metadata will be chunks of queried documents. **By default, the value is false.**

**Documents** (List of Documents) - Optional

**Description:** Provide the documents for which the query needs to be executed. Provide null to query all the documents in the index.

*Example:*

Unset

```
{  
  todocument(123456), /* 123456 is the documentId */  
  todocument(445678)  
}
```

### KVPT\_QueryVectors

**Connected System \***  
KVPT Pinecone Connected System X

**Operation \***  
Query Vectors

Query the vectors present in the given namespace under given Pinecone index.

**Query \***  
applan

Provide the string to search.

**Index Name \***  
kv-pinecone-idx

Provide the name of the Index in Pinecone

**Namespace**  
test-ns

Provide the namespace in the index to query.

**topK**  
2

Provide the topK value for pinecone. Default: 2

Include Vectors  
Provide true to include the vector values in the response. Default: false.

Exclude Metadata  
Provide true to exclude the metadata in the query results. The metadata will be chunks of queried documents. Default: false.

**Documents**

1

**TEST REQUEST**

**Result** Request Response

**Success!**

**Time**  
491 ms  
Prepare: < 1 ms - Execute: 491 ms [Send/Wait/Receive: 1 ms] - Transform: < 1 ms

**Value: Result**

- Dictionary
  - namespace "test-ns" (Text)
  - matches List of Dictionary - 2 Items
    - Dictionary
      - score 0.9328678 (Number (Decimal))
      - metadata Dictionary
        - chunkNumber 1 (Number (Decimal))
        - test "plugin" (Text)
        - text "Applan Life " (Text)
        - id "vector-id-0973cc78-c19a-4270-b10f-402af389ad53\_ChunkNo\_1" (Text)
      - sparseValuesWithUnsignedIndices Dictionary
        - values List of Variant - 0 Items
        - indicesWithUnsigned32Int List of Variant - 0 Items
    - Dictionary
      - score 0.9308985 (Number (Decimal))
      - metadata Dictionary
        - chunkNumber 1 (Number (Decimal))
        - test "plugin" (Text)
        - text "Applan Test " (Text)
        - id "vector-id-515938df-09db-42c8-8968-09ab18aa3b2d\_ChunkNo\_1" (Text)
      - sparseValuesWithUnsignedIndices Dictionary
        - values List of Variant - 0 Items
        - indicesWithUnsigned32Int List of Variant - 0 Items