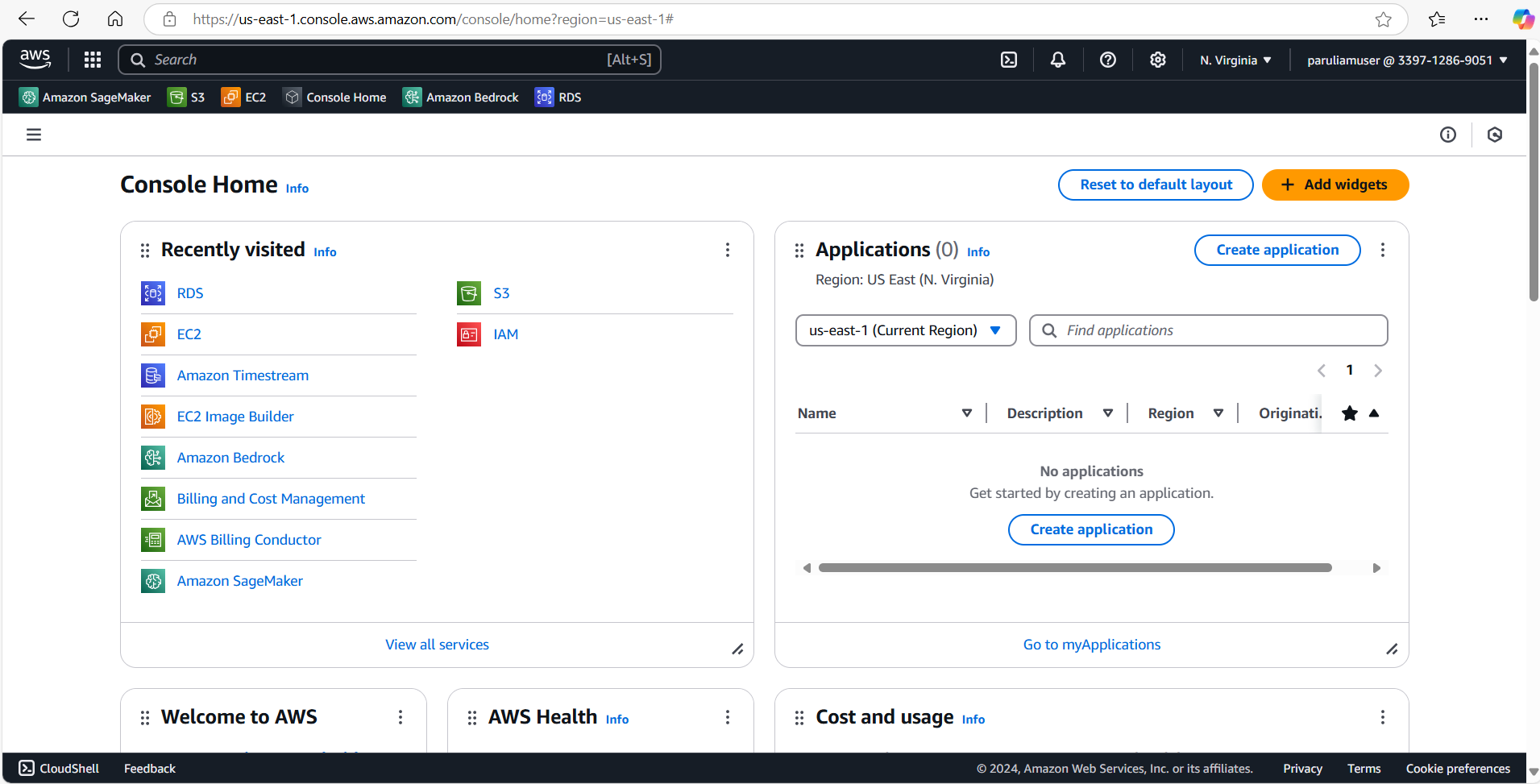
1. Set Up The Environment

•Set up an AWS account if you do not have one, you should be able to set up a free account to use for the project.

•Python Environment: Ensure you have Python installed. Use virtual environments to manage dependencies.

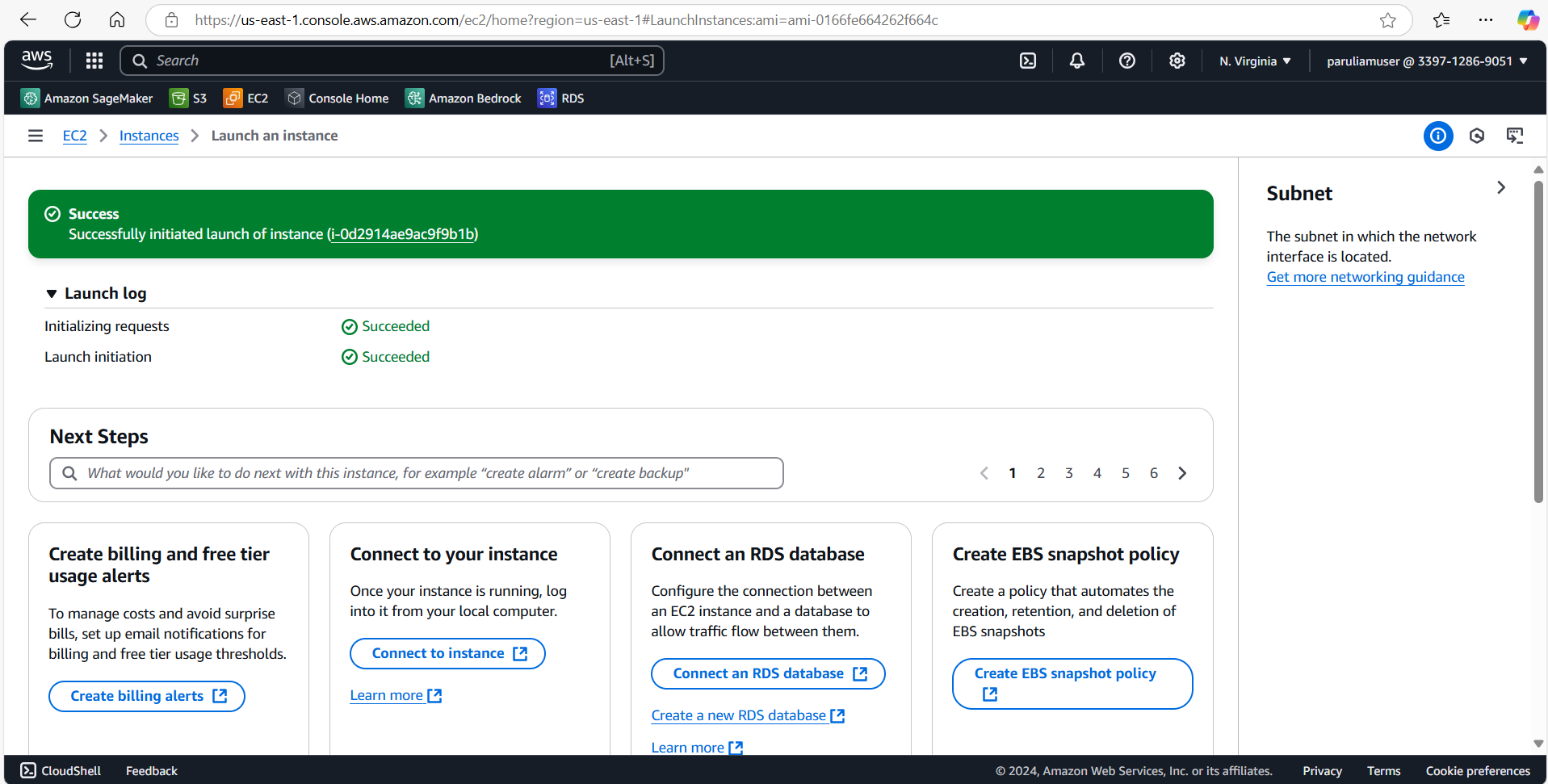
•Install Required Libraries: Use pip, conda, etc to install necessary libraries.

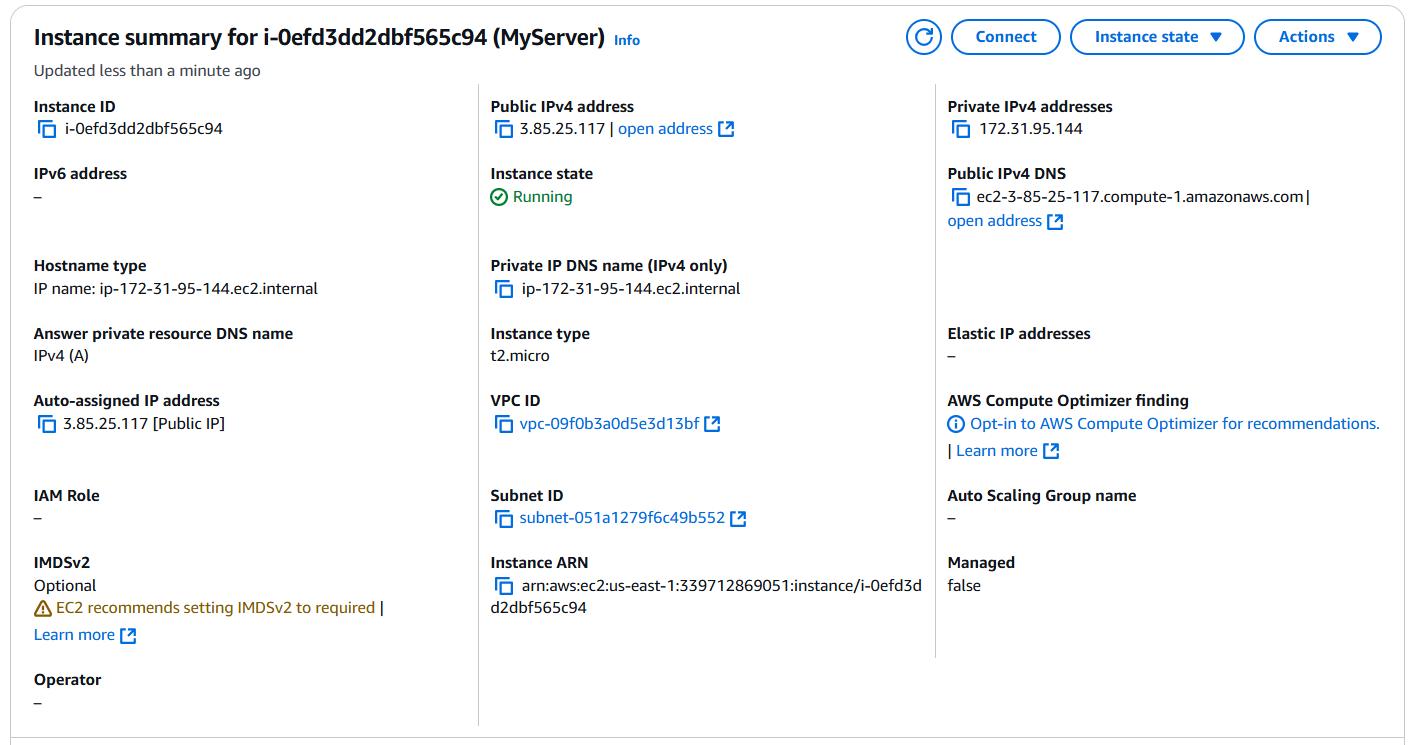
**Steps:**

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**Amazon Linux 2 AMI (HVM)**

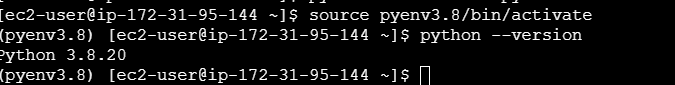
**t2.micro**

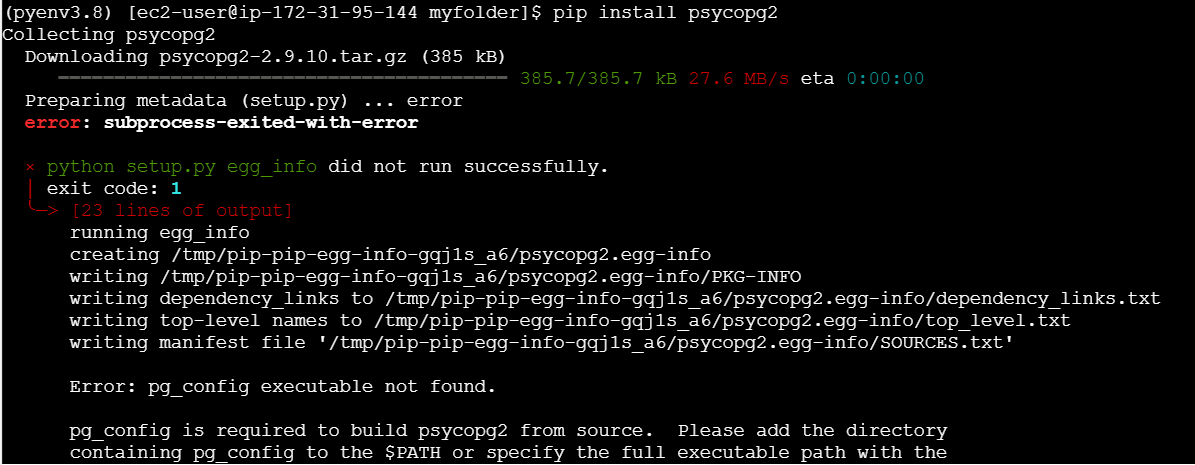
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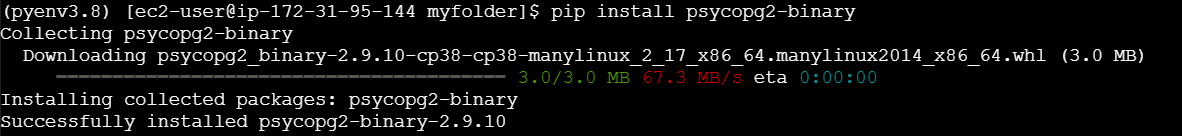
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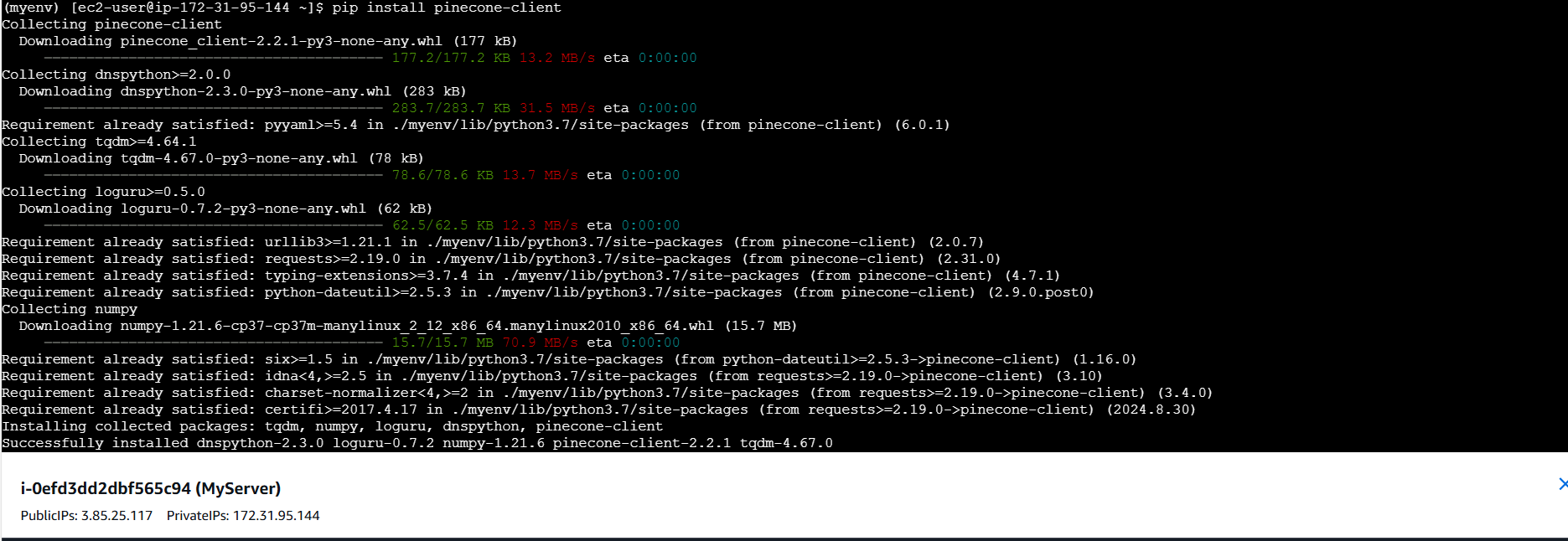
**Python environment set up:**

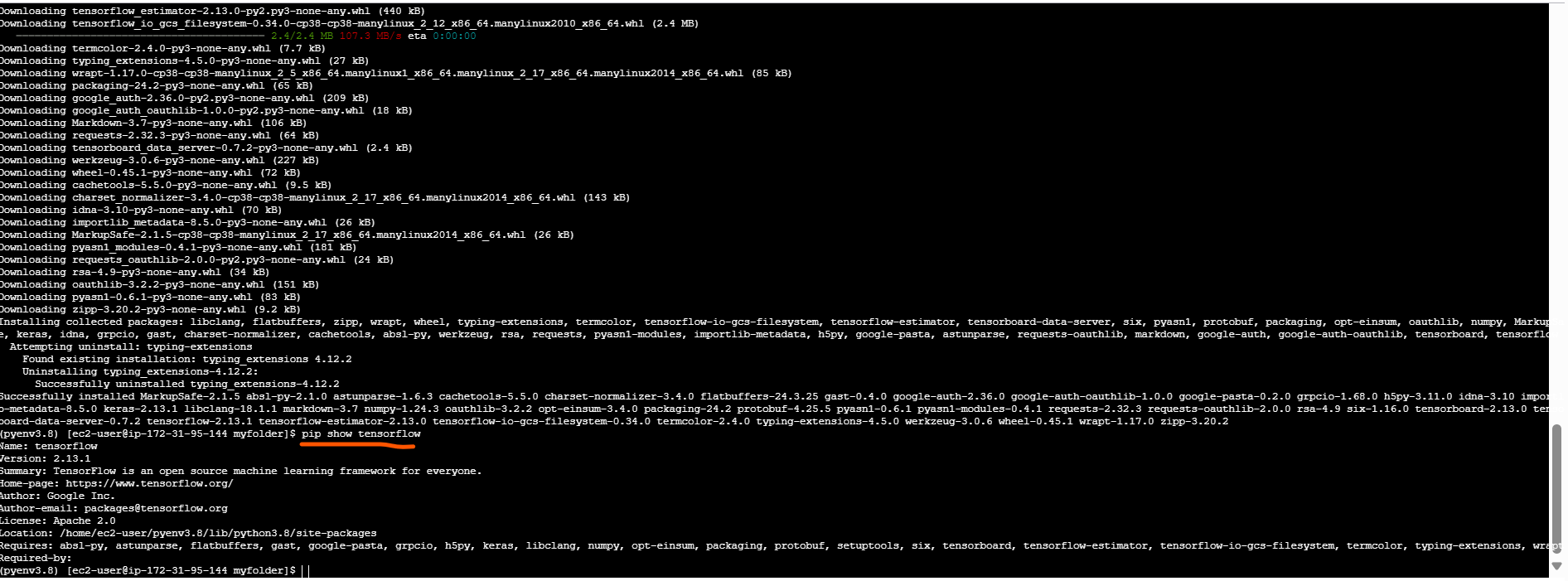
**Installed python3.8 and created a new venv with it**

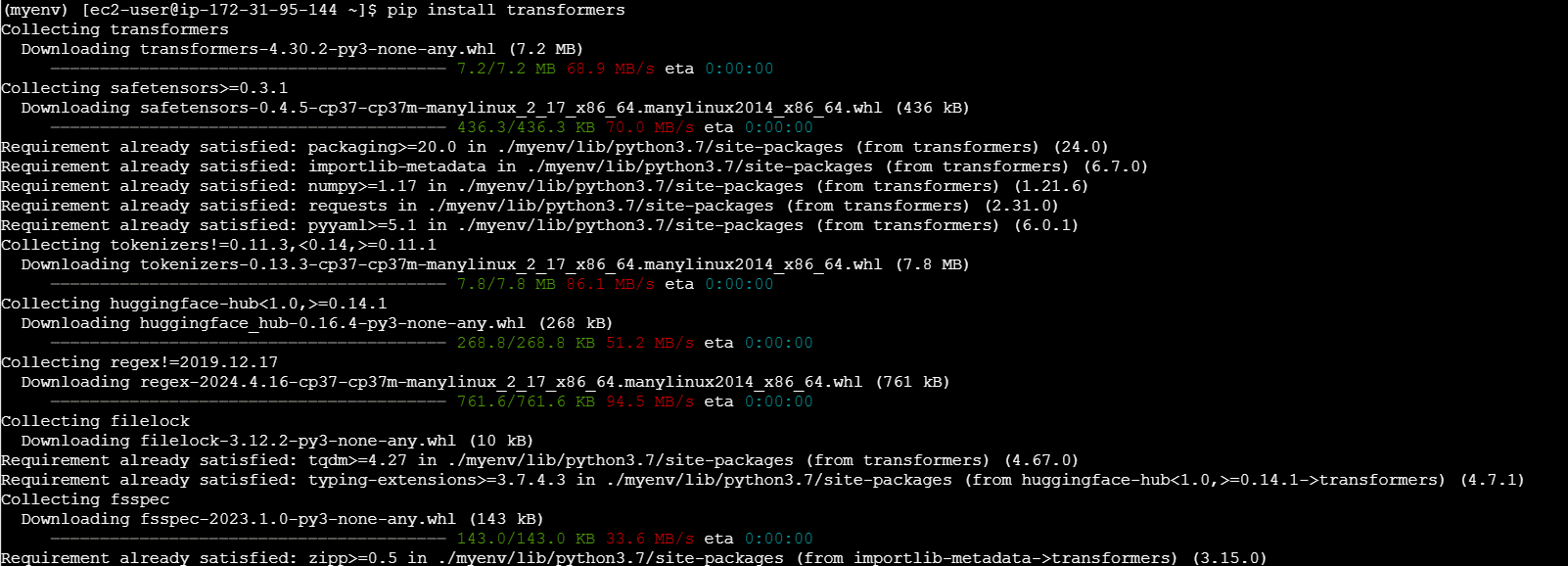
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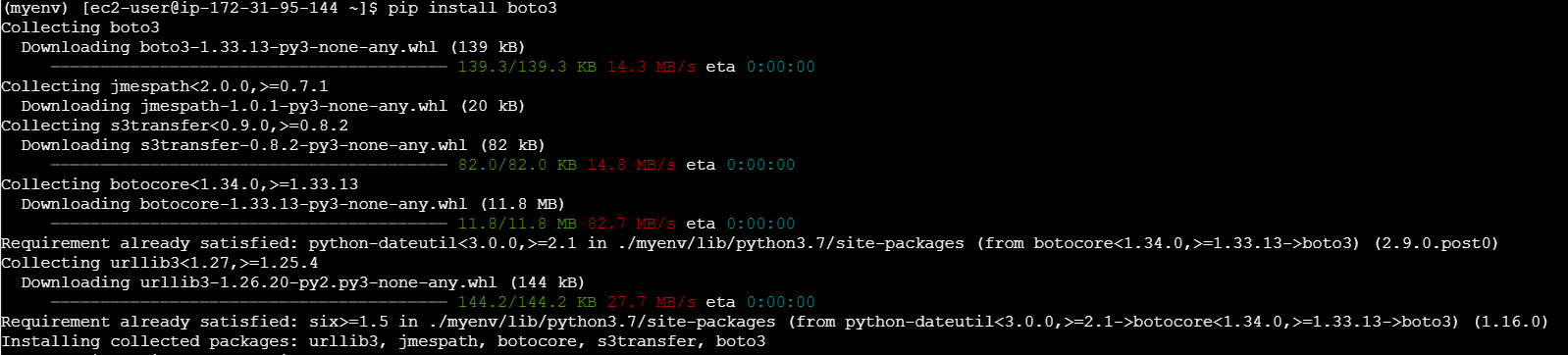
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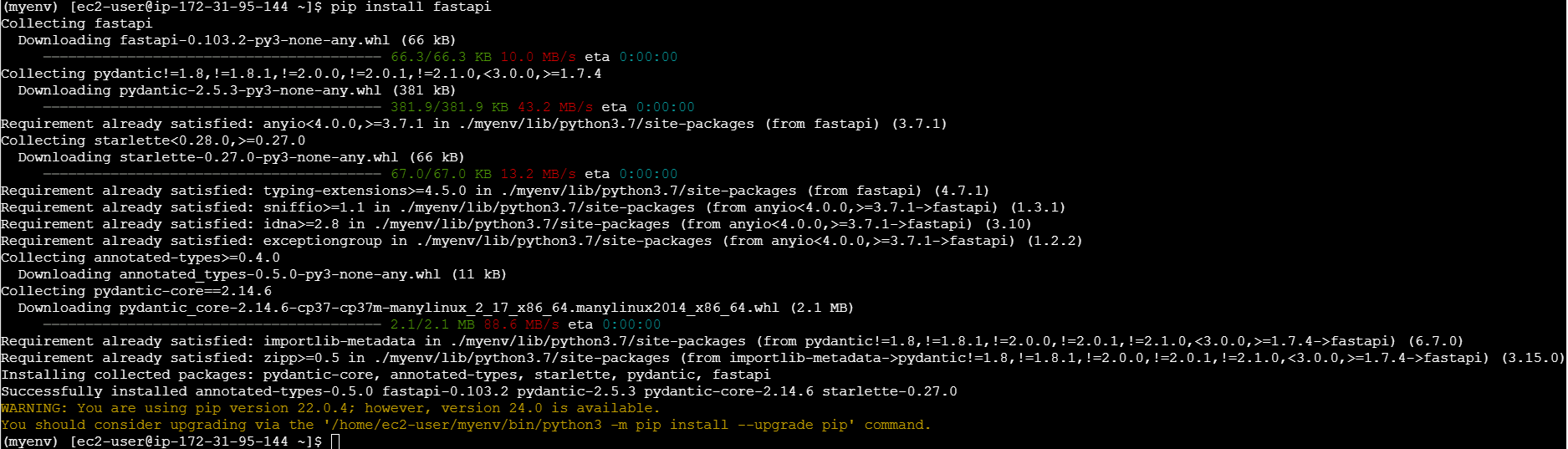
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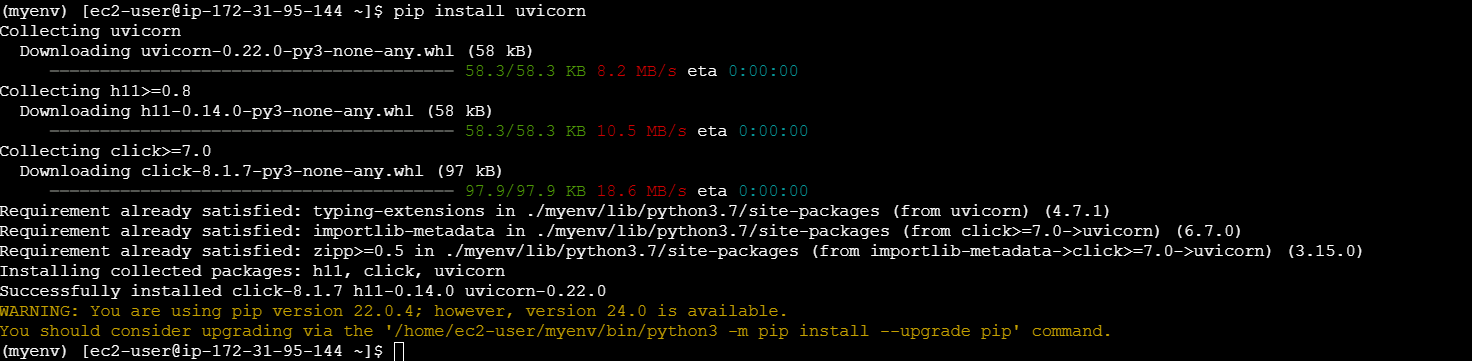
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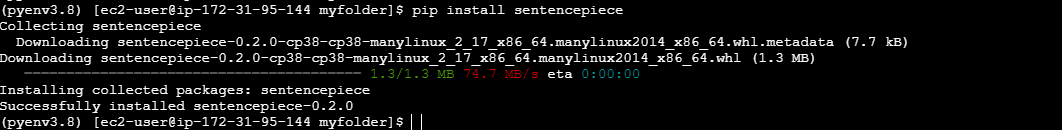
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**2. Data Storage and Retrieval**

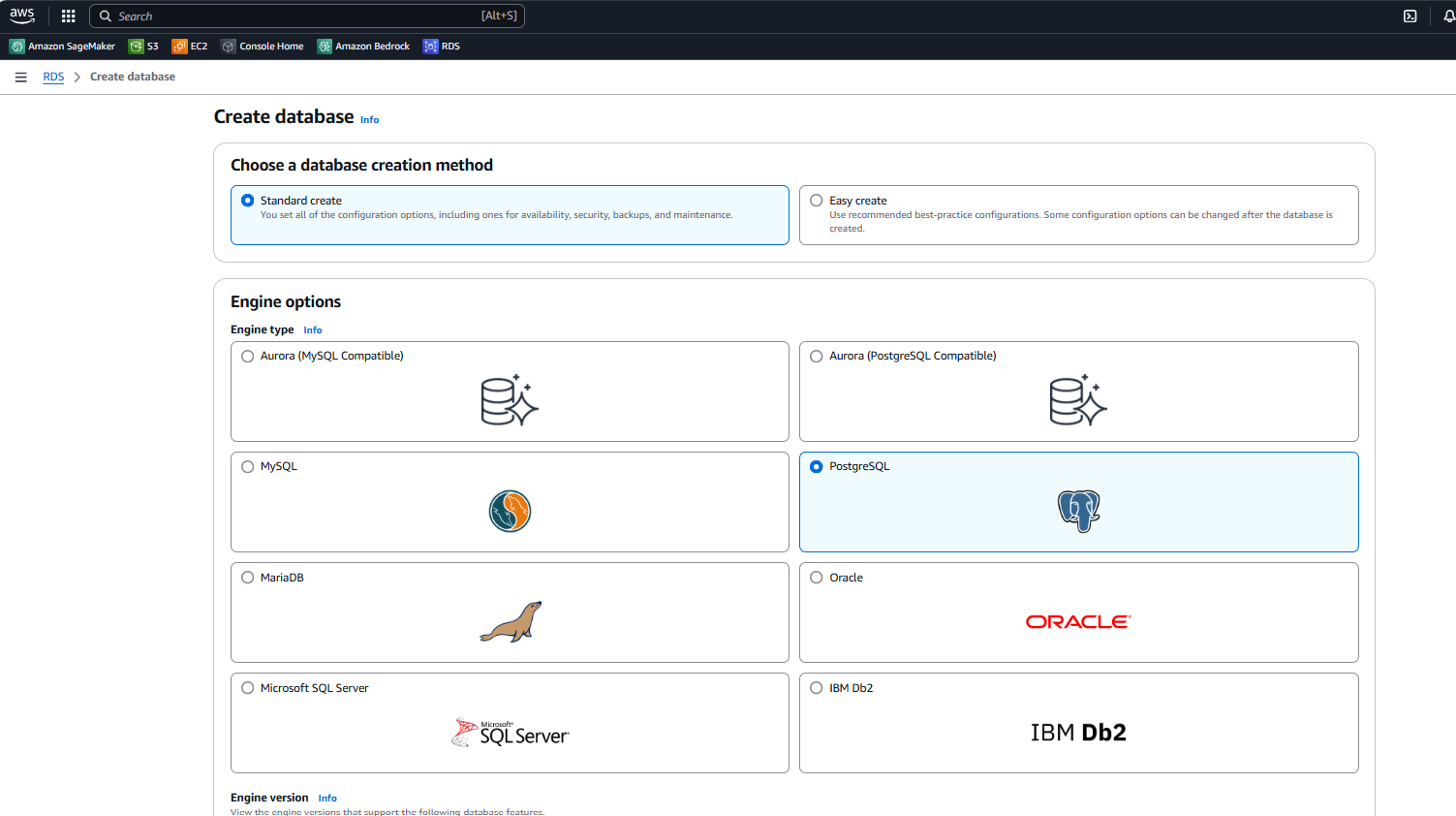
**• PostgreSQL: Use PostgreSQL to store your structured data.**

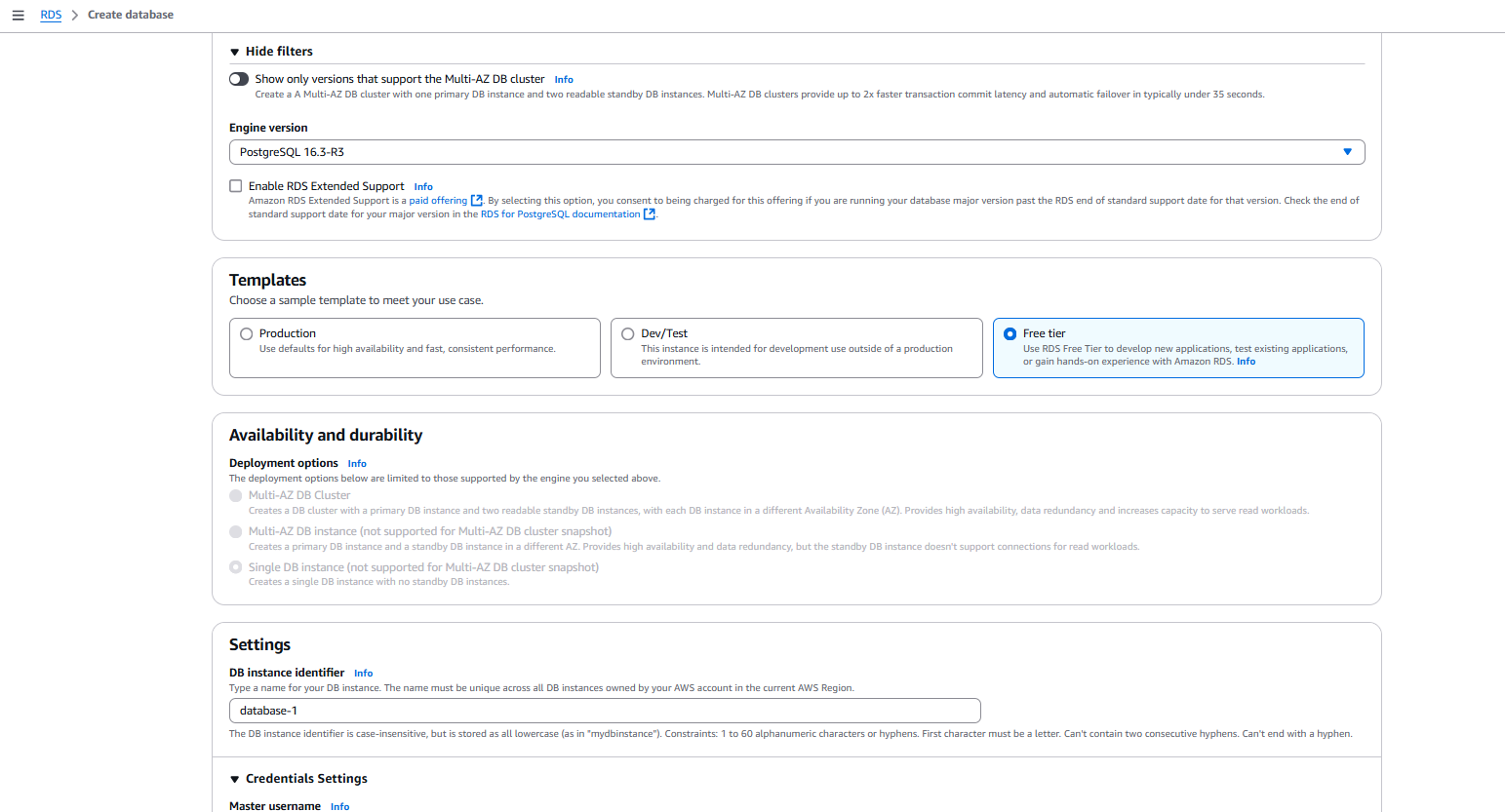
**• Setup PostgreSQL: Install and configure PostgreSQL.**

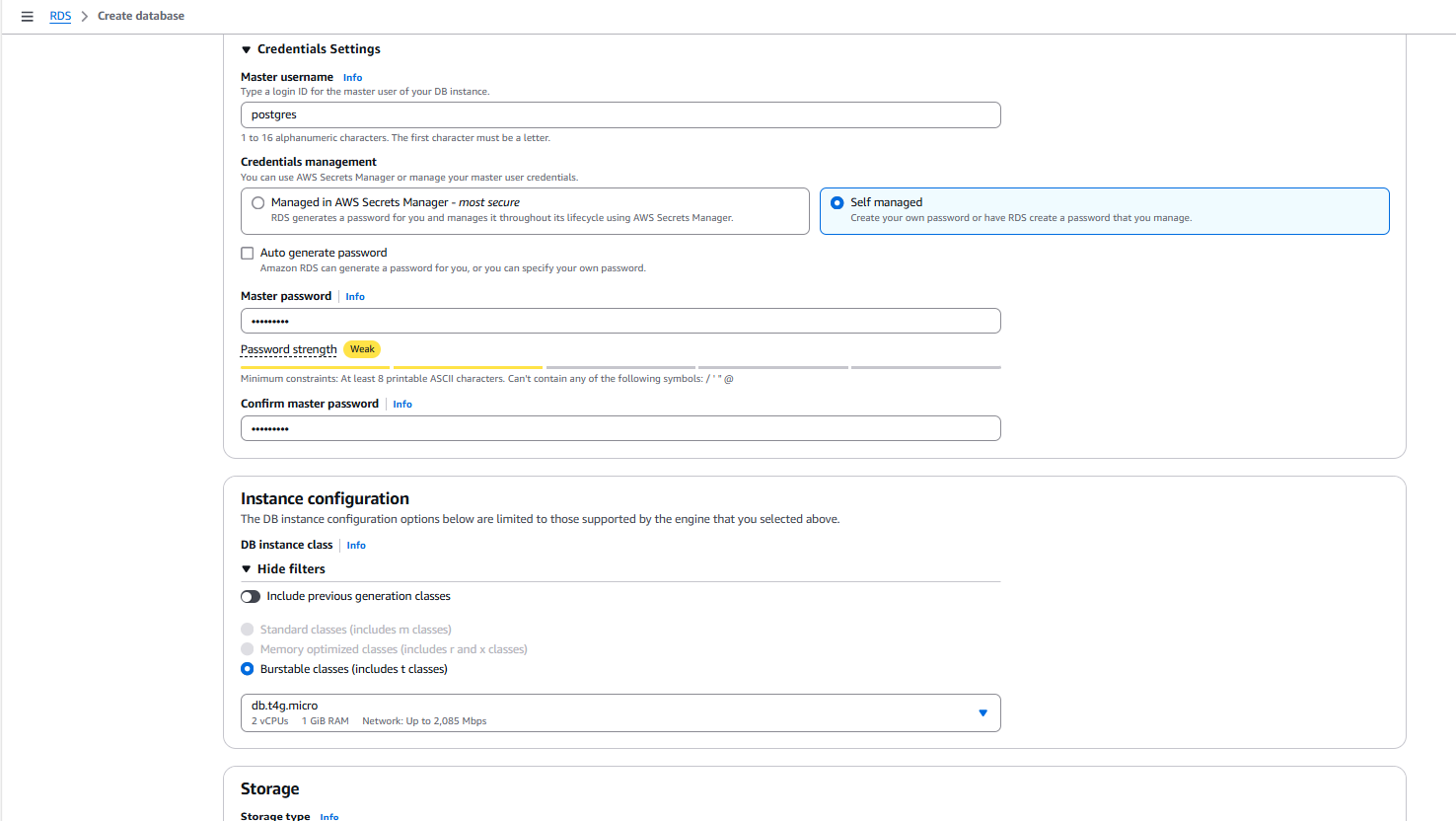
**• Create Tables: Define your schema and create tables.**

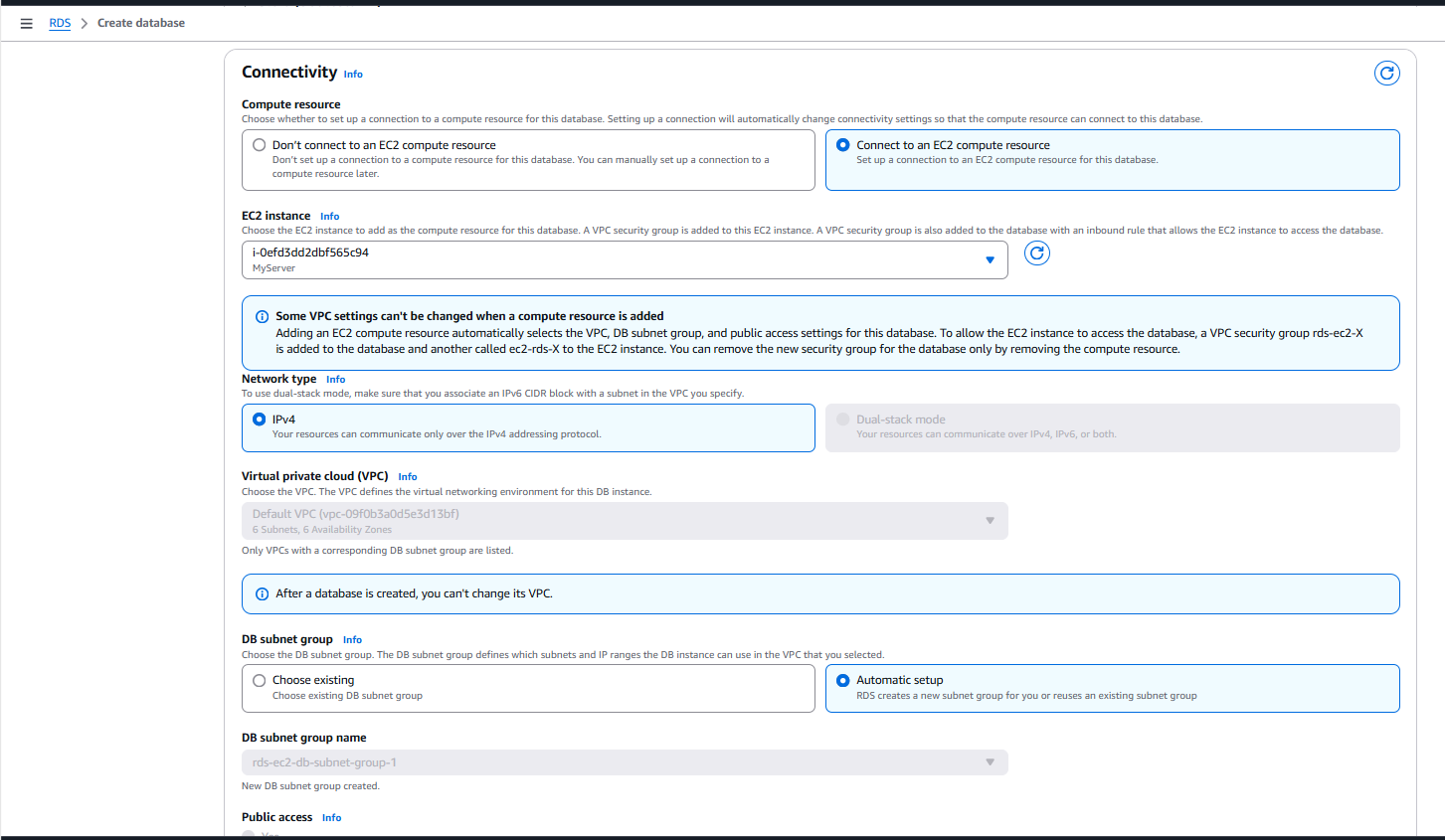
**• Load some sample data, this can be whatever makes sense.**

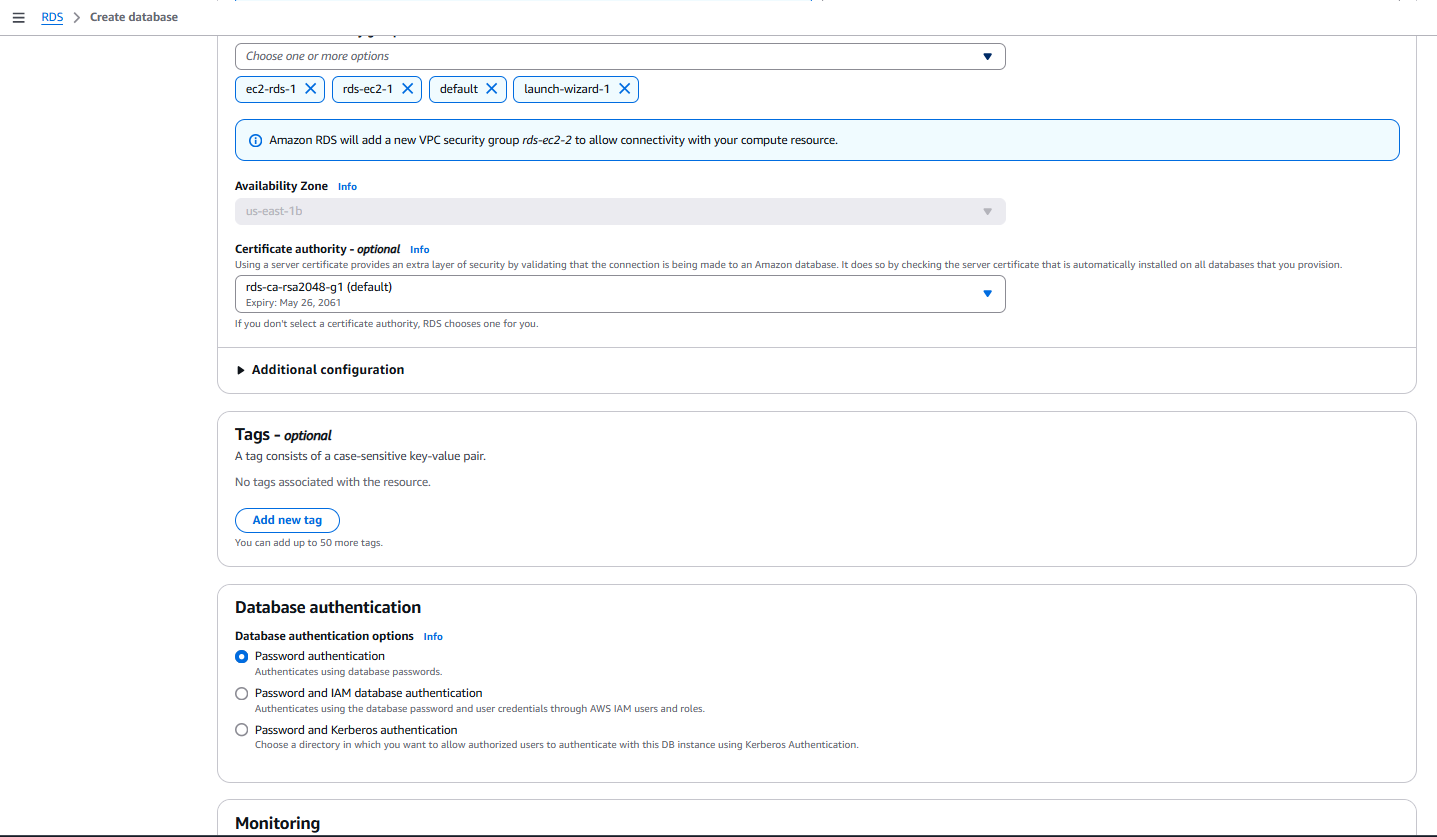
**Steps:**

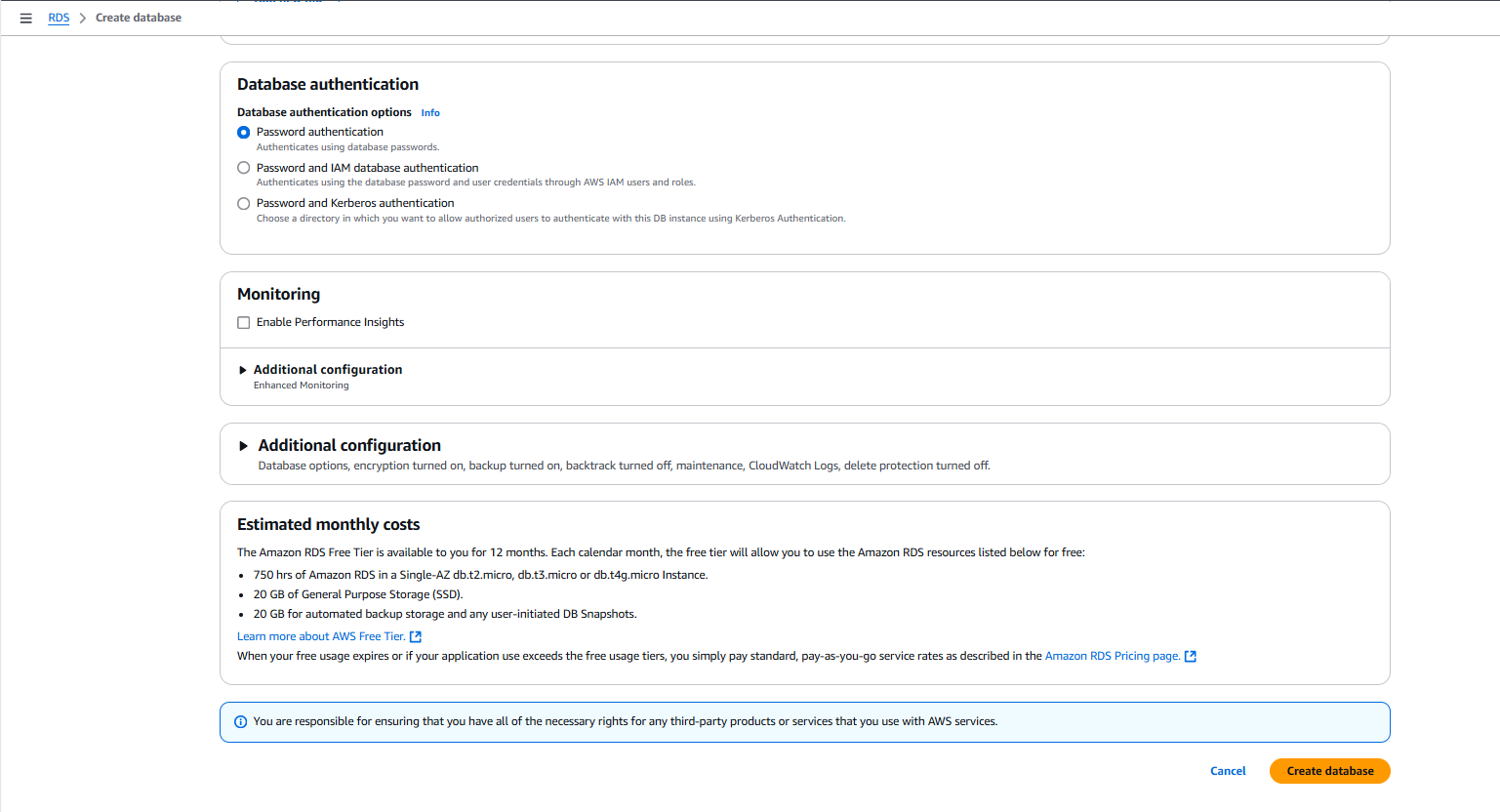
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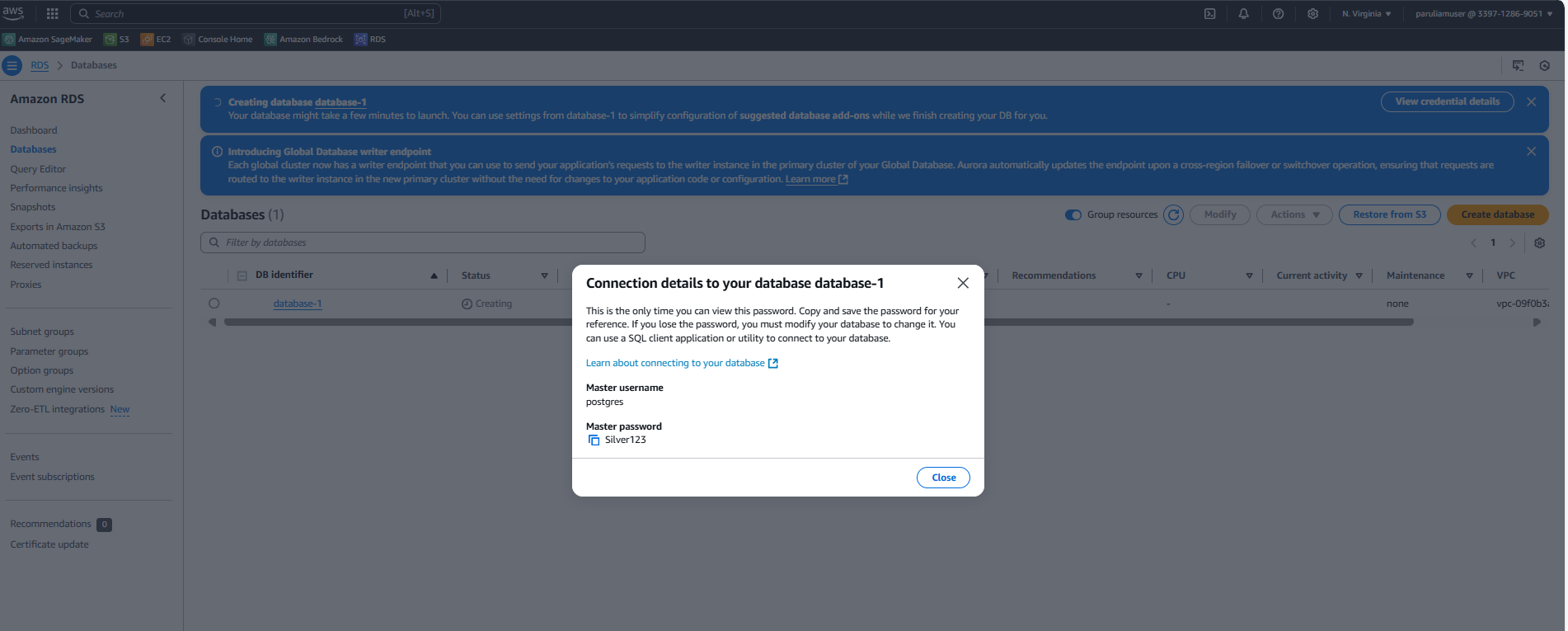
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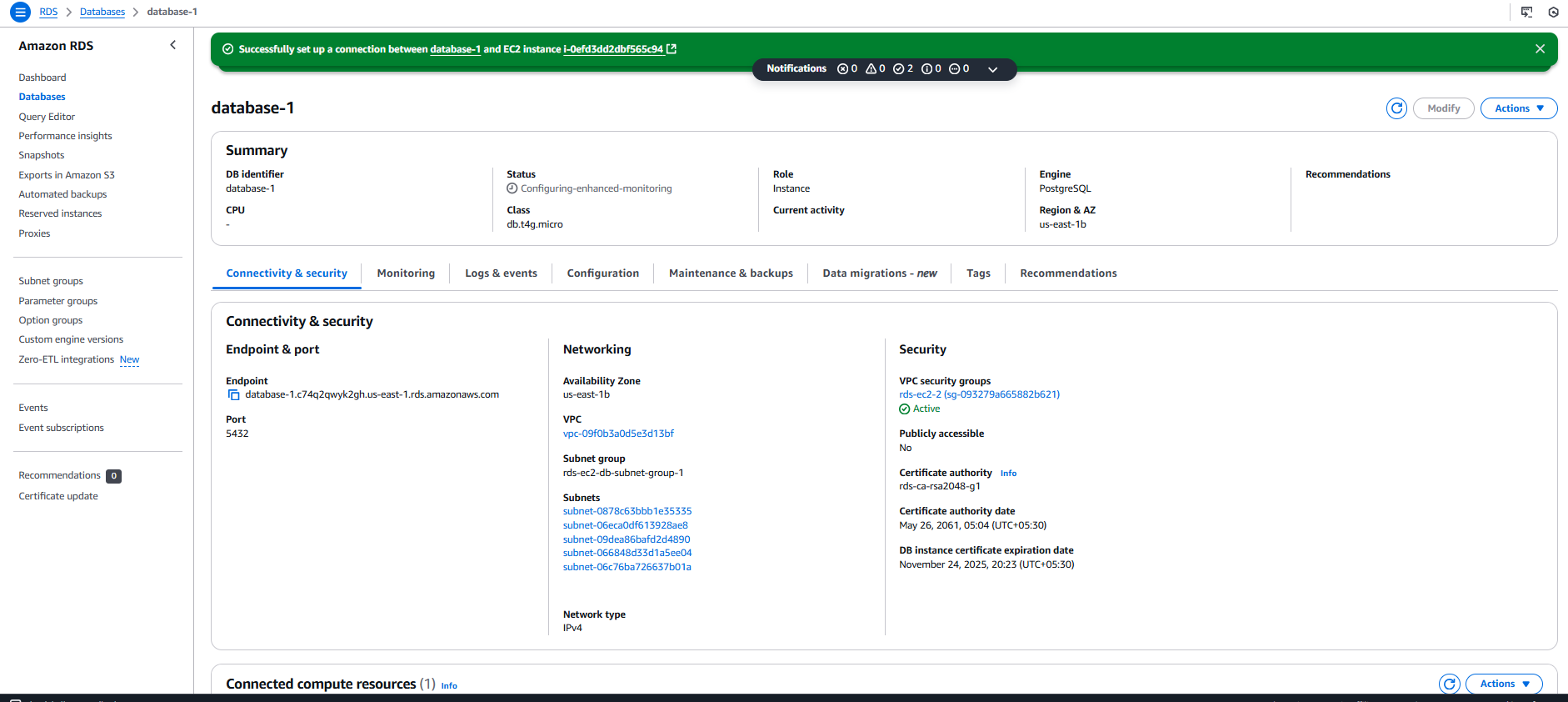
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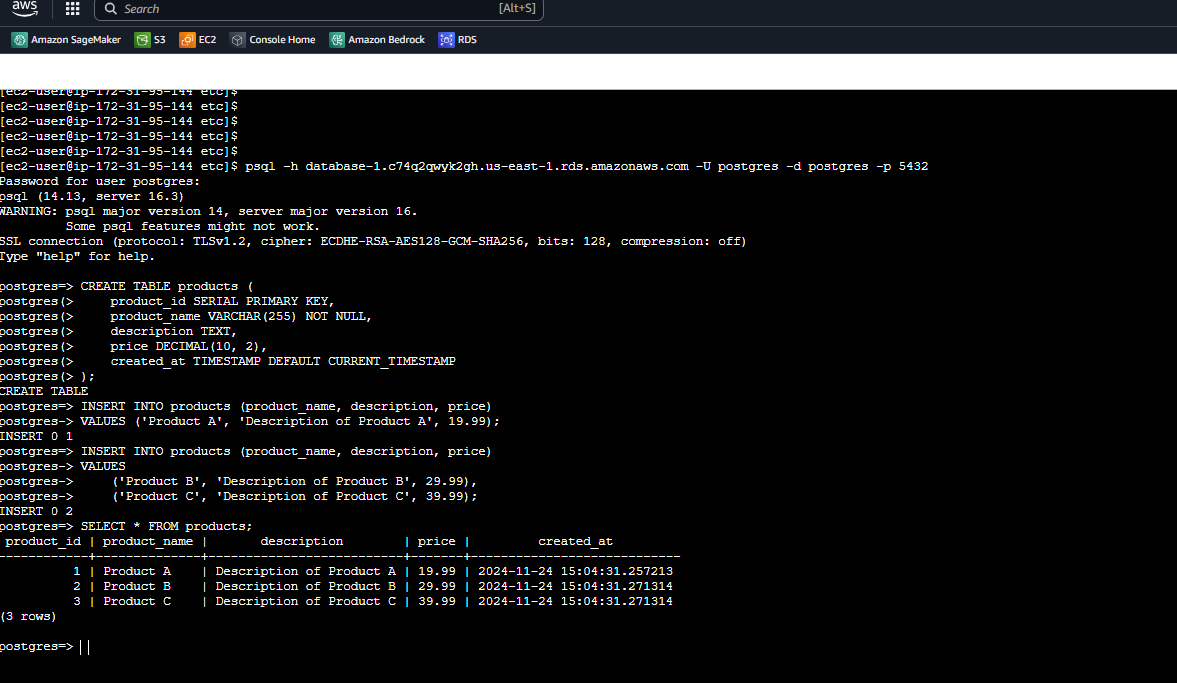
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Trying to connect the db - postgres now:

psql -h database-1.c74q2qwyk2gh.us-east-1.rds.amazonaws.com -U postgres -d postgres -p 5432

password:

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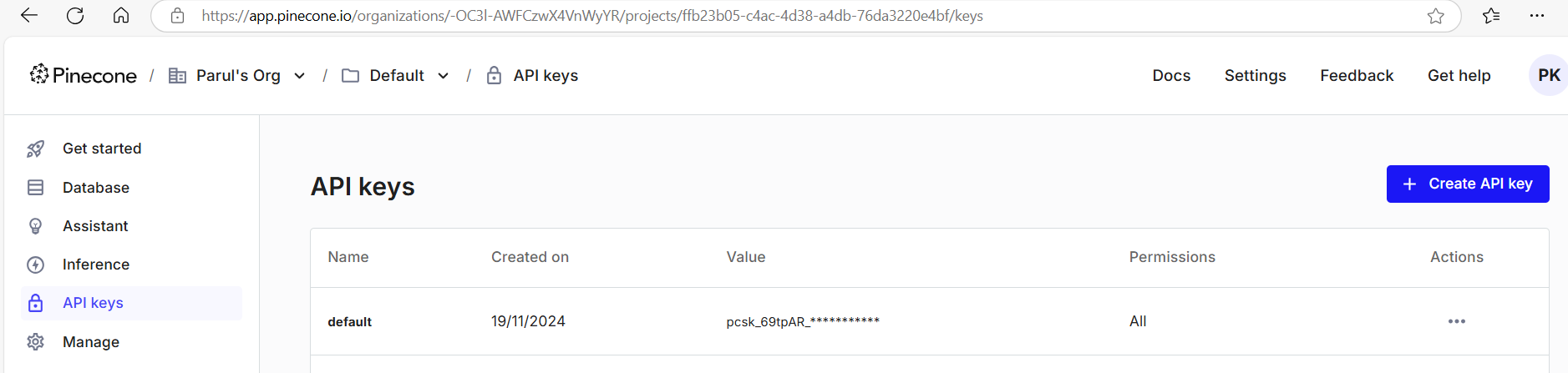
**3. Vector Storage with Pinecone.io**

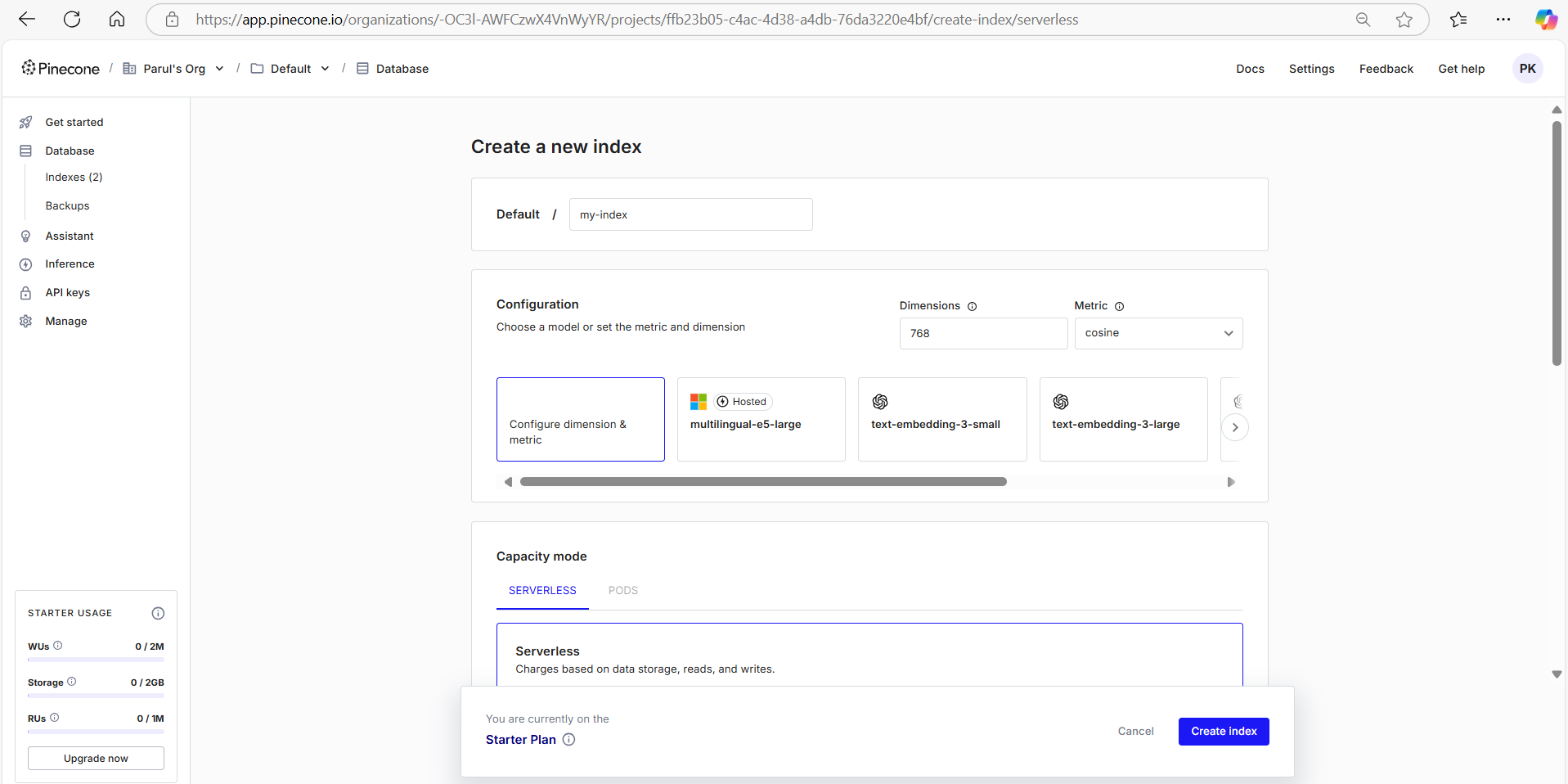
**• Pinecone.io: Use Pinecone for vector storage and similarity search.**

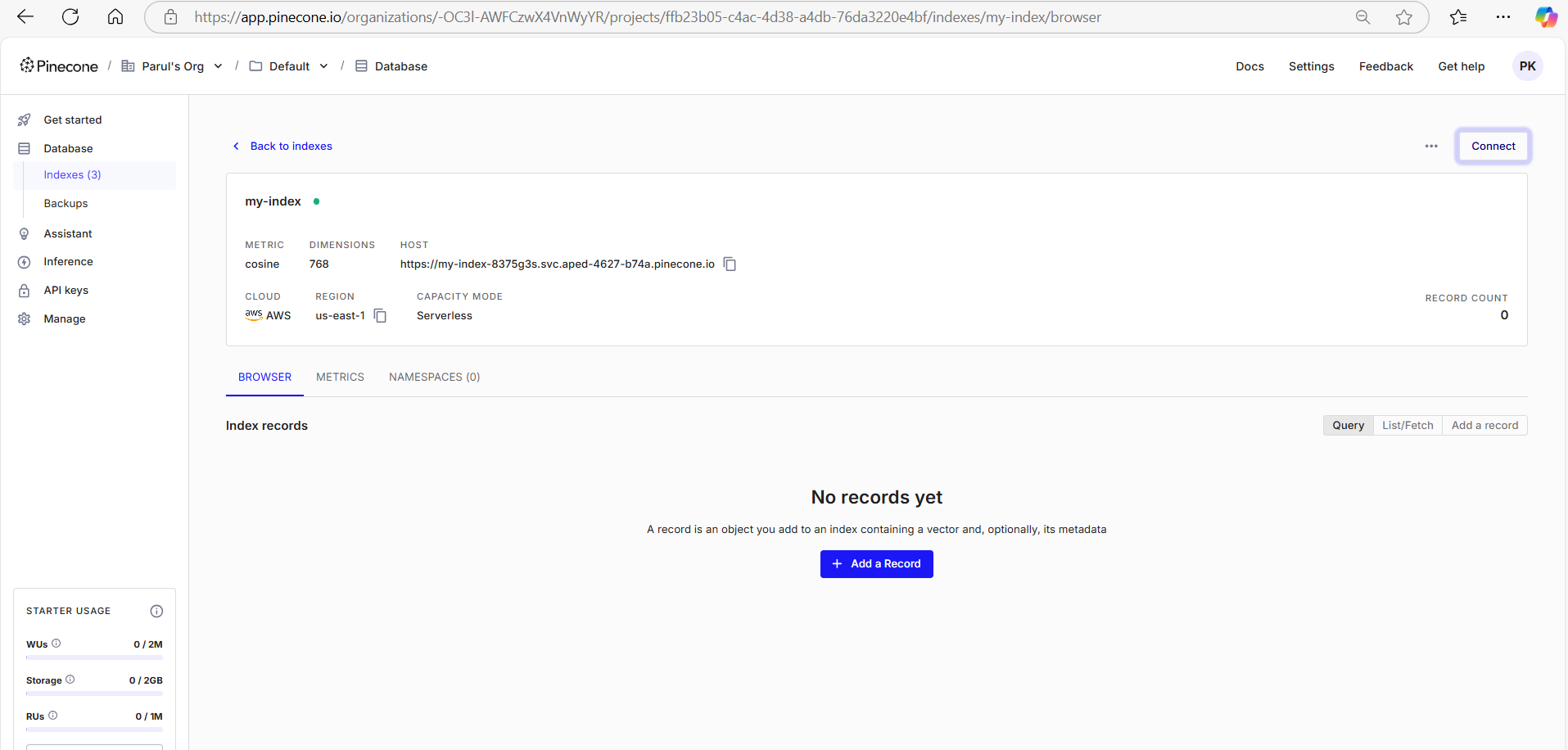
**• Initialize Pinecone: Create an account and get your API key.**

**• Create Index: Initialize and create an index in Pinecone.**

**Steps:**

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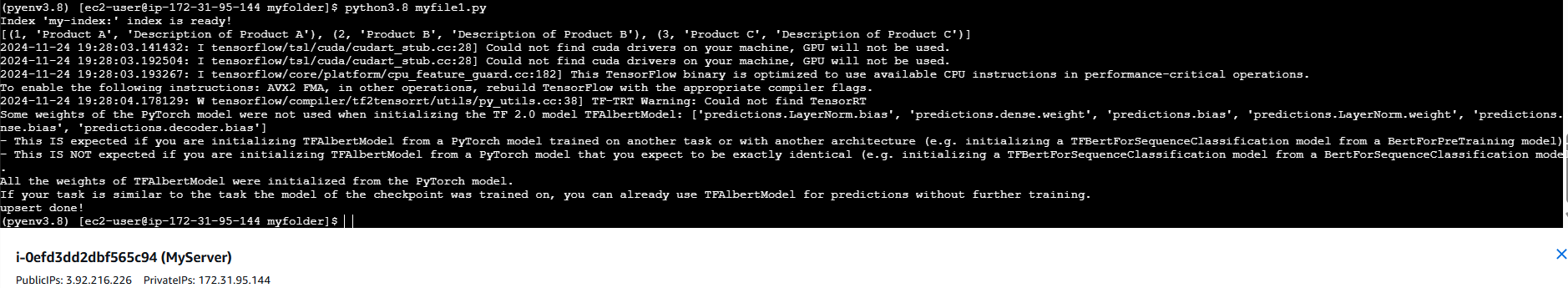
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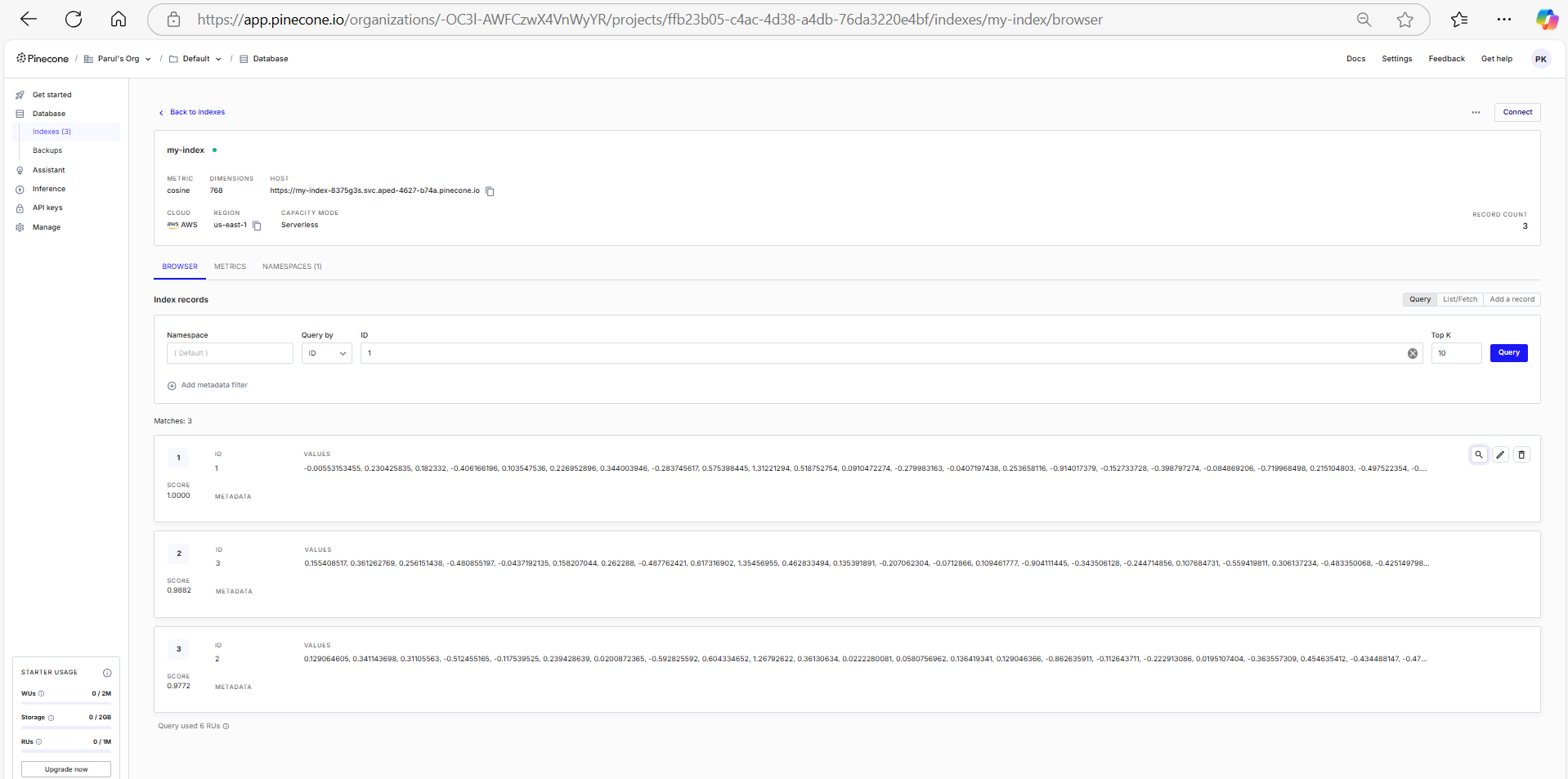
**4. Text Embedding with Hugging Face**

**• Hugging Face Model: Use a pre-trained model to convert text to embeddings**

**5. Data Ingestion**

**• Ingest Data: Extract data from PostgreSQL or a similar RDBMS, convert to embeddings, and store in Pinecone.**

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**6. Query Processing**

**• Query Embedding: Convert user queries to embeddings**

**7. AWS Bedrock Integration**

**• AWS Bedrock: Use AWS Bedrock for additional AI/ML services if needed.**

**• Setup AWS SDK: Configure AWS SDK for Python (Boto3).**

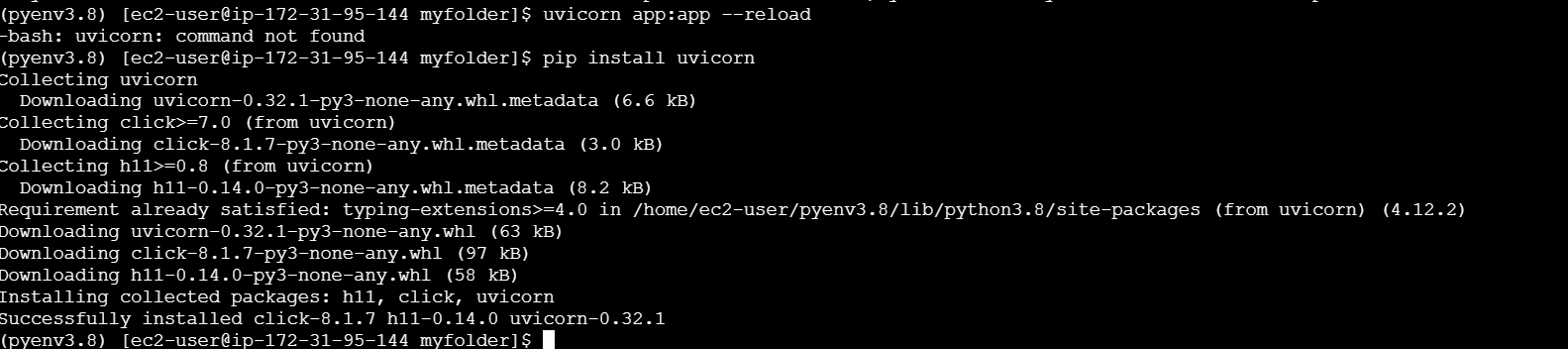
**8. Generate Final Results**

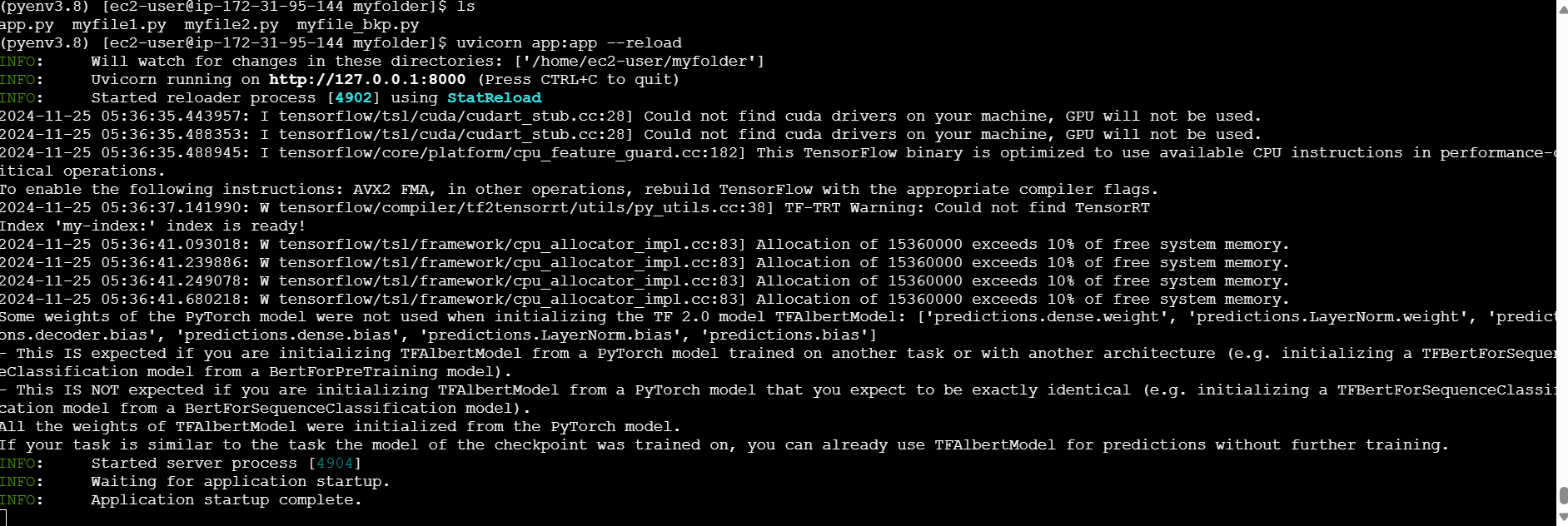
**• Combine Results: Use the retriever (Pinecone) and generator (Hugging Face model) to generate final search results.**

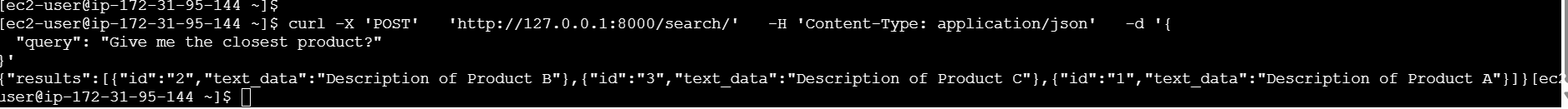
**9. Deployment**

**• Deploy: Deploy your application using a cloud service.**

**• API: Create an API to interact with your search engine.**

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