

Experiment No : 8

Amazon Lex Gold Rate Chatbot

Overview

This tutorial will guide you through creating an Amazon Lex chatbot that fetches live gold rates using a free API. The bot will respond to user queries about current gold prices.

Prerequisites

- AWS Account with appropriate permissions
- Basic understanding of AWS services
- Access to AWS Lambda and Amazon Lex

Architecture Overview

User Query → Amazon Lex → AWS Lambda → Gold Price API → Response to User

Step 1: Setting Up the Gold Price API

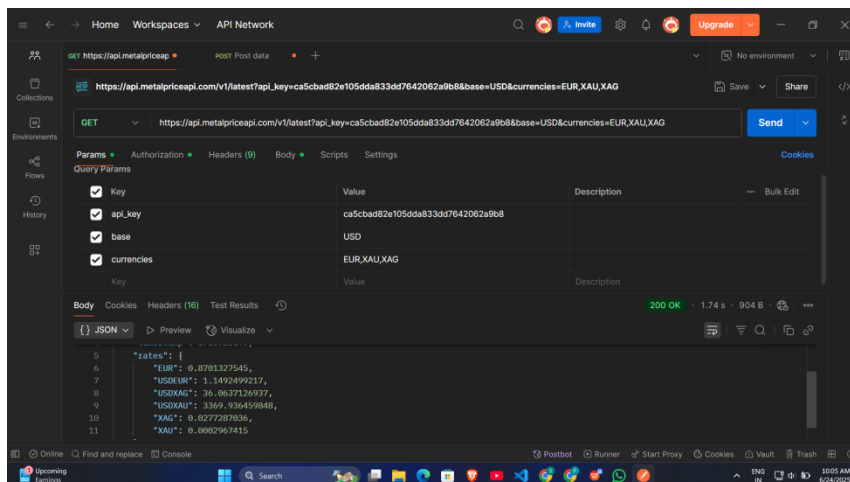
1.1 Choose a Free Gold Price API

We'll use the **Metals API** (free tier available) or **Gold API**.

API Endpoint Example:

<https://api.metals.live/v1/spot/gold>

1.2 Test the API



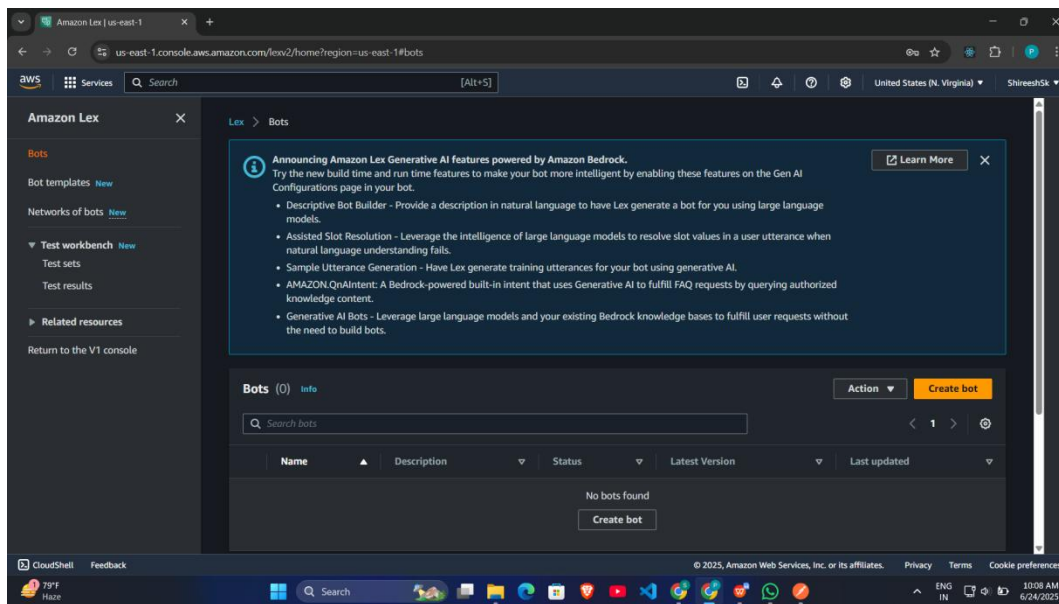
Test the API endpoint to understand the response format:

```
{
  "metal": "gold",
  "price": 1950.25,
  "currency": "USD",
  "unit": "ounce",
  "timestamp": "2025-06-23T10:30:00Z"
}
```

Step 2: Creating the AWS Lambda Function

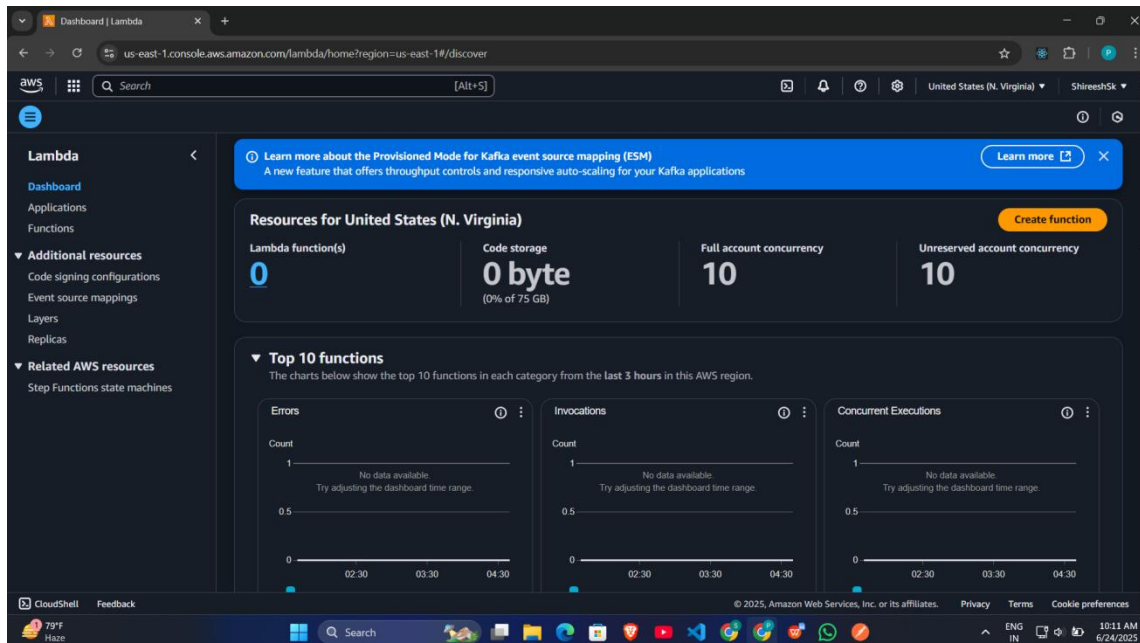
2.1 Navigate to AWS Lambda Console

1. Log into AWS Console
2. Search for “Lambda” in services
3. Click “Create Function”



2.2 Configure Basic Settings

- **Function name:** *GoldRateLexBot*
- **Runtime:** Python 3.9 or later
- **Architecture:** x86_64



2.3 Lambda Function Code

Replace the default code with:

```
import json
import urllib3
import logging

# Configure logging
logger = logging.getLogger()
logger.setLevel(logging.INFO)

def lambda_handler(event, context):
    """
    AWS Lambda handler for Amazon Lex gold rate bot
    """
    try:
        # Get the intent name
        intent_name = event['sessionState']['intent']['name']

        if intent_name == 'GetGoldRate':
            return get_gold_rate(event)
        else:
            return close(event, 'Failed', 'Intent not recognized')

    except Exception as e:
        logger.error(f"Error: {str(e)}")
        return close(event, 'Failed', 'Sorry, I encountered an error while process
```

```

ing your request.')

def get_gold_rate(event):
    """
    Fetch current gold rate from API
    """
    try:
        # Initialize HTTP client
        http = urllib3.PoolManager()

        # API endpoint (replace with your chosen API)
        api_url = "https://api.metals.live/v1/spot/gold"

        # Make API request
        response = http.request('GET', api_url)

        if response.status == 200:
            data = json.loads(response.data.decode('utf-8'))

            # Extract gold price (adjust based on your API response structure)
            price = data.get('price', 'N/A')
            currency = data.get('currency', 'USD')

            message = f"The current gold rate is ${price} per ounce in {currency}."

            return close(event, 'Fulfilled', message)
        else:
            return close(event, 'Failed', 'Sorry, I could not fetch the current gold rate. Please try again later.')

    except Exception as e:
        logger.error(f"API Error: {str(e)}")
        return close(event, 'Failed', 'Sorry, there was an error fetching the gold rate.')

def close(event, fulfillment_state, message):
    """
    Close the session with a message
    """
    return {
        'sessionState': {
            'dialogAction': {
                'type': 'Close'
            },
            'intent': {
                'name': event['sessionState']['intent']['name'],
                'state': fulfillment_state
            }
        },
        'messages': [
            {
                'contentType': 'PlainText',
                'content': message
            }
        ]
    }

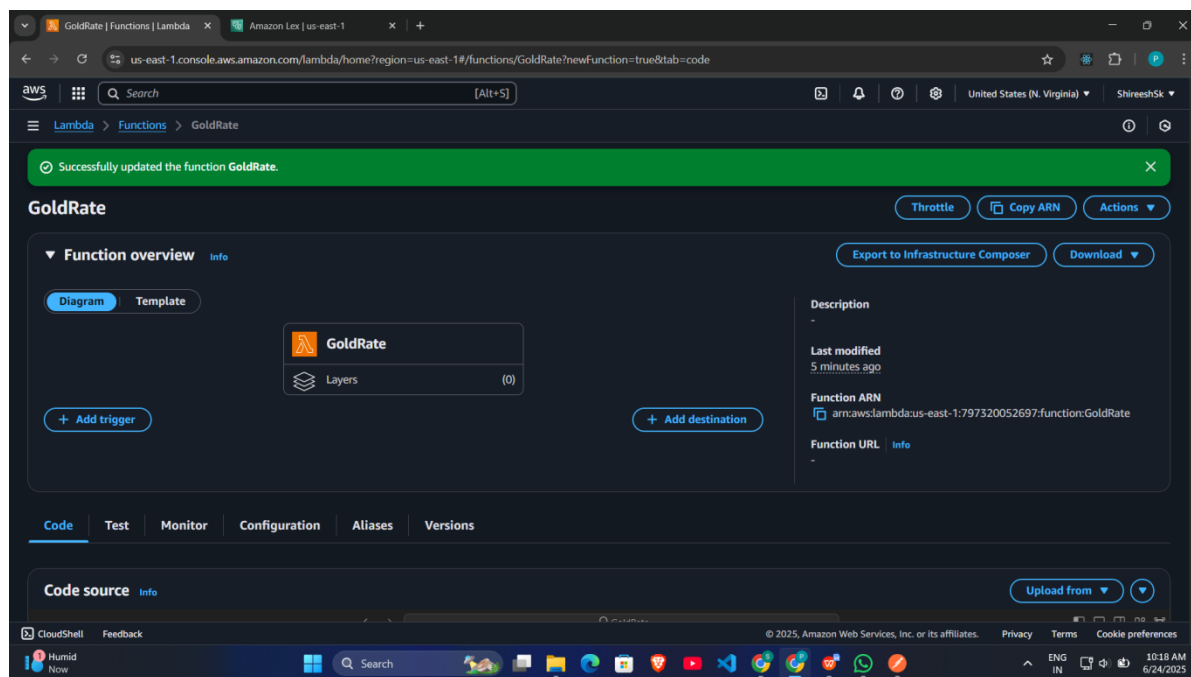
```

}

[Screenshot Placeholder: Lambda function code editor with the above code]

2.4 Deploy the Lambda Function

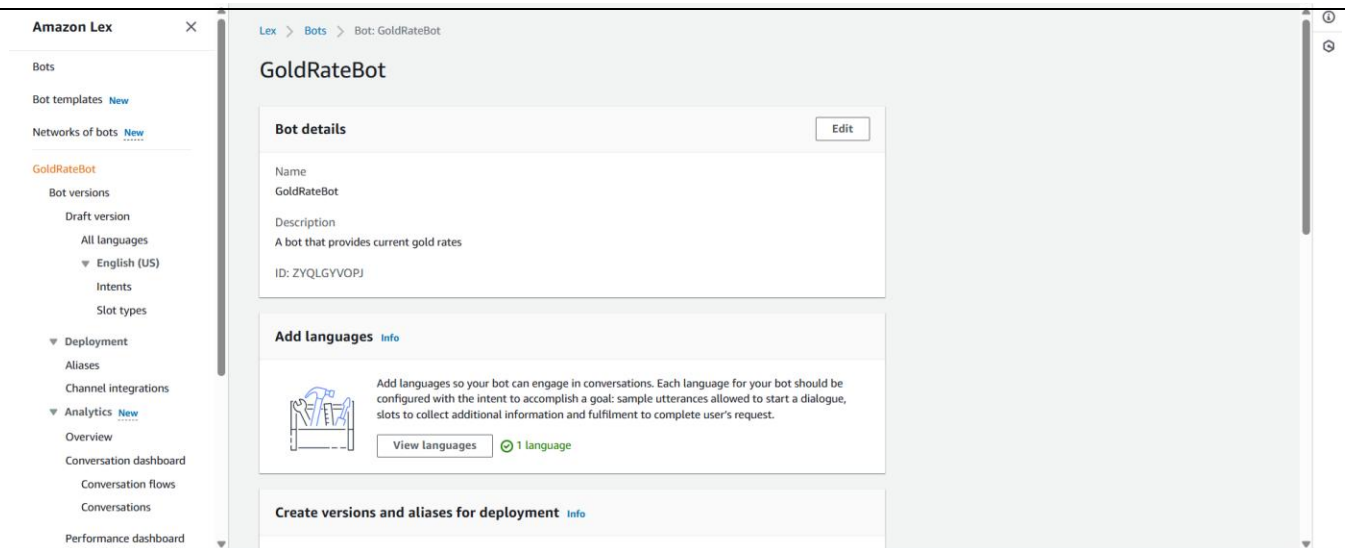
Click “Deploy” to save your function.



Step 3: Creating the Amazon Lex Bot

3.1 Navigate to Amazon Lex Console

4. Go to Amazon Lex in AWS Console
5. Click “Create Bot”



3.2 Bot Configuration

- **Bot name:** *GoldRateBot*
- **Description:** *A bot that provides current gold rates*
- **IAM Role:** Create a new role or use existing
- **Language:** English (US)

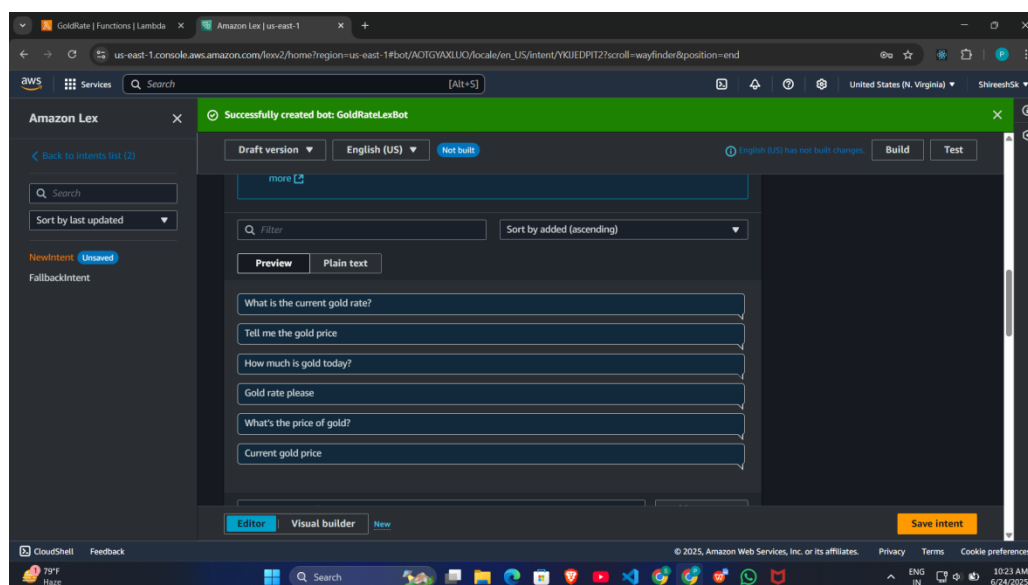
[Screenshot Placeholder: Bot creation form]

3.3 Create Intent

6. Click “Create Intent”
7. **Intent name:** *GetGoldRate*
8. **Description:** *Intent to get current gold rate*

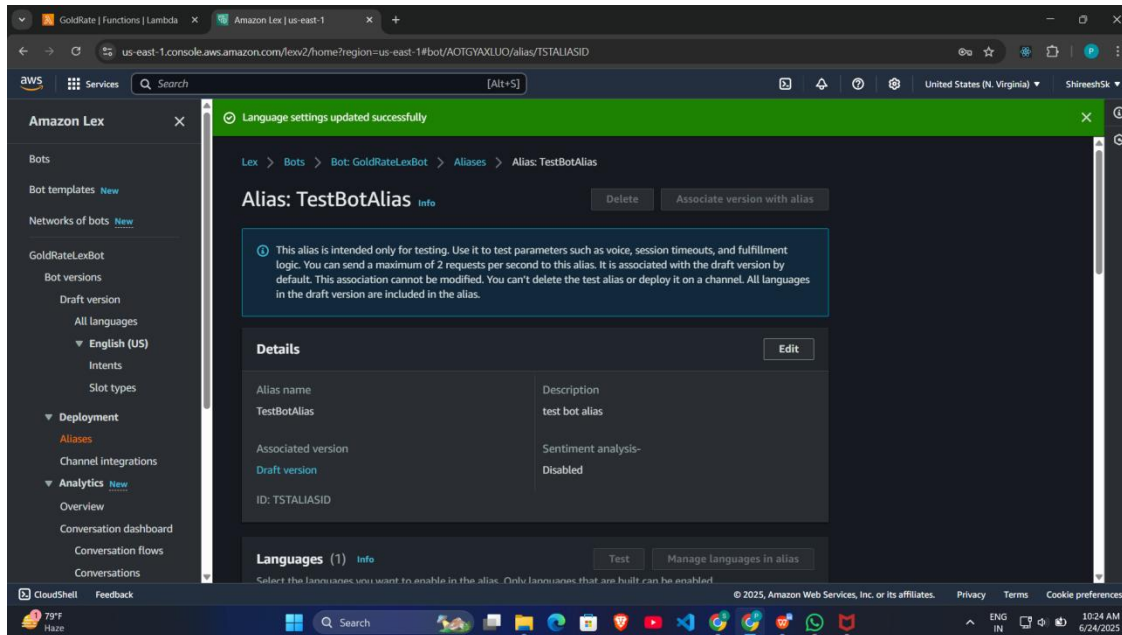
3.4 Configure Sample Utterances

Add these sample utterances: - “What is the current gold rate?” - “Tell me the gold price” - “How much is gold today?” - “Gold rate please” - “What’s the price of gold?” - “Current gold price”



3.5 Configure Fulfillment

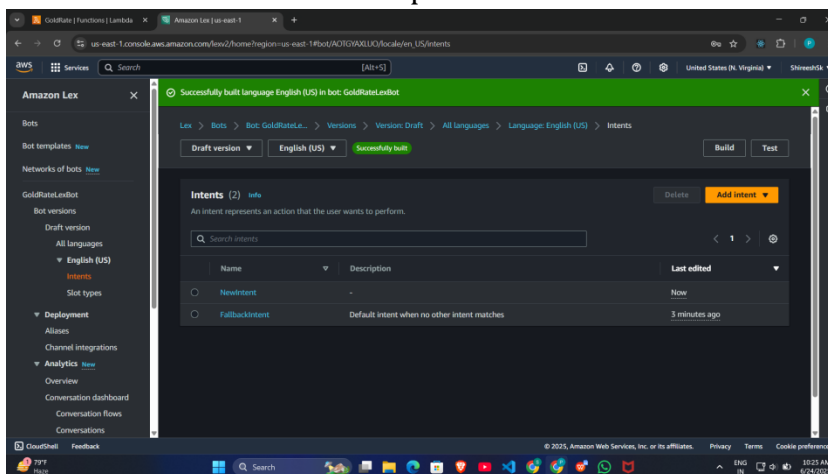
9. Scroll down to “Fulfillment”
10. Select “AWS Lambda function”
11. Choose your *GoldRateLexBot* function
12. **Lambda function version: \$LATEST**

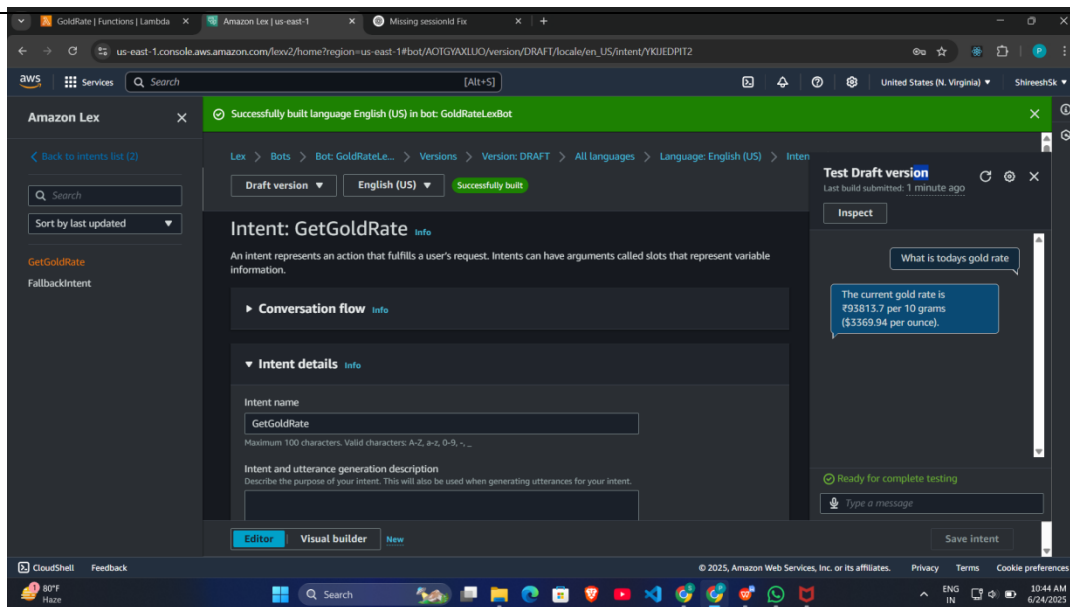


Step 4: Building and Testing the Bot

4.1 Build the Bot

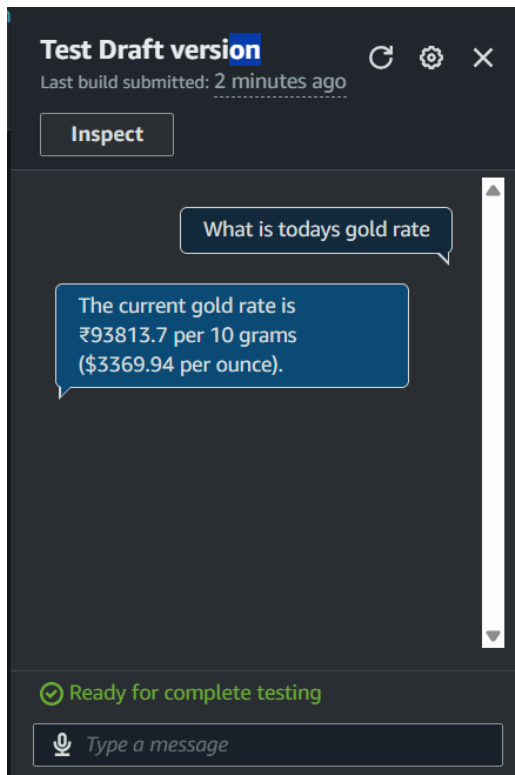
13. Click “Build” in the top right
14. Wait for the build to complete





4.2 Test the Bot

15. Click "Test" in the top right
16. Type: "What is the current gold rate?"
17. Verify the response



Expected conversation:

User: What is the current gold rate?

Bot: The current gold rate is \$1,950.25 per ounce in USD.