## Azure Resource Creation Guide for the AI Mega Toolkit

This guide provides step-by-step instructions for creating the necessary Azure Cognitive Services resources in the Azure portal.

**General Steps for Creating Resources in Azure Portal:**

1. Go to the Azure portal and sign in.
2. In the top search bar, type the name of the service you want to create.
3. Select the service from the search results under the "Services" or "Marketplace" category.
4. Click the "Create" button (it might be under a specific plan or offering of the service).
5. Fill in the required details on the creation blade. Common fields include:
    - **Subscription**: Choose your Azure subscription.
    - **Resource group**: You can select an existing resource group or create a new one (e.g., AIServicesResourceGroup). A resource group is a container that holds related resources for an Azure solution.
    - **Region (Location)**: Select a region where the service will be deployed (e.g., "East US", "West Europe"). Choose a region geographically close to your users or where your other application components might be hosted.
    - **Name**: Give your resource a unique name (e.g., MyMegaToolkitTranslator, MyMegaToolkitLanguage).
    - **Pricing tier**: Select a pricing tier. Most Cognitive Services offer a **Free tier** (often named F0 or similar) which is suitable for development and testing with limited capacity. For production, you'd select a Standard tier (e.g., S0, S1).
6. Review the settings and click "Review + create", then "Create".
7. Wait for the deployment to complete.
8. Once deployed, click "Go to resource".
9. In the resource's menu (usually on the left), find the **"Keys and Endpoint"** section (the exact naming might vary slightly, e.g., "Resource Management" -> "Keys and Endpoint"). This is where you'll find the credentials your application needs.

**1. Azure Translator Service**

- **Purpose in Project**: Translating text in the text processing feature and the live chat.
- **Steps**:
    1. In the Azure portal search bar, type "**Translator**" and select it.
    2. Click "**Create**".

3. **Basics Tab**:
    - **Subscription**: Select your subscription.
    - **Resource group**: Select or create a new one.
    - **Region**: Select your desired region.
    - **Name**: Enter a unique name (e.g., YourProjectName-Translator).
    - **Pricing tier**: Choose a tier (e.g., Free F0 for development).
4. Click "**Review + create**", then "**Create**".
5. After deployment, go to the resource.
6. Navigate to the "**Keys and Endpoint**" section.

- **Information to copy for your .env file**:
    - TRANSLATOR_SUBSCRIPTION_KEY: Copy one of the keys (e.g., KEY 1).
    - TRANSLATOR_ENDPOINT: Copy the "Text Translation" Endpoint (it will be a URL like https://api.cognitive.microsofttranslator.com/ or https://<your-resource-name>.cognitiveservices.azure.com/). The SDK typically just needs the base endpoint for the service.
    - TRANSLATOR_REGION: Note the "Location/Region" you selected (e.g., eastus, westeurope).

**2. Azure Language Service**

- **Purpose in Project**: Sentiment analysis, extractive summarization, abstractive summarization.
- **Steps**:
    1. In the Azure portal search bar, type "**Language service**" and select it.
    2. Click "**Create**".
    3. You might be prompted to select features. If so, ensure "Text Analytics" features like Sentiment Analysis and Summarization are included, or choose a general-purpose Language resource. Often, creating a "Language" resource is sufficient.
    4. **Basics Tab**:
        - **Subscription**: Select your subscription.
        - **Resource group**: Select or create a new one.
        - **Region**: Select your desired region.
        - **Name**: Enter a unique name (e.g., YourProjectName-Language).
        - **Pricing tier**: Choose a tier (e.g., Free F0).
    5. Click "**Review + create**", then "**Create**".
    6. After deployment, go to the resource.
    7. Navigate to the "**Keys and Endpoint**" section.
- **Information to copy for your .env file**:
    - LANGUAGE_SUBSCRIPTION_KEY: Copy one of the keys (e.g., KEY 1).

    - LANGUAGE_ENDPOINT: Copy the Endpoint URL.

**3. Azure Speech Service**

- **Purpose in Project**: Speech-to-text for audio file transcription and the live chat feature.
- **Steps**:
    1. In the Azure portal search bar, type "**Speech services**" and select it.
    2. Click "**Create**".
    3. **Basics Tab**:
        - **Subscription**: Select your subscription.
        - **Resource group**: Select or create a new one.
        - **Region**: Select your desired region (this is particularly important for Speech services).
        - **Name**: Enter a unique name (e.g., YourProjectName-Speech).
        - **Pricing tier**: Choose a tier (e.g., Free F0).
    4. Click "**Review + create**", then "**Create**".
    5. After deployment, go to the resource.
    6. Navigate to the "**Keys and Endpoint**" section.
- **Information to copy for your .env file**:
    - SPEECH_SUBSCRIPTION_KEY: Copy one of the keys (e.g., KEY 1).
    - SPEECH_REGION: Note the "Location/Region" you selected (e.g., eastus, westeurope). The SDK uses this directly.

**4. Azure Computer Vision Service**

- **Purpose in Project**: Analyzing uploaded images (descriptions, tags, objects, etc.).
- **Steps**:
    1. In the Azure portal search bar, type "**Computer Vision**" and select it.
    2. Click "**Create**".
    3. **Basics Tab**:
        - **Subscription**: Select your subscription.
        - **Resource group**: Select or create a new one.
        - **Region**: Select your desired region.
        - **Name**: Enter a unique name (e.g., YourProjectName-Vision).
        - **Pricing tier**: Choose a tier (e.g., Free F0 or Standard S1).
    4. Click "**Review + create**", then "**Create**".
    5. After deployment, go to the resource.
    6. Navigate to the "**Keys and Endpoint**" section.
- **Information to copy for your .env file**:

- VISION_SUBSCRIPTION_KEY: Copy one of the keys (e.g., KEY 1).
- VISION_ENDPOINT: Copy the Endpoint URL.

**Setting up your .env file:**

Once you have all the keys, endpoints, and regions, create a file named .env in the root of your project directory (C:\Users\ychar\Downloads\Advanced Project Integration and Free Azure Deployment\).
It should look like this, filled with your actual values:

```
# Flask Configuration
FLASK_APP=app.py
FLASK_ENV=development # or production
FLASK_SECRET_KEY='your_very_strong_random_secret_key_here' # Generate a strong random key

# Database Configuration (Example for SQLite, adjust if using PostgreSQL)
DATABASE_URL='sqlite:///instance/toolkit.db'

# Celery Configuration
CELERY_BROKER_URL='redis://localhost:6379/0'
CELERY_RESULT_BACKEND='redis://localhost:6379/0'

# File Upload Configuration
UPLOAD_FOLDER_NAME='uploads'

# Azure Translator Service
TRANSLATOR_SUBSCRIPTION_KEY='YOUR_TRANSLATOR_KEY'
TRANSLATOR_ENDPOINT='YOUR_TRANSLATOR_ENDPOINT'
TRANSLATOR_REGION='YOUR_TRANSLATOR_REGION'

# Azure Language Service (Text Analytics)
LANGUAGE_SUBSCRIPTION_KEY='YOUR_LANGUAGE_KEY'
LANGUAGE_ENDPOINT='YOUR_LANGUAGE_ENDPOINT'

# Azure Speech Service
SPEECH_SUBSCRIPTION_KEY='YOUR_SPEECH_KEY'
SPEECH_REGION='YOUR_SPEECH_REGION'

# Azure Computer Vision Service
VISION_SUBSCRIPTION_KEY='YOUR_VISION_KEY'
```

```
VISION_ENDPOINT='YOUR_VISION_ENDPOINT'

# Elasticsearch (Optional - if you are using it)
# ELASTICSEARCH_URL='http://localhost:9200'
```

**Remember to add .env to your .gitignore file to avoid committing your secrets to version control.**

By following these steps, you will have the necessary Azure resources provisioned and their credentials ready to be used by the "Azure AI Mega Toolkit" application.