

# **Speech-Trainer Documentation**

## **Overview**

Speech-Trainer is a web application designed to help users improve their vocal variety and expression through various exercises. The application processes audio files and provides feedback and suggestions for improvement.

## **Tools Used**

- Python
- Django
- Pydub
- Whisper
- Groq
- NLTK
- Sentence Transformers
- Gensim
- Joblib

## **Minimum Requirements**

- Python 3.8 or higher
- Django 3.2 or higher
- Pydub
- Whisper
- Groq
- NLTK
- Sentence Transformers
- Gensim
- Joblib
- MySQL

## **Installation**

### **1. Clone the Repository**

To begin, clone the repository and navigate to the project directory:

```
git clone https://github.com/Mithunsenthil/Speech-Trainer.git
```

```
cd Speech-Trainer
```

## **2. Create and Activate a Virtual Environment**

Set up a virtual environment for the project:

```
python -m venv venv
```

```
source venv/bin/activate # On Windows use `venv\Scripts\activate`
```

## **3. Install Required Packages**

Install all necessary dependencies:

```
pip install -r requirements.txt
```

## **4. Install MySQL**

### **Windows:**

Download and install MySQLclient:

```
pip install mysqlclient
```

### **macOS:**

Use Homebrew to install MySQL:

```
brew install mysqlclient
```

### **Linux:**

Use your package manager to install MySQL:

```
sudo apt-get install mysql-server
```

## **5. Start the MySQL Service**

### **Windows:**

Start MySQL from the Services panel.

### **macOS and Linux:**

```
sudo service mysql start
```

## **6. Update Django Settings**

Edit the settings.py file to configure MySQL database settings:

```
DATABASES = {  
    'default': {
```

```
'ENGINE': 'django.db.backends.mysql',  
'NAME': 'speech_trainer',  
'USER': 'speech_user',  
'PASSWORD': 'your_password',  
'HOST': 'localhost',  
'PORT': '3306',  
}  
}
```

## **7. Apply Migrations**

Run the following command to apply database migrations:

```
python manage.py migrate
```

### **Running the Project**

#### **1. Start the Django Development Server**

Run the following command to start the server:

```
python manage.py runserver
```

#### **2. Access the Application**

Open your web browser and navigate to:

```
http://127.0.0.1:8000/dashboard
```

### **Usage**

1. Log in with your credentials.
2. Perform vocal exercises and receive feedback on your performance.
3. View charts and statistics to track your progress.