

# Collaborative Coding Tutorial: Music Generation with LSTM

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## Introduction

This step-by-step guide clearly explains how to collaborate effectively using Git and GitHub for your Music Generation with LSTM project. Follow each step carefully to ensure smooth teamwork.

## Step 1: Git and GitHub Setup

1. Create a GitHub account (<https://github.com/>) if you don't have one.
2. Install Git from <https://git-scm.com/downloads>.
3. Configure Git:  

```
git config --global user.name "Your Name"
```

```
git config --global user.email "your-email@example.com"
```

## Step 2: Repository Creation

1. Log in to GitHub and click "New repository".
2. Name your repository (e.g., "Music-Generation-LSTM").
3. Choose Public or Private and add a README.
4. Click "Create Repository".

## Step 3: Clone Repository

1. Clone the repository locally:  

```
git clone https://github.com/your-username/Music-Generation-LSTM.git
```
2. Enter your repository:  

```
cd Music-Generation-LSTM
```

## Step 4: Branching for Collaboration

1. Create a new branch:  

```
git checkout -b feature-lstm-model
```
2. Develop your feature in this branch.

## Step 5: Committing and Pushing Changes

1. Stage changes:  

```
git add .
```

2. Commit changes clearly:  
`git commit -m "Added LSTM model structure"`
3. Push changes:  
`git push origin feature-lstm-model`

## Step 6: Pull Requests and Reviews

1. Open GitHub and create a Pull Request from your branch.
2. Describe changes and request reviews.
3. Review code with team and merge after approval.

## Step 7: Resolving Conflicts

1. If conflicts appear, resolve manually in files.
2. Add resolved files:  
`git add resolved_file.py`
3. Commit resolution:  
`git commit -m "Resolved conflicts"`
4. Push updates:  
`git push origin feature-lstm-model`

## Step 8: Keep Your Branch Updated

Regularly update from main:

```
git checkout main
git pull origin main
git checkout feature-lstm-model
git merge main
```

## Conclusion

By following this tutorial, your team will successfully manage your Music Generation project using GitHub for effective and smooth collaboration.