

# Python Start Project Template

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A **cookiecutter template** for creating Python projects with a standardized structure and development setup.

## What is This?

This is a **cookiecutter template** that generates Python projects with:

- Modular project structure
- Testing framework setup
- Environment management with conda
- Makefile for common tasks
- Jupyter notebook support

## How to Use This Template

### Prerequisites

- Python 3.8 or higher
- cookiecutter installed: `pip install cookiecutter`

### Creating a New Project

#### 1. Install cookiecutter (if not already installed):

```
pip install cookiecutter
```

#### 2. Generate a new project from this template:

```
# From the parent directory of this template
python -m cookiecutter python_start_project

# Or using the full path
python -m cookiecutter /path/to/python_start_project

# Or using a GitHub repository URL
python -m cookiecutter https://github.com/estiveljr/python_start_project
```

#### 3. Follow the prompts:

- The template will ask for a project name (defaults to "python\_project")
- A new directory will be created with your project name

#### 4. Navigate to your new project:

```
cd python_project # or whatever name you chose
```

## Template Structure

This template contains the following structure that will be generated:

```
{{cookiecutter.project_name}}/  
├── environment.yml          # Conda environment configuration  
├── main.py                 # Main application entry point  
├── Makefile                # Build and development tasks  
├── modules/                # Python modules  
│   ├── __init__.py  
│   └── modules.py  
├── models/                 # Directory for models and data analysis  
│   └── notebook.ipynb     # Jupyter notebook for models and/or data analysis  
├── README.md              # This file  
└── tests/                 # Test files  
    └── test_mymod.py
```

## Template Configuration

The `cookiecutter.json` file defines the template variables:

```
{  
    "project_name": "python_project"  
}
```

## Customizing the Template

To modify this template:

1. Edit the files in the `{{cookiecutter.project_name}}/` directory
2. Update `cookiecutter.json` to add more variables
3. Test your changes by running `cookiecutter .` from the template directory

## Generated Project Setup

After generating a project from this template:

1. **Create and activate the conda environment:**

```
conda env create -f environment.yml  
conda activate {{cookiecutter.project_name}}
```

## 2. Run the main application:

```
python main.py
```

## 3. Use the Makefile for common tasks:

```
make install    # Install dependencies
make test       # Run tests
make clean      # Clean up
make lint       # Run linting
```