

# Jira Analytics Application

## Complete Setup Guide

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## 1. Prerequisites

Before setting up the Jira Analytics application, ensure you have:

- Python 3.8 or higher installed
- pip (Python package installer)
- Access to a Jira server with API permissions
- A valid Jira API token
- Git (for version control)
- Web browser (Chrome, Firefox, Safari, or Edge)

## 2. Installation Steps

### ***Step 1: Download the Application***

Create a new directory and save all the Python files:

```
mkdir jira-analytics
cd jira-analytics

# Save all the provided Python files in this directory:
# - app.py
# - jira_client.py
# - data_analyzer.py
# - visualization.py
# - pdf_generator.py
# - requirements.txt

# Create templates directory
mkdir templates
# Save index.html in the templates directory
```

### ***Step 2: Create Virtual Environment***

```
# Create virtual environment
python -m venv venv

# Activate virtual environment
# On Windows:
venv\Scripts\activate
# On macOS/Linux:
```

```
source venv/bin/activate
```

### **Step 3: Install Dependencies**

```
# Install required packages
pip install -r requirements.txt

# Verify installation
pip list
```

## **3. Configuration**

### **Jira API Token Setup**

To use this application, you need a Jira API token: 1. Log in to your Jira account 2. Go to Account Settings → Security → API tokens 3. Click "Create API token" 4. Give it a descriptive name (e.g., "Analytics Dashboard") 5. Copy the generated token (save it securely) Note: The token will only be shown once, so save it immediately.

## **4. Running the Application**

```
# Make sure virtual environment is activated
# Navigate to project directory
cd jira-analytics

# Run the application
python app.py

# The application will start on http://localhost:5000
# Open your web browser and navigate to this URL
```

## **5. Using the Dashboard**

Once the application is running: 1. Open <http://localhost:5000> in your browser 2. Fill in the configuration form: • Jira Server URL: Your Jira instance URL (e.g., <https://company.atlassian.net>) • Access Token: The API token you created • JQL Query: A JQL query to filter issues (e.g., "project = MYPROJECT") • Analysis Period: Choose 1, 2, 3 months, or 1 year 3. Click "Analyze Data" to start the analysis 4. Review the generated charts and metrics 5. Download the PDF report if needed

## **6. Troubleshooting**

Common Issues and Solutions: Connection Errors: • Verify your Jira URL is correct • Check that your API token is valid • Ensure your Jira instance is accessible No Data Found: • Verify your JQL query returns results in Jira • Check the date range of your issues • Ensure issues have status change history Performance Issues: • Limit the number of issues with more specific JQL • Use shorter time periods for analysis • Ensure adequate system memory Chart Generation Errors: • Check that matplotlib dependencies are installed • Ensure sufficient disk space for temporary files • Verify all required Python packages are installed

## **7. Development and Testing**

### **Running Tests**

```
# Install test dependencies
pip install pytest pytest-flask

# Run all tests
pytest
```

```
# Run specific test file
pytest test_jira_client.py

# Run with coverage
pip install pytest-cov
pytest --cov=. --cov-report=html
```

### ***Development Mode***

```
# Run in development mode with auto-reload
export FLASK_ENV=development # On Windows: set FLASK_ENV=development
python app.py

# Or use Flask's built-in development server
flask run --debug
```