

Git Analytics MCP Server - Project Documentation

Project Overview

Project Name: Git Analytics MCP Server

Version: 1.0

Date: November 2025

Organization ID: 2133

Purpose

The Git Analytics MCP Server is a Model Context Protocol (MCP) server implementation that provides read-only analytics access to Git repository data, specifically Pull Requests (PRs) and Commits stored in a PostgreSQL database. The system enables AI agents to query and analyze development metrics through a secure, read-only interface.

Key Features

- **Dual-Server Architecture:** Separate MCP servers for Pull Request and Commit data
- **Manager Agent:** Intelligent routing between PR and Commit servers
- **Time-Based Filtering:** Natural language period parsing (e.g., "last 30 days", "this week")
- **Security-First Design:** Read-only SQL enforcement with organization filtering
- **Custom Queries:** Safe custom SQL execution with automatic safeguards
- **Metrics Calculation:** Review time, cycle time, and code churn metrics

Component Hierarchy

Layer 1: Agent Layer

- `manager.py` - Multi-server orchestrator
- `pr_agent.py` - PR-focused agent
- `up_commit_agent.py` - Commit-focused agent

Layer 2: MCP Server Layer

- `up_pr_server.py` - FastMCP server for PR tools
- `up_commit_server.py` - FastMCP server for commit tools

Layer 3: Business Logic Layer

- `up_pr_tools.py` - PR analytics functions
- `up_commit_tools.py` - Commit analytics functions
- `time_filter.py` - Time range parsing utilities

Layer 4: Data Layer

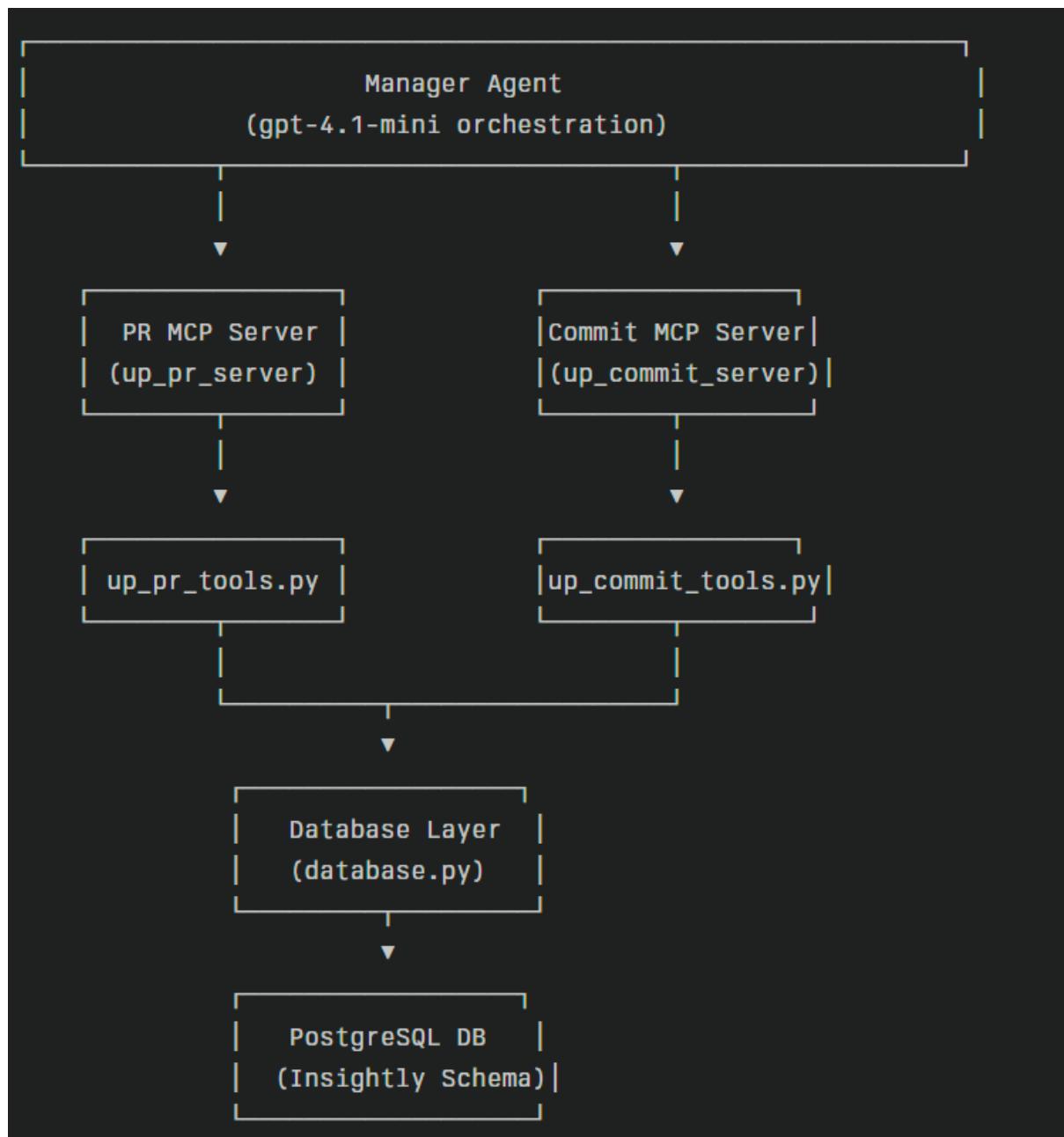
- `database.py` - PostgreSQL connection and query execution
- SQL security validation and enforcement

Layer 5: Configuration Layer

- `bot_message.py` - PR agent instructions
- `commit_message.py` - Commit agent instructions
- `manager_instructions.py` - Manager agent routing rules

Architecture

System Components



Repository: [LINK](#)