Backend Version Documentation (Sprint 4 – Version Stabilization & Integration Testing)

Project: Endless Moments LLC – AI-Driven Budgeting Suite: Intelligent Forecasting and Dynamic Budget Management
Author: Rounak Sharma
Date: November 11 2025
Sprint: 4 – Version Stabilization and Integration Testing

Version Purpose Summary

This backend version was finalized for Sprint 4 to ensure stable integration, bug fixes, and reliable data flow between API endpoints and the frontend system. It passes all key manual test cases and is used as the foundation for system-wide validation.

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1. Overview

This document outlines the finalized backend version used in Sprint 4 for the AI-Driven Budgeting Suite, focusing on stability and verified integration with the React frontend.

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2. Selected Version Details

Folder Path: Budgeting capstone Fall 2025/fpna_backend_final/
Main File: app_super_v3.py
Key Endpoints: /headcount/list, /bva/analyze, /forecast
All endpoints verified and passing responses.

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3. Environment Requirements

- Python 3.10 or later

- pip (Python package manager)

- Virtual environment recommended

- All packages from requirements.txt

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4. Setup & Execution Steps

1. Open a terminal.

2. Navigate to:
   cd "Budgeting capstone Fall 2025/fpna_backend_final"

3. (Optional) Activate virtual environment:
   venv\Scripts\activate (Windows) or source venv/bin/activate (macOS/Linux)

4. Install dependencies: pip install -r requirements.txt

5. Run server: uvicorn app_super_v3:api --reload

6. Verify at http://127.0.0.1:8000/docs

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5. Justification for Selection

- Stable and verified version from client repository.

- Successfully passes integration testing with frontend.

- Ensures data availability for Headcount and Forecasting modules.

- No CORS or communication issues detected.

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6. Notes for Future Sprints

Future backend updates should maintain compatibility with current proxy setup and follow consistent API naming conventions.
All enhancements or new endpoints must be added within fpna_backend_final/ and documented in a changelog.

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7. Version Comparison (Sprint 3 → Sprint 4)

Sprint 3 focused on environment setup and basic endpoint validation.
Sprint 4 prioritized backend stability, endpoint consistency, and error-free integration with the frontend via proxy.
All data retrieval tests (e.g., "Alice" record via /headcount/list) passed successfully, confirming readiness for demo and client review.

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Version Purpose Summary

This frontend version, finalized in Sprint 4, represents a stable React (Vite) build with verified proxy communication and functional UI modules. It ensures accurate data display through seamless backend integration and eliminates CORS issues.

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1. Overview

This document describes the verified frontend environment and configuration finalized for Sprint 4. It includes setup procedures, proxy routing details, and UI validation steps to ensure consistency with the backend.

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2. Selected Version Details

Folder Path: Budgeting capstone Fall 2025/Front end code/
Key Files: main.jsx, App.jsx, vite.config.js
Proxy Path: /api → http://127.0.0.1:8000

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3. Environment Requirements

- Node.js v18 or later

- npm package manager

- Browser: Chrome or Edge

- Backend must be running on port 8000

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4. Setup & Execution Steps

1. Open terminal.

2. Navigate to: cd "Budgeting capstone Fall 2025/Front end code"

3. Install dependencies: npm install

4. Run server: npm run dev

5. Open URL: http://localhost:5173

6. Go to Headcount page → set API Base URL to /api → click **Refresh** → confirm data loads (e.g., Alice record).

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5. Justification for Selection

- Stable UI integration with backend APIs.

- Proxy configuration eliminates CORS issues.

- Validated Headcount and Dashboard modules.

- Final version used for Sprint 4 demo and client presentation.

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6. Notes for Future Sprints

Future frontend updates may introduce new visualizations and expanded modules (Analytics, Budget Dashboard).
Maintain proxy path consistency and update vite.config.js if backend ports change.
Perform integration tests after each UI or API modification.

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7. Version Comparison (Sprint 3 → Sprint 4)

Sprint 3 achieved basic UI setup and proxy configuration.
Sprint 4 finalized stable frontend-backend connectivity, resolved refresh issues, and validated data rendering on the Headcount module.
The application is now fully demo-ready and aligned with backend stability benchmarks.