



Suhas Bhairav

AI Database Test Data Generator Prompt Plan

**A practical, stepwise guide to prompts that
generate realistic test data safely**

A practical, stepwise plan to craft prompts that
generate realistic test data while maintaining
governance and safety.

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Foundation & Scope

Define the scope for AI-generated test data in engineering. Specify automation goals, human review, and governance constraints.

Key move Document guardrails and approved data schemas before generating any data.

PRACTICAL CHECKLIST

- 01** Automate generation of Users, Sessions, and Transactions with realistic attributes and distributions.
- 02** QA and privacy checks required; human review for unusual patterns and schema violations.
- 03** Use JSON schema, seed data, an prompts library, and a sandbox environment.
- 04** Edge-case patterns: missing fields, invalid emails, future dates, locale mismatches.
- 05** Weekly increments: Week 1 schemas; Week 2 prompts; Week 3 staging pilot; Week 4 governance.
- 06** Establish approvals: data owner signs off on prompts and data samples.
- 07** Privacy-first: mask PII; avoid real addresses; comply with internal data policies.

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Prompts for Core Entities

This page provides concrete prompt templates for core entities. Each prompt includes schema constraints and distribution guidance.

Key move Test prompts with small samples first; check JSON validity.

PRACTICAL CHECKLIST

- 01** Users: Generate 1,000 profiles in JSON with id, name, email, age, country, signup_date, status.
- 02** Sessions: Create 50,000 sessions linked to users; fields include device, ip, start_time, duration.
- 03** Transactions: Debit and credit events with amount, currency, timestamp, merchant_id; distribute by user type.
- 04** Edge-case variants: include missing fields, invalid emails, future dates, and locales.
- 05** Output format: JSON with data wrapper, schema_version, generated_at; include a validation block.
- 06** Quality checks: ensure field types, distributions, and cross-field constraints match schema.
- 07** Privacy: mask PII; replace emails with synthetic domains; avoid real addresses.

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Implementation & Guardrails

This page outlines a practical, stepwise adoption plan with roles, metrics, and risk controls. It also details governance requirements to protect data integrity.

Key move Secure approvals before data generation; document owner.

PRACTICAL CHECKLIST

- 01** Weekly increments: Week 1 schemas; Week 2 prompts; Week 3 staging pilot; Week 4 governance.
- 02** Assign data owners and QA owners; ensure accountability for prompts and outputs.
- 03** Require privacy & security approvals before any synthetic data generation.
- 04** Implement validation and monitoring: schema checks, sample audits, and anomaly alerts.
- 05** Measure success with coverage of edge cases, repeatability, and data quality scores.
- 06** Document workflow: versioned prompts, data schemas, and decision logs.

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ABOUT THE CREATOR

Suhas Bhairav

I build AI systems that combine distributed architecture, retrieval, knowledge graphs, security, and practical workflow design. My focus is AI that can be used repeatedly by real teams: understandable, reliable, and grounded in the work people already do.

EXPERTISE

- Principal systems architecture and applied AI engineering
- Production-grade AI systems, agentic workflows, RAG, and knowledge graphs
- Full-stack workflow applications across AWS, Google Cloud, Azure, on-premise, and hybrid environments
- Practical AI implementation patterns for automotive, manufacturing, finance, logistics, cybersecurity, sales, and customer operations
- Security, governance, observability, approvals, and failure-mode thinking for operational AI systems

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