

ANALYST ENGINEERING

The Analyst Engineering Roadmap

Five levels from business requirements to AI systems

A practical skill progression for technical analysts. It shows you exactly what to learn, in what order, to go from writing requirements to investigating production payments and specifying AI systems. Built by a practitioner, not a textbook author.

Where you are. Find your current level in five minutes.

What is next. Know the exact skills that move you up a tier.

Free articles for every level. Each level links to deep, free articles at analystengineering.com.

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LEVEL 00

How to use this roadmap

Most analyst advice is a pile of disconnected topics. This roadmap turns it into a path. There are five levels, each one a real jump in what you can do on a delivery team, not just what you know. You do not need to climb every level in order, but the order is how capability actually compounds: you cannot specify an AI system well if you cannot read an API contract, and you cannot investigate a failed payment if you cannot query a database.

Three ways to use it

- **Find your level.** Read the "you can already" line at the top of each level. The first one that does not fully describe you is where you start.
- **Work the gaps.** Each level lists the specific skills and the free articles that teach them at analystengineering.com. Read, then practice on your real system.
- **Go deeper when you are ready.** Each level points to one in-depth guide if you want the complete, structured version instead of piecing it together.

"The analyst who can analyze, code, test, and support is worth three who can only do one of those. This roadmap is how you become that analyst."

HOW TO USE THIS: Print this, or keep it open while you read the free articles. Tick off a skill once you have used it on a real ticket, not just read about it. Reading is not the same as being able to do it under pressure.

LEVEL 01

Business Fundamentals

YOU CAN ALREADY: You can sit with stakeholders, understand what they need, and write it down clearly.

THIS LEVEL UNLOCKS: Turn vague business needs into clear, testable requirements a team can actually build.

The skills

Skill	What it gets you	Free article
Requirements that ship	Write requirements specific enough to test, not wish-lists.	analystengineering.com/articles/business-requirement-to-functional-spec
BRD vs FRD	Know which document does which job and stop mixing them.	analystengineering.com/articles/brd-vs-frd
Prioritization	Use MoSCoW to cut scope without cutting value.	analystengineering.com/articles/moscow-prioritization
Traceability	Tie every requirement to a test with a traceability matrix.	analystengineering.com/articles/requirements-traceability-matrix
Decision tables	Capture complex rules without ambiguity.	analystengineering.com/articles/decision-tables
User story vs spec	Know when a story is enough and when you need a spec.	analystengineering.com/articles/user-story-vs-specification

Start free: Grab the free downloads and the foundational guides at ahmedsqualli.gumroad.com

LEVEL 02

Technical Analyst

YOU CAN ALREADY: You can write good requirements and you are tired of forwarding every technical question to a developer.

THIS LEVEL UNLOCKS: Query data, read APIs and logs, and verify systems yourself instead of waiting on engineering.

The skills

Skill	What it gets you	Free article
SQL	Query the database to answer your own questions in seconds.	analystengineering.com/articles/sql-for-analysts
APIs and contracts	Read an OpenAPI contract and know what a request and response look like.	analystengineering.com/articles/reading-an-api-contract
JSON	Read and write the format every modern API speaks.	analystengineering.com/articles/json-for-analysts
Reading logs	Find a transaction in production logs and follow what happened.	analystengineering.com/articles/reading-production-logs
HTTP status codes	Know what 400, 404, and 500 actually tell you.	analystengineering.com/articles/http-status-codes-explained
Git and regex	Move around a repo and match patterns in messy data.	analystengineering.com/articles/git-for-analysts

Go deeper: The Technical Skills Guide for BAs at ahmedsqualli.gumroad.com//tech-skills-guide-for-bas

LEVEL 03

Systems Analyst

YOU CAN ALREADY: You can read one system. Now you need to see how many systems fit together.

THIS LEVEL UNLOCKS: See how systems connect and design integrations across them, not just inside one.

The skills

Skill	What it gets you	Free article
Integration patterns	Know the standard ways systems talk and when each fits.	analystengineering.com/articles/integration-patterns
Event-driven thinking	Understand events, queues, and why timing changes everything.	analystengineering.com/articles/event-driven-requirements
Context diagrams	Draw the system and its neighbors so everyone sees the same picture.	analystengineering.com/articles/system-context-diagram
Sequence diagrams	Show the order of calls across services without ambiguity.	analystengineering.com/articles/sequence-diagrams-for-business-analysts
Batch vs event-driven	Know why a nightly batch and a live stream need different requirements.	analystengineering.com/articles/batch-vs-event-driven
State machines	Model the legal states of a transaction and spot illegal ones.	analystengineering.com/articles/state-machines-for-payments

Go deeper: API Testing and QA Mastery for BAs at ahmedsqualli.gumroad.com//api-testing-qa-mastery-for-bas

LEVEL 04

Enterprise / Payments Analyst

YOU CAN ALREADY: You can read and connect systems. Now you work where the rules are strict and the money is real.

THIS LEVEL UNLOCKS: Work confidently in regulated payments: ISO 20022, message flows, reconciliation, and production support.

The skills

Skill	What it gets you	Free article
ISO 20022 architecture	Understand the message standard reshaping global payments.	analystengineering.com/articles/iso-20022-architecture
pain vs pacs	Know the message families and which does what.	analystengineering.com/articles/pain-vs-pacs-iso-20022
pacs.008 test cases	Write real test cases for a credit transfer.	analystengineering.com/articles/pacs-008-test-cases
Payment message flows	Trace a payment end to end across the rails.	analystengineering.com/articles/payment-message-flows
Reconciliation and reason codes	Match what was sent to what settled, and map failures to clear causes.	analystengineering.com/articles/reconciliation-design
Production support	Investigate a failed payment from complaint to root cause.	analystengineering.com/articles/production-support-skills-for-analysts

Go deeper: Break Into Banking, the complete Tech BA guide at ahmedsqualli.gumroad.com//break-into-banking

LEVEL 05

AI Analyst

YOU CAN ALREADY: You can specify, test, and support traditional systems. Now the systems are non-deterministic.

THIS LEVEL UNLOCKS: Specify, test, and evaluate AI and LLM systems the way you would any other system, despite the uncertainty.

The skills

Skill	What it gets you	Free article
Acceptance criteria for AI	Write criteria that work when the output is not deterministic.	analystengineering.com/articles/acceptance-criteria-for-ai-systems
Why AI acceptance criteria fail	Learn from a real project where they did, and how to fix it.	analystengineering.com/articles/why-acceptance-criteria-failed-on-an-ai-project
Evaluation frameworks	Measure an AI system's quality instead of eyeballing it.	Coming soon
LLM system design	Understand RAG, agents, and where each belongs.	Coming soon
AI red teaming	Find the failure modes before your users do.	Coming soon

Go deeper: AI at Work, the complete guide to MCP, RAG and AI Agents at ahmedsqualli.gumroad.com/l/ai-at-work-mcp-rag-agents

LEVEL 06

Next steps

You now have the whole path in front of you. The fastest way to move is to pick your level, read its free articles, and apply each skill to your real system the same week. Reading builds awareness; doing builds capability.

Where to go now

- **Read the free articles.** Every skill above links to a free, in-depth article at analystengineering.com. Start with your level.
- **Follow the roadmap by email.** If you got this guide from the site, you are on the list. Each email walks one level in depth, in order.
- **Go deeper when ready.** The full guides at ahmedsqualli.gumroad.com are the structured, complete version of each level when you want everything in one place.

"You do not have to be senior to be technical. You have to be willing to open the database, read the log, and trace the transaction yourself. That is the whole job."

Read every article free at analystengineering.com

Browse the full guides and free downloads at ahmedsqualli.gumroad.com. Questions or want to connect, find me on LinkedIn at linkedin.com/in/ahmed-squalli-houssaini-00153261.