

Databases II  
Semester 2025-I  
Workshop No. 1 — Project Definition and Database Modeling

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Welcome to the first workshop of the *Databases II* course! This session is the initial step in your course project and focuses on defining the business, user, and data context for a real-world, data-intensive application.

**Workshop Scope and Objectives:**

- **Business Model:** Use the *Business Model Canvas* to describe the value proposition, customer segments, channels, revenue streams, and other key aspects of your application. See: <https://corporatefinanceinstitute.com/resources/management/business-model-canvas-examples/>
- **Requirements Gathering:** Specify both *functional* and *non-functional* requirements, ensuring your project addresses big data, fast queries, data ingestion, business intelligence, multi-location access, recommendations, high availability, and scalability.
- **User Stories:** Write user stories that capture the needs and interactions of different stakeholders with your system.
- **Database Architecture:** Propose an initial architecture for your database, including a first version of the Entity-Relationship (ER) diagram and a brief description of the main entities and relationships.

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Any comment or concern regarding this workshop can be sent to Carlos A. Sierra at: [cavirguezs@udistrital.edu.co](mailto:cavirguezs@udistrital.edu.co).

**Methodology and Deliverables:****1. Business Model Canvas:**

- Complete a Business Model Canvas for your chosen application baseline (e.g., e-commerce, financial services, social media, etc.).
- Clearly define each section: Key Partners, Key Activities, Value Propositions, Customer Relationships, Customer Segments, Channels, Key Resources, Cost Structure, Revenue Streams.

**2. Requirements Documentation:**

- *Functional Requirements*: Detail critical actions and system behaviors (e.g., user registration, data ingestion, analytics).
- *Non-Functional Requirements*: Include performance, scalability, availability, and security considerations.

**3. User Stories:**

- Write at least 5 user stories for different roles (e.g., end-user, admin, manager), a few user stories should focus on each role perspective.
- Use the format: **As a [role], I want to [action] so that [benefit]**.
- Each story should include acceptance criteria.

**4. Initial Database Architecture:**

- Propose a high-level architecture for your database system, considering big data and distributed requirements.
- Include a first version of your ER diagram (hand-drawn or digital).
- Briefly describe the main entities and relationships.
- Consider data flow and storage solutions that align with your application needs.

**5. Delivery Format:**

- Compile your Business Model Canvas, requirements, user stories, and ER diagram into a single PDF.
- Organize your files in a folder named **Workshop-1** in your course project repository, with a **README.md** referencing each section.

**Project Requirements:**

- Fast query execution in a big data context.
- Constant ingestion of data throughout the day.
- Business intelligence module for managerial insights.
- Multi-location data storage and access.

- Recommendation system for products or services.
- High availability and scalability.

**Examples of Application Baselines:**

- E-commerce platform (e.g., Amazon)
- Financial services (e.g., Citibank)
- Telecommunications (e.g., Telefónica)
- Cloud storage (e.g., OneDrive)
- Social media (e.g., X/Twitter)
- Ride-hailing (e.g., Uber)

**Deadline: Tuesday, May 13th, 2025, 18:00.** Late submissions may affect your grading according to course policies.

**Notes:**

- All documents must be in **English**.
- Cite any references (articles, tutorials) that influenced your design choices.
- Focus on clarity and completeness. This foundation will evolve as you progress through the course project.

*Good luck! A solid business, user, and data definition will set the stage for a successful project implementation.*