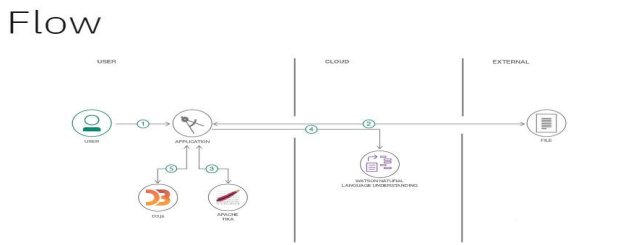
Project Design Phase-II
Data Flow Diagram & User Stories

Date	30 Jan 2026
Team ID	LTVIP2026TMIDS88041
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	4 Marks

Data Flow Diagrams:

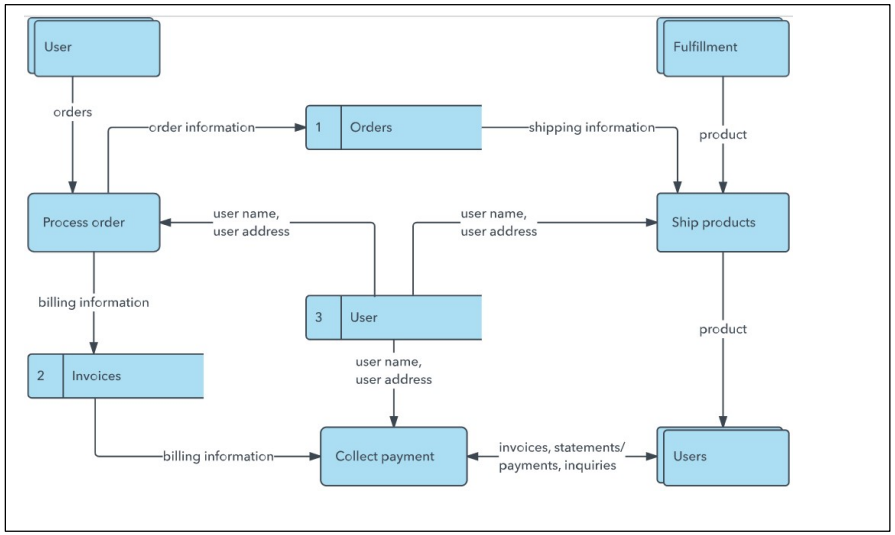
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: (Simplified)



1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

Example: DFD Level 0 (Industry Standard)



User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story No	User Story / Task	Acceptance Criteria	Priority	Release
Customer (Mobile)	Registration	USN-1	As a user, I can register using email & password.	User can access dashboard after registration.	High	Sprint-1
		USN-2	As a user, I receive a confirmation email after registration.	User receives & verifies email.	High	Sprint-1
		USN-3	As a user, I can register using Google account.	User can login via Google.	Medium	Sprint-1
	Login	USN-4	As a user, I can login using email & password.	User successfully logs in.	High	Sprint-1
		USN-5	As a user, I can reset my password if forgotten.	Password reset link is sent to email.	High	Sprint-1
	Dashboard	USN-6	As a user, I can view predicted wind energy output.	Prediction data is displayed clearly.	High	Sprint-1
		USN-7	As a user, I can view weather parameters (wind speed, temperature, humidity).	Weather data is displayed.	High	Sprint-1
		USN-8	As a user, I can view prediction charts & graphs.	Graphs load correctly.	Medium	Sprint-2
	Alerts	USN-9	As a user, I receive alerts when wind energy production is high/low.	Notifications are delivered.	Medium	Sprint-2
Customer (Web)	Login	USN-10	As a web user, I can login securely.	User dashboard loads.	High	Sprint-1
	Dashboard	USN-11	As a user, I can view wind energy prediction reports.	Reports display correctly.	High	Sprint-1
		USN-12	As a user, I can download prediction reports.	File downloads successfully.	Medium	Sprint-2

User Type	Functional Requirement (Epic)	User Story No	User Story / Task	Acceptance Criteria	Priority	Release
	Location Input	USN-13	As a user, I can enter/select location for prediction.	Predictions update based on location.	High	Sprint-1
Customer Care Executive	Support	USN-14	As support staff, I can view user issues/queries.	Queries are visible in dashboard.	Medium	Sprint-2
		USN-15	As support staff, I can respond to user complaints.	Responses are sent to users.	Medium	Sprint-2
Administrator	User Management	USN-16	Admin can view all registered users.	User list displays.	High	Sprint-1
		USN-17	Admin can block/remove users.	User access is revoked.	Medium	Sprint-2
	Data Management	USN-18	Admin can manage weather & prediction datasets.	Data updates reflect in predictions.	High	Sprint-1
	Monitoring	USN-19	Admin can monitor system performance.	System stats displayed.	Medium	Sprint-2
	Alerts	USN-20	Admin receives alerts for system failures.	Admin notified immediately.	High	Sprint-1