

Total No of Students Mapped

IBM -FE -Interactive Form Validation:

1. Problem Statement:

In the digital age, collecting accurate and validated student data is crucial for both educational institutions and organizations like IBM that engage in talent mapping and training initiatives. Currently, many student registration forms suffer from the following issues:

- Incorrect or incomplete data entries (e.g., invalid email IDs, phone numbers, or roll numbers).
- Lack of real-time validation leads to data redundancy and manual correction workload.
- Difficulty in tracking the total number of students mapped across multiple institutions.
- Absence of a user-friendly interface results in poor adoption among students.

The problem: There is no centralized, interactive, and validated digital form system that ensures error-free student data collection and mapping. This leads to inaccuracies in talent databases and hinders training/resource planning.

The goal: Build an Interactive Frontend Form Validation System integrated with IBM's standards that ensures real-time, user-friendly validation and provides accurate analytics on the total number of students mapped.

2. Users and Stakeholders:

Primary Users:

- Students - Who will fill the form with their details.

- *Institution Coordinators - Faculty responsible for verifying student data and monitoring submissions.*

Secondary Users:

- *IBM Coordinators / Mentors - For mapping students to training programs.*
- *Government/University Bodies - To track total student participation under Naan Mudhalvan.*

Stakeholders:

- *IBM Skills Build / FE Training Team - Ensuring industry-aligned validation standards.*
- *Educational Institutions - Colleges, universities, and training centers.*
- *Government of Tamil Nadu (Naan Mudhalvan initiative) - Benefiting from accurate, large-scale student data mapping.*

3. User Stories:

1. *As a student, I want to fill in my details through a simple form so that I can register quickly without errors.*
2. *As a student, I want to see instant error messages (e.g., invalid email/phone) so that I can correct them immediately.*
3. *As a faculty coordinator, I want to view a list of all submitted students so that I can track total enrollments.*
4. *As a coordinator, I want to export student data in structured formats (CSV/Excel) so that I can share it with IBM or the government.*
5. *As an IBM coordinator, I want validated and duplicate-free student data so that talent mapping is seamless.*
6. *As a government body, I want real-time reports on student mapping numbers so that I can measure the success of the Naan Mudhalvan scheme.*

4. Minimum Viable Product (MVP) Features:

✓ Frontend Form with Validation

- Name validation (only alphabets).
- Roll number/ID validation (unique format).
- Email validation (must follow standard format).
- Phone number validation (10 digits, no duplicates).
- Dropdown for institution/department selection.

✓ Interactive Validation Features

- Real-time feedback (error messages as user types).
- Color-coded validation indicators (red = error, green = correct).
- Mandatory field checks before submission.

✓ Data Handling

- Store total student submissions in a secure database.
- Prevent duplicate entries.

✓ Analytics Dashboard (Basic)

- Display total number of students mapped.
- Show statistics by institution/department.

5. Acceptance Criteria:

 Data Accuracy:

At least 95% of submissions should be error-free due to real-time validation.

 Form Responsiveness:

The form should be mobile-friendly and responsive across devices.

 Validation Rules:

Emails, phone numbers, and roll numbers must strictly follow the defined patterns. Invalid data should not be submitted.

 Duplicate Prevention:

A student cannot register twice with the same roll number/email.

 Dashboard Visibility:

Coordinators should be able to see the total mapped students in real-time.

 Performance:

The form should process and validate input in under 1 second per field.

 Security & Privacy:

Student data must be securely stored and only accessible to authorized users (institution admins/IBM).