Automated Data Collection Pipelines in M&E Training Course

Professional Development Training Course Outline

Category	Monitoring and Evaluation	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Automated Data Collection Pipelines in M&E Training Course is a cutting-edge training course designed to equip professionals with the skills to build, manage, and optimize real-time, scalable, and reliable data flows for evidence-based decision-making. As development programs increasingly adopt digital M&E systems, cloud platforms, APIs, mobile data collection tools, and data warehouses, automation has become essential for improving data quality, timeliness, accuracy, and accountability across projects and portfolios.

This course bridges traditional M&E frameworks with modern data engineering concepts, enabling participants to design end-to-end automated pipelines from data capture and validation to integration, analysis, and reporting dashboards. Through hands-on case studies from humanitarian, health, governance, and climate programs, learners will gain practical expertise in low-code and no-code automation, interoperability standards, data governance, and adaptive learning systems aligned with donor and institutional requirements.

Programme Curriculum

Automated Data Collection Pipelines in M&E Training Course

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Course Objectives

By the end of the training, participants will be able to:

1. Design end-to-end automated M&E data pipelines
2. Integrate digital data collection tools into M&E systems
3. Apply real-time data validation and quality assurance
4. Implement API-driven data integration for M&E
5. Automate indicator tracking and reporting workflows
6. Build interoperable M&E systems across platforms
7. Leverage cloud-based data storage and processing
8. Apply data governance and compliance frameworks
9. Use low-code/no-code automation tools in M&E
10. Enable real-time dashboards and visualization
11. Strengthen adaptive management using automated insights
12. Improve donor reporting efficiency and transparency
13. Future-proof M&E systems using scalable digital architectures

Target Audience

1. Monitoring & Evaluation Officers and Specialists
2. Program and Project Managers
3. Data Analysts and MIS Officers
4. NGO and INGO M&E Teams
5. Government Planning and Statistics Officers
6. Donor and Development Partner Staff
7. Digital Transformation and ICT Officers
8. Research and Learning (MEL) Professionals

Course Modules

Module 1: Foundations of Automated M&E Data Systems

- Evolution from manual to automated M&E
- Key components of data pipelines
- Benefits of automation in development programs
- Common tools and platforms
- Case Study: NGO transitioning from Excel-based M&E to automated systems

Module 2: Digital Data Collection Tools

- Mobile data collection platforms

- Online surveys and sensors
- Offline-to-online synchronization
- Tool selection criteria
- Case Study: Mobile data collection in remote humanitarian settings

Module 3: Data Pipeline Architecture for M&E

- Data sources, flows, and destinations
- ETL/ELT concepts for M&E
- Modular pipeline design
- Scalability considerations
- Case Study: Multi-project data architecture for a donor portfolio

Module 4: API Integrations in M&E

- Understanding APIs and web services
- Connecting M&E tools via APIs
- Data exchange standards
- Automation triggers
- Case Study: API integration between KoboToolbox and DHIS2

Module 5: Data Validation and Quality Automation

- Automated data cleaning rules
- Real-time error detection
- Indicator consistency checks
- Data completeness monitoring
- Case Study: Improving data accuracy in health programs

Module 6: Cloud-Based Data Storage

- Cloud databases and data lakes
- Security and access controls
- Cost-effective storage strategies
- Backup and recovery
- Case Study: Cloud migration for national M&E systems

Module 7: Indicator Automation and Tracking

- Mapping indicators to data sources
- Automated indicator calculations
- Performance thresholds and alerts
- Longitudinal data tracking
- Case Study: Automated SDG indicator monitoring

Module 8: Dashboards and Visualization Automation

- Real-time dashboards for M&E
- Data refresh automation
- Visualization best practices
- Decision-focused reporting
- Case Study: Executive dashboards for donor reporting

Module 9: Low-Code & No-Code Automation Tools

- Workflow automation platforms
- Connecting M&E tools without coding
- Automation templates
- Limitations and risks
- Case Study: No-code automation in small NGOs

Module 10: Interoperability & Data Standards

- Data interoperability principles
- Open data standards
- Cross-system compatibility
- Metadata management
- Case Study: Multi-agency data harmonization

Module 11: Data Governance & Compliance

- Data protection and privacy
- Ethical data management
- Access and ownership policies
- Donor compliance requirements
- Case Study: GDPR-aligned M&E data pipelines

Module 12: Real-Time Learning & Adaptive Management

- Feedback loops in automated M&E
- Using alerts for program adaptation
- Learning agendas
- Evidence-based adjustments
- Case Study: Adaptive humanitarian response systems

Module 13: Risk Management in Automated Pipelines

- Data security risks
- System failures and contingencies
- Quality control risks
- Sustainability planning
- Case Study: Pipeline failure recovery strategies

Module 14: Scaling Automated M&E Systems

- Scaling across projects and regions
- Performance optimization
- Cost and infrastructure planning
- Capacity building strategies
- Case Study: Scaling national education M&E systems

Module 15: Future Trends in Automated M&E

- AI-enabled data collection
- Predictive analytics in M&E

- IoT and sensor data
- Smart decision-support systems
- Case Study: AI-driven early warning systems

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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