

TRACK 12

Salesforce Marketing Cloud (SFMC)

Complete SFMC guide: data extensions, SQL, AMPscript, Email Studio, Automation Studio, Journey Builder, mobile channels, deliverability, Einstein and certification.

1 lessons

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01 [Salesforce Marketing Cloud \(SFMC\) Complete Guide: Email Studio, Data Extensions, SQL, AMPscript, Journey Builder and Certification](#)

Salesforce Marketing Cloud (SFMC) Complete Guide: Email Studio, Data Extensions, SQL, AMPscript, Journey Builder and Certification

A complete training guide to Salesforce Marketing Cloud Engagement for marketers, analysts and developers. Learn the architecture and studios, subscribers and data extensions, data modelling and Contact Builder, SQL Query Activities, segmentation, Content Builder and AMPscript personalisation, Email Studio sends, Automation Studio, Journey Builder, Mobile Studio (SMS, push, WhatsApp), deliverability, consent and the DPDP Act, reporting, Einstein AI, Data Cloud and Agentforce, plus a capstone and the Marketing Cloud Email Specialist and Administrator certification paths.

✦ Salesforce Marketing Cloud Engagement, 2026

Beginner to Advanced

🕒 240 min

By the end of this lesson you can

- Explain the Marketing Cloud architecture, studios and builders and when to use each
- Model data with data extensions, sendable and testable data, primary keys and Contact Builder
- Segment audiences with filters and SQL Query Activities, and personalise content with AMPscript
- Build automations and multi-channel journeys with entry sources, decisions, waits and goals
- Run compliant, deliverable campaigns and report on them, and prepare for SFMC certifications

What Salesforce Marketing Cloud is

Salesforce Marketing Cloud Engagement (often called **SFMC**, formerly ExactTarget) is an enterprise platform for sending personalised email, SMS, push and WhatsApp messages and running automated customer journeys at scale. Banks, airlines, retailers and telecom companies in

India use it to manage millions of customers, which is why SFMC specialists, developers and consultants are in steady demand.



SFMC studios and builders and what each does.

Role	Typical work
Email/campaign specialist	Builds emails, segments and sends; runs A/B tests
SFMC developer	AMPscript, SSJS, SQL, CloudPages, APIs, integrations
Administrator	Business units, users and roles, sender profiles, deliverability set-up
Consultant/architect	Data model, journeys, Salesforce CRM integration (Marketing Cloud Connect)

The account structure

- **Enterprise account** with **business units** (e.g. India Retail, India Cards) that share or separate data and content.
- **Sender authentication package (SAP)**: a branded sending domain, dedicated IP and private domain for better deliverability.
- **Sender profiles, delivery profiles** and **send classifications** (commercial vs transactional) decide who an email is from, the footer and whether unsubscribed people can receive it.

- **Users and roles** control who can create, approve and send.

Data: subscribers, lists and data extensions

Object	What it is	Use
All Subscribers	Master list of email subscribers with status (Active, Unsubscribed, Held, Bounced)	Global unsubscribe and status
Lists	Simple subscriber lists	Small, simple programs
Data extensions (DEs)	Tables with your own fields and primary keys	Almost all real programs
Sendable DE	Has a field mapped to Subscriber Key (and Email)	Can be the audience of a send
Testable DE	Holds test records	Previews and test sends
Shared DE	Available to several business units	Common reference data

Python

```
import pandas as pd
customers = pd.DataFrame({
    "SubscriberKey": ["C001", "C002", "C003", "C004", "C005"],
    "Email": ["asha@ex.com", "ravi@ex.com", "meera@ex.com", "kabir@ex.com",
    "nisha@ex.com"],
    "FirstName": ["Asha", "Ravi", "Meera", "Kabir", "Nisha"], "City": ["Pune", "Delhi",
    "Pune", "Mumbai", "Delhi"],
    "Tier": ["Gold", "Silver", "Gold", "Bronze", "Silver"], "LastPurchase":
pd.to_datetime(["2026-10-02", "2026-06-14", "2026-09-28", "2026-03-01", "2026-10-20"]),
    "EmailOptIn": [True, True, False, True, True]}
customers.dtypes.astype(str).to_dict()
```

OUTPUT

```
{'SubscriberKey': 'object', 'Email': 'object', 'FirstName': 'object', 'City':
'object', 'Tier': 'object', 'LastPurchase': 'datetime64[ns]', 'EmailOptIn': 'bool'}
```

Design rules: use a stable **Subscriber Key** (customer ID, not the email address), set a **primary key** on every DE, choose field types carefully (Text length, Number, Decimal, Date, Boolean, EmailAddress, Phone, Locale), and keep a **data retention** policy on large DEs.

Contact Builder and the data model

Contact Builder links DEs to the contact through **attribute groups** and relationships (one-to-one, one-to-many), so Journey Builder can use attributes like "Tier" or "last order value" in decisions. Plan one **master customer DE**, related **orders** and **products** DEs, and channel-specific DEs for SMS and push.

Segmentation: filters and SQL

Two ways to build audiences:

- 1. **Filters** (Email Studio or Contact Builder data filters): drag-and-drop conditions such as `City is Pune AND Tier is Gold`.
- 2. **SQL Query Activities** in Automation Studio (Microsoft SQL Server syntax, `SELECT` only) that write results into a target DE with *Overwrite*, *Update* or *Append*.

SQL

```
SELECT c.SubscriberKey, c.Email, c.FirstName, c.City
FROM Customers c
WHERE c.Tier IN ('Gold', 'Silver')
      AND c.EmailOptIn = 1
      AND c.LastPurchase ≥ DATEADD(day, -60, GETDATE())
```

Python

```
recent = customers[(customers.Tier.isin(["Gold", "Silver"])) & customers.EmailOptIn &
(customer.LastPurchase ≥ pd.Timestamp("2026-10-31") - pd.Timedelta(days=60))]
recent[["SubscriberKey", "FirstName", "City", "Tier"]]
```

OUTPUT

	SubscriberKey	FirstName	City	Tier
0	C001	Asha	Pune	Gold
4	C005	Nisha	Delhi	Silver

2 rows × 4 columns

Useful system **data views** for SQL: `_Sent`, `_Open`, `_Click`, `_Bounce`, `_Unsubscribe`, `_Subscribers`, `_Job`, `_Journey`, `_JourneyActivity` (around six months of history), for example "people who opened but did not click in the last 30 days".

Content Builder and personalisation

- **Templates** and **content blocks** (text, image, button, HTML, dynamic content, A/B content), reusable across emails.
- **Personalisation strings**: %%FirstName%%, %%emailaddr%%.
- **Dynamic content**: rules that show a block by attribute (e.g. different hero image per City).
- **AMPscript**: SFMC's scripting language for advanced personalisation at send time.

```
%%[
  VAR @name, @tier, @offer
  SET @name = AttributeValue("FirstName")
  SET @tier = AttributeValue("Tier")
  IF @tier = "Gold" THEN
    SET @offer = "20% off + free express delivery"
  ELSEIF @tier = "Silver" THEN
    SET @offer = "15% off this weekend"
  ELSE
    SET @offer = "10% off your next order"
  ENDIF
  SET @store = Lookup("Stores", "StoreName", "City", AttributeValue("City"))
]%
Hi %%=ProperCase(@name)=%%, your %%=v(@tier)=%% offer: %%=v(@offer)=%%.
Your nearest store: %%=v(@store)=%%
```

Other key AMPscript functions: LookupRows, Row, Field, FormatDate, FormatCurrency (₹ with a locale), IIF, Empty, RedirectTo, RequestParameter and CloudPagesURL for landing pages. **SSJS** (server-side JavaScript) and **CloudPages** handle forms, preference centres and API calls.

Python

```
# The same offer logic, to test the AMPscript rules on sample data before you send
offer = {"Gold": "20% off + free express delivery", "Silver": "15% off this weekend"}
for _, r in customers.iterrows():
    print(f'{r.FirstName:6s} {r.Tier:7s} → {offer.get(r.Tier, "10% off your next order")}')

```

OUTPUT

```
Asha   Gold    → 20% off + free express delivery
Ravi   Silver  → 15% off this weekend
Meera  Gold     → 20% off + free express delivery
Kabir  Bronze   → 10% off your next order
Nisha  Silver   → 15% off this weekend
```

Sending email

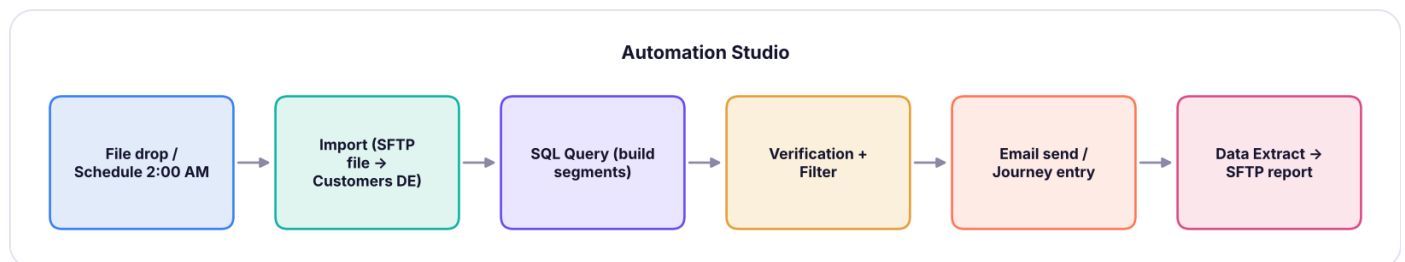
STEP BY STEP

Send a campaign in Email Studio

1. Build or pick the email in Content Builder; set subject line, preheader and personalisation.
2. **Preview and test:** preview against a testable DE, run *Content Detective* / spam checks, send tests to seed inboxes (Gmail, Outlook, mobile).
3. Choose the audience (sendable DE), exclusions (suppression DEs, unsubscribed, recently mailed) and the send classification.
4. **A/B test** subject lines or content on a sample, then auto-send the winner.
5. Schedule (consider Einstein Send Time Optimization), approve and send; monitor the **Send Log** and tracking.

Automation Studio

Automations run steps on a **schedule** or a **file drop** trigger:



A typical nightly automation.

Activities: Import File, SQL Query, Filter, Data Extract, File Transfer, Send Email, Script (SSJS), Verification (stop if counts look wrong), Wait, Refresh Group. Always add error notifications and a **verification** step before sends.

Journey Builder

A **journey** moves each contact through steps over time:

Element	Examples
Entry sources	Data extension (scheduled), API event, Salesforce data (Marketing Cloud Connect), CloudPages form, Audience Builder
Activities	Email, SMS, push, WhatsApp, in-app, update contact, Salesforce task/case, custom activity
Flow control	Wait (duration, until date, until event), Decision split, Engagement split (opened/clicked), Random split (A/B), Einstein splits
Goals and exit criteria	Stop the journey when the customer converts
Re-entry settings	Allow, after exit, or never

Example: **cart abandonment** — entry by API event "Cart abandoned" → wait 1 hour → email with the cart (AMPscript LookupRows) → wait 1 day → engagement split: clicked → SMS reminder with a code; not opened → resend with a new subject → goal: order placed → exit.

Python

```
funnel = {"entered": 10000, "email 1 opened": 4200, "clicked": 1150, "SMS sent": 1150, "orders": 520}
prev = None
for step, n in funnel.items():
    print(f"{step:16s}{n:7,d}" + (f" {n / prev:6.1%} of previous" if prev else "")); prev = n
print(f"journey conversion: {funnel['orders'] / funnel['entered']:.1%}")
```

OUTPUT

```
entered          10,000
email 1 opened   4,200    42.0% of previous
clicked          1,150    27.4% of previous
SMS sent         1,150   100.0% of previous
orders           520     45.2% of previous
journey conversion: 5.2%
```

Mobile and other channels

- **MobileConnect:** SMS with keywords, short/long codes and templates (in India, follow DLT registration of headers and templates).
- **MobilePush:** app push notifications via the SDK; in-app messages.
- **WhatsApp** (Chat Messaging / via Salesforce messaging): approved templates, opt-in required.
- **Advertising Studio:** send audiences to Google and Meta for ads.

Deliverability, consent and the law

Area	Practice
Authentication	SPF, DKIM, DMARC on your sending domain (via SAP); warm up new IPs gradually
List hygiene	Remove hard bounces and long-inactive subscribers; never buy lists
Engagement	Relevant, segmented sends; sunset policies; preference centre
Gmail/Yahoo bulk - sender rules (2024+)	Authentication, one-click unsubscribe, spam complaint rate below 0.3%
India	DPDP Act: notice and consent, purpose limitation, easy withdrawal; TRAI/DLT rules for SMS
Global	GDPR (EU), CAN-SPAM (US) for international audiences

Reporting and AI

- **Tracking:** sends, deliveries, opens (note Apple Mail Privacy Protection inflates opens), clicks, bounces, unsubscribes, conversions with web analytics tracking parameters.
- **Reports and Intelligence Reports** for dashboards; data views + SQL for custom analysis.
- **Einstein:** Engagement Scoring, Send Time Optimization, Engagement Frequency, Content Selection and Copy Insights.
- **Data Cloud and Agentforce:** unified customer profiles and segments across Salesforce, and AI agents that help build segments, journeys and content.

Capstone: festive campaign for an Indian retailer

1. Data model: Customers, Orders, Stores DEs with keys and relationships in Contact Builder.
2. Nightly automation: import → SQL segments (Gold/Silver recent buyers, lapsed 90-day buyers) → verification.
3. Email with AMPscript offers by tier and nearest store, dynamic hero by city, A/B subject lines.
4. Journey: Diwali launch email → engagement split → SMS for clickers without orders → goal "order placed".
5. Report: send-to-order conversion by tier, revenue per email, unsubscribe and complaint rates; recommendations.

Certifications

Certification	Who
Marketing Cloud Engagement Foundations	Beginners (start here)
Marketing Cloud Email Specialist	Campaign specialists
Marketing Cloud Administrator	Admins
Marketing Cloud Developer	AMPscript/SSJS/SQL/API developers
Marketing Cloud Consultant	Consultants and architects

Prepare on **Trailhead** (free modules, trailmixes and superbades), practise in a **Trailhead Playground or developer org** where available, and read the official exam guides for the current topic weights.

Summary

KEY TAKEAWAYS

- SFMC = studios and builders for data, content, automation, journeys and channels.
- Data extensions with stable Subscriber Keys and primary keys are the foundation; Contact Builder connects them.
- Segment with filters or SQL Query Activities; personalise with AMPscript and dynamic content.
- Automation Studio runs scheduled data work; Journey Builder runs customer-level, multi-step journeys.
- Deliverability and consent (SPF/DKIM/DMARC, DPDP Act, DLT for SMS) are part of the job.

Quick quiz

6 questions · tap an answer to check it

1. Which object should hold most campaign audiences in SFMC?

A A sendable data extension with a Subscriber Key

B A Word document

C All Subscribers only

D A content block

Answer: A. DEs are flexible tables; mark them sendable.

2. Which SQL dialect do Query Activities use?

A Microsoft SQL Server (SELECT statements only)

B MySQL with UPDATE

C PostgreSQL

D NoSQL

Answer: A. Results are written to a target DE.

3. What is AMPscript used for?

A Personalising content and looking up data at send time

B Importing files

C Buying IP addresses

D Training Einstein

Answer: A. SSJS covers more complex server-side logic.

4. When should you use Journey Builder instead of Automation Studio?

- A** For multi-step, customer-level journeys with waits and decisions
- B** For nightly file imports
- C** For data extracts
- D** For SQL only

Answer: A. Automation Studio handles scheduled batch work.

5. Which authentication standards improve deliverability?

- A** SPF, DKIM and DMARC
- B** HTML and CSS
- C** JSON and XML
- D** SMTP only

Answer: A. Set them up with the Sender Authentication Package.

6. What should be the Subscriber Key?

- A** A stable customer ID, not the email address
- B** The first name
- C** A random number per send
- D** The city

Answer: A. Emails change; IDs should not.

EXERCISE Practice

Design the data model and a 4-step cart-abandonment journey for an Indian fashion retailer: list the DEs with fields and keys, write the SQL for the "abandoned in last 24 hours, not purchased" audience, write AMPscript that greets by name and shows the top cart item, and define the journey's entry, waits, splits, goal and KPIs.

Show solution (worked answer)

DEs: Customers (SubscriberKey PK, Email, FirstName, City, Tier, EmailOptIn), Carts (CartID PK, SubscriberKey, Created, Status), CartItems (CartID+SKU PK, ProductName, Price, ImageURL). SQL selects carts with Status = 'Abandoned' and Created >= DATEADD(hour,-24,GETDATE()) and no matching order. AMPscript uses LookupOrderedRows on CartItems by CartID ordered by Price desc. Journey: entry API event → wait 1 h → email → wait 1 d → engagement split → SMS to clickers → goal order placed; KPIs: recovery rate, revenue per recipient, unsubscribe rate.

INTERVIEW CORNER Questions you may be asked

Q: Data extension vs list? Lists hold subscribers with basic attributes and are simple; data extensions are custom tables with your own fields and keys, faster at scale and needed for SQL, relational data and most journeys.

Q: How do you prevent sending to the wrong audience? Use verified SQL with counts, a Verification activity, suppression/exclusion DEs, test sends against testable DEs, approvals, and send classifications that respect unsubscribes.

Q: How do you improve deliverability? Authenticate the domain (SPF, DKIM, DMARC), warm up IPs, clean lists, segment for engagement, honour unsubscribes quickly, keep complaint rates low and monitor bounces.

Q: Journey Builder entry sources? Data extension, API event, Salesforce data via Marketing Cloud Connect, CloudPages forms, and audiences from Data Cloud.

Q: How would you measure a journey? Entry volume, step conversion, goal completion, revenue per contact, time to convert, unsubscribe and complaint rates, compared with a hold-out group.

Learn more

- [Trailhead: Marketing Cloud Engagement trails](#)

- [Marketing Cloud Engagement help](#)
- [AMPscript guide \(Salesforce Developers\)](#)
- [Salesforce certification guides](#)