**Phase 7: Integration & External Access**

**1. Named Credentials**

* **Purpose:** Simplifies authentication for external services.
* **Key Points:**
  + Stores endpoint URL and authentication settings.
  + Eliminates hardcoding credentials in Apex code.
  + Supports OAuth, password authentication, or custom auth.

**2. External Services**

* **Purpose:** Connect Salesforce to external APIs declaratively.
* **Key Points:**
  + Allows importing external API definitions (via OpenAPI spec).
  + Auto-generates Apex actions for Flow or Process Builder.
  + Enables no-code integration with external systems.

**3. Web Services (REST/SOAP)**

* **Purpose:** Enable Salesforce to communicate with external systems programmatically.
* **Key Points:**
  + REST: Lightweight, JSON-based, supports CRUD operations.
  + SOAP: XML-based, suitable for legacy systems and strict contracts.
  + Can be exposed via Apex as REST or SOAP services.

**4. Callouts**

* **Purpose:** Make HTTP requests to external services from Salesforce.
* **Key Points:**
  + Synchronous (HTTP request/response) or asynchronous (future, queueable).
  + Requires **Remote Site Settings** for external endpoints.
  + Can use Named Credentials for secure authentication.

**5. Platform Events**

* **Purpose:** Event-driven architecture inside Salesforce.
* **Key Points:**
  + Allows apps to publish/subscribe to custom events.
  + Supports real-time integration with external systems.
  + Useful for asynchronous notifications between Salesforce and external apps.

**6. Change Data Capture (CDC)**

* **Purpose:** Track and propagate Salesforce record changes in real time.
* **Key Points:**
  + Publishes events for create, update, delete, and undelete actions.
  + External systems can subscribe to these events.
  + Ensures real-time data synchronization.

**7. Salesforce Connect**

* **Purpose:** Access external data without storing it in Salesforce.
* **Key Points:**
  + Connects to external databases via **OData** or custom adapters.
  + External data appears as **external objects** in Salesforce.
  + Reduces data duplication and storage costs.

**8. API Limits**

* **Purpose:** Monitor and control API usage in Salesforce org.
* **Key Points:**
  + Ensures org doesn’t exceed daily API call limits.
  + REST, SOAP, Bulk API, and other integrations consume API calls.
  + Limits depend on Salesforce edition and licenses.

**9. OAuth & Authentication**

* **Purpose:** Secure integration with external apps and APIs.
* **Key Points:**
  + Supports OAuth 2.0 for secure token-based access.
  + Enables Single Sign-On (SSO) and delegated authorization.
  + Protects sensitive data during API communication.

**10. Remote Site Settings**

* **Purpose:** Allow Salesforce to make callouts to external endpoints.
* **Key Points:**
  + Each endpoint URL must be whitelisted.
  + Protects org from unauthorized or malicious external calls.
  + Required when not using Named Credentials.