

Salesforce Data Migration

A Comprehensive Guide to Planning, Executing, and Managing Data Migration Projects

Best Practices | Tools | Strategies | Implementation

Slide 1: What is Salesforce Data Migration?

Data migration is the process of transferring data from legacy systems, databases, or other platforms into Salesforce. It involves extracting, transforming, and loading (ETL) data while maintaining data integrity, relationships, and business logic.

Key Objectives

- **Data Accuracy:** Ensure all data is correctly transferred without loss or corruption
 - **Business Continuity:** Minimize disruption to ongoing business operations
 - **Data Quality:** Improve data quality by cleaning and standardizing during migration
 - **Compliance:** Maintain regulatory compliance and data security standards
 - **User Adoption:** Enable seamless transition for end users with familiar, accessible data
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Slide 2: Types of Data Migration

Initial Migration

Complete data transfer when implementing Salesforce for the first time. Includes all historical data from legacy systems.

- One-time bulk transfer
- Comprehensive data mapping
- Historical data preservation

Ongoing Migration

Regular data updates and synchronization between systems for integration scenarios.

- Scheduled updates
- Real-time sync

- Delta/incremental loads

Org-to-Org Migration

Moving data between Salesforce orgs (sandbox to production, mergers, acquisitions).

Cloud Migration

Transitioning from on-premise systems to Salesforce cloud platform.

Slide 3: Migration Planning Phase

Step 1: Assess Current Data Landscape

- Inventory all data sources and systems
- Analyze data volume, complexity, and quality
- Identify data owners and stakeholders
- Document current data models and relationships

Step 2: Define Scope and Requirements

- Determine which data objects to migrate (Accounts, Contacts, Leads, Opportunities, etc.)
- Establish data retention policies and archival strategies
- Define success criteria and acceptance metrics
- Identify business rules and validation requirements

Step 3: Create Migration Strategy

- Choose migration approach (Big Bang vs. Phased)
 - Develop detailed project timeline and milestones
 - Plan for rollback procedures and contingencies
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Slide 4: Data Assessment & Profiling

Critical Assessment Activities

Data Quality Analysis:

- Identify duplicate records and merging strategies
- Detect incomplete or missing data fields
- Find inconsistent data formats and values
- Analyze data accuracy and validity
- Assess data freshness and relevance

Data Volume Assessment:

- Calculate total records per object
- Estimate storage requirements in Salesforce
- Identify large data sets requiring special handling
- Plan for API limits and bulk processing

Relationship Mapping:

- Document parent-child relationships
 - Identify lookup and master-detail relationships
 - Map foreign keys to Salesforce IDs
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Slide 5: Data Mapping Process

Data mapping creates the bridge between source system fields and Salesforce fields, ensuring accurate data transformation.

Mapping Components

- **Field-to-Field Mapping:** Direct correspondence between source and target fields
- **Data Type Conversion:** Transform data types to match Salesforce requirements
- **Value Transformation:** Convert picklist values, date formats, currency
- **Default Values:** Define defaults for missing or null data
- **Calculated Fields:** Derive new values from source data
- **Concatenation/Splitting:** Combine or separate fields as needed

Best Practices

- Create detailed mapping documentation with examples
- Validate mappings with business users

- Handle special characters and encoding issues
 - Plan for custom field creation in Salesforce
 - Address formula fields and roll-up summaries
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Slide 6: Data Cleansing & Transformation

Clean data before migration to ensure quality and consistency in Salesforce.

Cleansing Activities

Standardization:

- Normalize addresses
- Standardize phone formats
- Unify naming conventions
- Consistent date/time formats
- Currency standardization

De-duplication:

- Identify duplicate records
- Define matching rules
- Merge duplicate records
- Preserve data history
- Document merge decisions

Data Enrichment:

- Fill in missing information where possible
 - Validate email addresses and phone numbers
 - Geocode addresses for location services
 - Append industry classifications
 - Add demographic or firmographic data
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Slide 7: Salesforce Migration Tools

Tool	Best For	Key Features
Data Loader	Bulk operations, up to 5M records	Insert, Update, Upsert, Delete, Export, Hard Delete
Data Import Wizard	Simple imports, up to 50K records	User-friendly UI, duplicate detection, field mapping
Workbench	Testing, admin tasks	Web-based, SOQL queries, API testing
Salesforce APIs	Custom integrations	REST, SOAP, Bulk API, Streaming API
MuleSoft	Complex integrations	ETL, real-time sync, multiple systems
Third-Party Tools	Advanced features	Jitterbit, Informatica, Talend, DBamp

Slide 8: Data Loader - Detailed Overview

Operations

- **Insert:** Add new records to Salesforce
- **Update:** Modify existing records using Salesforce IDs
- **Upsert:** Insert or update based on external ID field
- **Delete:** Move records to Recycle Bin
- **Hard Delete:** Permanently remove records (requires permission)
- **Export:** Extract data from Salesforce using SOQL

Key Features

- Batch processing with configurable batch sizes (200-10,000 records)
- Command-line interface for automation
- CSV file format support
- Error logging and success/failure tracking
- Scheduled operations using batch files
- Handles parent-child relationships

Best Practices

- Start with smaller batch sizes, increase gradually
 - Use upsert with external IDs for idempotency
 - Review error files and address issues
 - Disable workflows and triggers during large loads when appropriate
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Slide 9: Data Migration Sequence

Proper sequencing ensures referential integrity and successful data loading.

Recommended Load Order

1. **Users & Profiles:** System foundation
2. **Accounts:** Parent records for most relationships
3. **Contacts:** Related to Accounts
4. **Leads:** Independent prospect records
5. **Products & Price Books:** Required before Opportunities
6. **Opportunities:** Related to Accounts and Contacts
7. **Opportunity Products:** Line items for Opportunities
8. **Cases:** Customer service records
9. **Activities:** Tasks, Events, Emails
10. **Attachments & Files:** Supporting documents
11. **Custom Objects:** Based on dependency hierarchy

Key Principle: Always migrate parent records before child records to maintain referential integrity.

Slide 10: Testing & Validation Strategy

Multi-Phase Testing Approach

Phase 1: Unit Testing

- Test individual object migrations in isolation
- Validate field mappings and transformations
- Verify data type conversions

- Test with sample data sets

Phase 2: Integration Testing

- Test complete migration sequence
- Validate relationships between objects
- Test lookup and master-detail relationships
- Verify workflow and process automation
- Test API integrations and external systems

Phase 3: User Acceptance Testing (UAT)

- Business users validate migrated data
 - Test business processes end-to-end
 - Verify reports and dashboards
 - Validate data accessibility and security
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Slide 11: Data Validation Techniques

Quantitative Validation

- **Record Count Verification:** Compare source vs. target record counts
- **Field Value Sampling:** Spot-check random records for accuracy
- **Aggregate Validation:** Compare sums, averages, min/max values
- **Checksum Comparison:** Generate checksums for critical fields

Qualitative Validation

- **Business Rule Validation:** Ensure data follows business logic
- **Relationship Integrity:** Verify parent-child linkages
- **Data Format Validation:** Check dates, phone numbers, emails
- **Picklist Value Mapping:** Confirm picklist values are correct
- **Permission Testing:** Validate sharing rules and field-level security

Automated Validation

- Create validation reports comparing source and target

- Build automated test scripts for repetitive checks
 - Use SOQL queries to identify anomalies
 - Implement data quality dashboards
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Slide 12: Error Handling & Resolution

Common Migration Errors

- **REQUIRED_FIELD_MISSING:** Mandatory fields not populated
- **DUPLICATE_VALUE:** Unique field constraint violation
- **INVALID_CROSS_REFERENCE_KEY:** Invalid lookup relationship ID
- **FIELD_INTEGRITY_EXCEPTION:** Data type mismatch
- **STRING_TOO_LONG:** Data exceeds field length limit
- **UNABLE_TO_LOCK_ROW:** Record locking conflicts

Error Resolution Process

1. Analyze error logs systematically
2. Categorize errors by type and severity
3. Fix data issues in source files
4. Re-attempt failed records
5. Document resolutions for future reference
6. Update data cleansing rules

Prevention Strategies

- Implement pre-migration data validation
 - Use staging environments for testing
 - Build reusable error handling frameworks
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Slide 13: Performance Optimization

API Limits & Governor Limits

- **Daily API Limits:** $1,000 + (1,000 \times \text{number of user licenses})$
- **Bulk API Batches:** 15,000 per rolling 24 hours
- **Single Transaction:** 10,000 records max via Bulk API
- **File Size:** 10 MB per batch for Bulk API

Optimization Techniques

- **Use Bulk API:** For large data volumes (>10,000 records)
- **Parallel Processing:** Enable parallel mode in Bulk API
- **Batch Size Tuning:** Adjust based on record complexity
- **Disable Automation:** Turn off triggers, workflows, process builders during load
- **Defer Sharing Calculations:** Recalculate sharing after migration
- **Split Large Files:** Break large datasets into manageable chunks
- **Schedule Off-Peak:** Perform migrations during low-usage periods

Monitoring Performance

- Track API usage in Setup → System Overview
 - Monitor batch job progress
 - Analyze processing times per object
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Slide 14: Security & Compliance

Data Security Measures

- **Access Control:** Use dedicated integration user with appropriate permissions
- **Data Encryption:** Encrypt sensitive data during transit and at rest
- **IP Whitelisting:** Restrict API access to known IP addresses
- **Two-Factor Authentication:** Enable MFA for migration users
- **Audit Trail:** Enable field history tracking for critical objects

Compliance Requirements

- **GDPR Compliance:** Handle personal data according to regulations
- **Data Residency:** Ensure data is stored in appropriate geographic locations
- **Right to Erasure:** Implement processes for data deletion requests
- **Consent Management:** Migrate consent records and preferences
- **Data Retention:** Apply retention policies appropriately

Sensitive Data Handling

- Mask or tokenize PII (Personal Identifiable Information) in test environments
 - Use Shield Platform Encryption for highly sensitive data
 - Implement field-level security appropriately
 - Secure backup and archive procedures
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Slide 15: Migration Execution Checklist

Pre-Migration

- Complete data assessment and profiling
- Finalize data mapping documentation
- Cleanse and transform source data
- Configure Salesforce environment
- Set up user accounts and permissions
- Disable automation (if planned)
- Create backup of current state
- Communicate migration schedule to stakeholders

During Migration

- Execute migration in planned sequence
- Monitor progress and performance
- Address errors in real-time
- Document any deviations from plan
- Maintain communication with stakeholders

Post-Migration

- Validate data completeness and accuracy
- Re-enable automation and workflows

- Recalculate sharing rules
 - Run validation reports
 - Conduct user acceptance testing
 - Provide training and documentation
 - Monitor system performance
 - Archive migration artifacts
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Slide 16: Rollback Strategy

When to Rollback

- Critical data integrity issues discovered
- Unacceptable performance degradation
- Major business process failures
- Significant data loss or corruption

Rollback Procedures

1. Immediate Actions:

- Stop all ongoing migration processes
- Communicate status to stakeholders
- Assess scope of rollback needed

2. Data Restoration:

- Restore from backup if available
- Delete migrated records systematically
- Verify system returns to pre-migration state

3. Root Cause Analysis:

- Identify what went wrong
- Document lessons learned
- Update migration plan accordingly

4. Re-planning:

- Address identified issues
- Revise timeline and approach
- Conduct additional testing

Slide 17: Change Management & User Adoption

Communication Strategy

- Announce migration timeline well in advance
- Provide regular status updates
- Set realistic expectations about system downtime
- Create FAQ documents addressing common concerns
- Establish support channels for questions

Training Approach

- Conduct pre-migration training on new system
- Provide hands-on practice in sandbox environment
- Create user guides and quick reference cards
- Offer role-specific training sessions
- Record training sessions for future reference

Support Structure

- Establish help desk for post-migration issues
 - Assign super users in each department
 - Monitor adoption metrics
 - Gather user feedback continuously
 - Provide ongoing coaching and support
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Slide 18: Post-Migration Activities

Data Quality Monitoring

- Schedule regular data quality audits
- Monitor duplicate record creation
- Track data completeness metrics
- Review data usage patterns

- Address data quality issues promptly

Performance Tuning

- Optimize reports and dashboards
- Review and adjust sharing rules
- Fine-tune automation rules
- Monitor system performance metrics
- Address governor limit warnings

Continuous Improvement

- Gather lessons learned from migration
 - Document best practices for future migrations
 - Update data governance policies
 - Refine data quality standards
 - Plan for ongoing data maintenance
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Slide 19: Common Pitfalls to Avoid

Planning Phase

- X Underestimating data quality issues
- X Inadequate stakeholder involvement
- X Unrealistic timelines
- X Insufficient resource allocation
- X Poor documentation

Execution Phase

- X Skipping testing phases
- X Migrating during peak business hours
- X Ignoring error logs
- X Not having rollback plan ready
- X Insufficient validation

Post-Migration

- **✗** Inadequate user training
 - **✗** Poor change management
 - **✗** Neglecting data quality monitoring
 - **✗** Insufficient support resources
 - **✗** Failing to document lessons learned
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Slide 20: Key Success Factors

Critical Success Elements

1. Executive Sponsorship

- Strong leadership support
- Adequate budget and resources
- Clear prioritization

2. Cross-Functional Team

- Business stakeholders
- Technical experts
- Data stewards
- Change management specialists

3. Comprehensive Planning

- Detailed project plan
- Risk mitigation strategies
- Clear success criteria
- Realistic timelines

4. Rigorous Testing

- Multiple test iterations
- Business user validation
- Performance testing
- Regression testing

5. Effective Communication

- Regular stakeholder updates

- Transparent issue resolution
 - User training and support
 - Celebration of milestones
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Conclusion

Successful Salesforce data migration requires careful planning, meticulous execution, and ongoing monitoring. By following best practices, using appropriate tools, and maintaining focus on data quality and user adoption, organizations can ensure a smooth transition to Salesforce that delivers long-term business value.

Key Takeaways

- Plan thoroughly and involve stakeholders early
- Prioritize data quality from the start
- Test extensively in sandbox environments
- Sequence migrations to maintain referential integrity
- Monitor performance and optimize continuously
- Invest in change management and user training
- Document everything for future reference

Remember: Data migration is not just a technical project—it's a business transformation initiative that requires careful attention to people, processes, and technology.