**Statement of Work (SOW)**

**Project Title:** Data Warehouse Creation for Acme Corp

**Date:** April 9, 2025

**Client :** Acme Corp

**Service Provider :** Globant

### **1. Our Understanding:**

**a. Business Objective:**

The goal of this project is to develop a scalable, secure, and high-performance data warehouse solution that will enable Acme Corp to consolidate data from multiple systems (e.g., CRM, ERP, Marketing systems) into one central repository for enhanced decision-making and provide a unified view for reporting, analytics, and business intelligence.

**b. Roadmap:**

The project is divided into 7 phases:

1. Planning & Requirements Gathering (Weeks 1-2)
   * Define business needs, data sources, and reporting requirements.
   * Finalize the architecture and technology stack.
2. Design & Architecture (Weeks 3-5)
   * Design the Data Warehouse architecture (cloud-based).
   * Define data models (e.g., star schema) and security protocols.
   * Plan ETL workflows and BI tool integration.
3. Development (Weeks 6-10)
   * Set up cloud infrastructure and database schemas.
   * Develop ETL processes (data extraction, transformation, loading).
   * Integrate BI tools for reporting and dashboards.
4. Testing (Weeks 11-12)
   * Perform unit, integration, system, and performance testing.
   * Conduct User Acceptance Testing (UAT) with key business users.
5. Deployment & Rollout (Week 13)
   * Deploy the solution to the production environment.
   * Monitor system performance and ensure smooth transition.
   * Provide training for end-users.
6. Post-Deployment Support (Weeks 14-16)
   * Offer 30 days of support for issue resolution.
   * Collect user feedback and optimize the system as needed.

This roadmap outlines the key phases and timeline to build and deploy the Data Warehouse, ensuring a structured and efficient implementation.

**2. Project Management Methodology**

**a. Agile Methodology:**

The project will follow the Agile methodology to ensure flexibility and iterative progress. The project will be divided into sprints, each lasting two weeks.

**b. Detailed Design/Mobilization:**

Conduct workshops with stakeholders to finalize requirements.

Prepare a detailed design document, including data flow diagrams and mockups.

**c. Development/Sprint Cycle:**

Sprint planning will be conducted at the beginning of each sprint.

Each sprint will include development, testing, and review phases.

**3. Implementation:**

**a. Project scope overview:**

1. Data Warehouse Architecture Design
   1. A comprehensive data model and system architecture that includes data schemas, tables, and indices.
2. ETL (Extract, Transform, Load) Processes
   1. Development of custom ETL scripts to extract data from various source systems, transform it as needed, and load it into the data warehouse.
3. Data Warehouse Implementation
   1. Full implementation of the data warehouse on the selected platform (e.g., AWS Redshift, Google BigQuery, or Microsoft SQL Server).
4. BI Tools Integration
   1. Integration of business intelligence tools such as Power BI, Tableau, or others to visualize the data stored in the warehouse and create interactive reports and dashboards.
5. Reporting and Analytics
   1. Creation of initial reports and dashboards to meet business reporting needs, including performance, sales, finance, and marketing analytics.
6. Testing and Quality Assurance (QA)
   1. Verification that the data warehouse, ETL processes, and reports meet functional requirements and quality standards through rigorous testing.
7. Deployment & Support
   1. Full deployment of the data warehouse to a production environment.
   2. Training sessions for key users to utilize the data warehouse and reporting tools effectively.
   3. Post-deployment support for troubleshooting and addressing any issues that arise**.**

**b. Detailed scope breakdown:**

| **Area** | **Sub-Area** | **Owner** | **Description** |
| --- | --- | --- | --- |
| **1. Discovery & Requirements Gathering** | Business Requirements | Client | Collect and document business requirements, key performance indicators (KPIs), and reporting needs. |
|  | Data Source Mapping | Client & Service Provider | Identify and map all required data sources (CRM, ERP, etc.) and the corresponding data structures. |
|  | Stakeholder Engagement | Client | Engage with key stakeholders to ensure that the requirements align with business needs. |
|  | Scope Definition | Service Provider | Finalize and document the project scope, ensuring alignment with business goals and technical constraints. |
| **2. Data Warehouse Architecture Design** | Data Model Design | Service Provider | Design logical and physical data models, including tables, relationships, and hierarchies. |
|  | System Architecture | Service Provider | Develop the system architecture, ensuring scalability, security, and performance optimization. |
|  | Technology Stack Selection | Service Provider | Choose the appropriate platform (AWS Redshift, Google BigQuery, etc.) and tools for the data warehouse. |
|  | Security & Compliance Design | Service Provider | Ensure the data architecture adheres to relevant security protocols and compliance standards. |
| **3. ETL Process Development** | ETL Design | Service Provider | Design ETL (Extract, Transform, Load) processes, including data extraction, transformation rules, and data load methodologies. |
|  | ETL Development | Service Provider | Develop the ETL scripts or workflows to integrate data from the identified source systems into the warehouse. |
|  | Data Transformation Rules | Service Provider | Implement data transformation rules to ensure data is cleaned, validated, and formatted correctly. |
|  | Data Loading | Service Provider | Load data into the data warehouse following successful transformation. |
| **4. Data Warehouse Implementation** | Platform Setup | Service Provider | Setup the chosen data warehouse platform (e.g., AWS Redshift, Google BigQuery, or Microsoft SQL Server). |
|  | Database Schema Creation | Service Provider | Create the data warehouse schema, tables, indexes, and other database objects. |
|  | Data Loading | Service Provider | Ensure data is properly loaded into the data warehouse from source systems via the ETL processes. |
|  | Performance Optimization | Service Provider | Tune the data warehouse for performance, including indexing, partitioning, and query optimization. |
| **5. Reporting & Analytics Setup** | BI Tool Selection & Integration | Service Provider | Select and integrate business intelligence (BI) tools (e.g., Power BI, Tableau) with the data warehouse. |
|  | Report & Dashboard Design | Service Provider | Design and develop reports and dashboards that provide actionable insights based on business needs. |
|  | Data Visualization | Service Provider | Develop data visualizations (graphs, charts, tables) that represent key metrics and KPIs clearly. |
|  | User Access Control | Service Provider | Define user roles and permissions for accessing the reports and dashboards securely. |
| **6. Testing & Quality Assurance** | Unit Testing | Service Provider | Perform unit testing of ETL processes and database objects to ensure functionality and data accuracy. |
|  | Integration Testing | Service Provider | Test the complete data flow from data extraction to reporting to ensure that the system works end-to-end. |
|  | Performance Testing | Service Provider | Conduct performance testing to ensure that the data warehouse and reports meet performance benchmarks. |
|  | User Acceptance Testing (UAT) | Client & Service Provider | Client testing to confirm that the system meets business needs and requirements. |
| **7. Deployment & Support** | Production Deployment | Service Provider | Deploy the data warehouse solution to the production environment, ensuring everything is fully functional. |
|  | Training & Knowledge Transfer | Service Provider | Conduct training sessions for client users to ensure they can effectively use the data warehouse and BI tools. |
|  | Post-Deployment Support | Service Provider | Provide 30 days of support to resolve any issues, bugs, or user queries after deployment. |
|  | Documentation Handover | Service Provider | Provide comprehensive documentation for the data warehouse architecture, ETL processes, and reporting tools. |

**c. Assumptions and Considerations:**

* Data Integrity: The integrity and quality of the data provided are crucial for the success of the data warehouse. The client must ensure that the data is cleaned and validated before the integration begins.
* Scope Adjustments: Any scope changes or additional requirements (e.g., integrating new data sources, adding new reports) will need to be reviewed and may require additional resources, time, and budget adjustments.
* Testing and UAT Participation: It is critical that the client is available for testing and UAT to ensure that the system meets the business needs and expectations.
* Security and Compliance Requirements: Any specific security or compliance requirements (such as data encryption, access controls, or privacy regulations) should be discussed early on to avoid rework.
* Post-Deployment Monitoring: After deployment, monitoring the system’s performance and addressing any issues quickly is essential for long-term success.

**d. Scope and Detailed Design:**

#### **Scope Overview:**

* Objective: Build a centralized Data Warehouse to integrate data from multiple systems (CRM, ERP, Marketing, etc.) for reporting and analytics.
* Key Features:
  + Data extraction, transformation, and loading (ETL) from source systems.
  + Integration of BI tools (Power BI, Tableau) for reporting and dashboards.
  + Secure, scalable cloud architecture.
  + Post-deployment support and training.

#### **Detailed Design:**

1. **Architecture**:
   * Cloud-based solution (AWS, Google BigQuery, etc.).
   * Star schema for data modeling, ensuring easy and efficient reporting.
   * Security: Data encryption, role-based access control (RBAC), and compliance with regulations.
2. **ETL Process**:
   * Extraction: Pull data from source systems.
   * Transformation: Cleanse and format data for consistency.
   * Loading: Insert transformed data into the Data Warehouse.
3. **BI Tools Integration**:
   * Connect BI tools to the warehouse for visualization and reporting.
   * Create dashboards and reports to track key metrics.
4. **Testing & Deployment**:
   * Comprehensive testing (unit, integration, UAT) to ensure data accuracy and system performance.
   * Deployment to production with post-deployment support.

#### 

#### **Success Criteria:**

* + Timely delivery, accurate data, and user-friendly reports.
  + Efficient performance and secure access.

This design ensures a scalable, secure, and efficient Data Warehouse that meets business needs for reporting and analytics.

**e. Build and test:**

The **Build and Test** phase ensures the successful implementation of the Data Warehouse.

#### **Build Phase:**

1. **Data Warehouse Architecture**: Set up cloud infrastructure and create databases, schemas, and security measures.
2. **ETL Pipeline Development**: Develop extraction, transformation, and loading (ETL) processes to handle data from various systems.
3. **BI Tool Integration**: Connect BI tools (e.g., Power BI, Tableau) for reporting and ensure proper role-based access control.
4. **Optimization**: Improve query performance with indexing and data partitioning.

#### **Test Phase:**

1. **Unit Testing**: Validate each ETL component (data extraction, transformation, and loading).
2. **Integration Testing**: Test the entire ETL flow and ensure correct data flow from source to reports.
3. **System Testing**: Verify functionality, security (role-based access), and data validation.
4. **Performance Testing**: Simulate high data volumes to ensure the system can handle heavy workloads.
5. **User Acceptance Testing (UAT)**: Confirm the system meets business requirements through real-world testing by end-users.
6. **Regression Testing**: Ensure that new changes don’t break existing features.

The project moves to **production** once all tests are successful, and the system is ready for use. Post-deployment support, monitoring, and training will follow.

**f. Deployment and Rollout**

The **Deployment and Rollout** phase involves moving the Data Warehouse solution from development to production and ensuring smooth operation.

1. **Pre-Deployment**:
   * Final checks to ensure all components (ETL processes, BI tools, security measures) are functioning as expected.
   * Backup data and configurations to avoid data loss.
   * Develop a deployment plan and rollback strategy in case of issues.
2. **Deployment**:
   * Migrate the solution to the production environment.
   * Execute the final deployment of the data warehouse, BI tools, and ETL processes.
   * Verify all components (data load, reporting, security) are fully functional in the production system.
3. **Post-Deployment**:
   * Monitor the system’s performance, data accuracy, and user access.
   * Provide user training on the new system and reports.
   * Offer support and troubleshooting during the initial post-deployment period to resolve any issues quickly.

The goal is to ensure a seamless transition and ensure the data warehouse is fully operational for end-users.

**4. Services and responsibilities:**

**a. Globant’s Responsibilities:**

* Project Management: Oversee the project, ensuring it stays within scope, on time, and within budget.
* Architecture Design: Design and document the data warehouse architecture.
* ETL Development: Develop ETL scripts to integrate data from various sources into the data warehouse.
* Data Warehouse Implementation: Implement the data warehouse solution on the chosen platform (e.g., AWS Redshift, Google BigQuery).
* Reporting & Analytics Setup: Integrate BI tools (e.g., Power BI, Tableau) with the data warehouse and create dashboards and reports.
* Testing & Quality Assurance: Ensure that the data warehouse and BI tools are working as expected through testing and validation.
* Deployment & Support: Deploy the data warehouse to production, provide training, and offer post-deployment support.
* Documentation: Provide all relevant documentation for processes, architecture, and reporting tools.

**b. Client (Acme Corp) Responsibilities:**

* Provide Business Requirements: Work with the service provider to define business requirements, KPIs, and reporting needs.
* Access to Data Sources: Provide access to data from internal systems (e.g., CRM, ERP, Marketing platforms).
* Review & Approval: Review and approve deliverables at each phase (e.g., requirements, architecture, design, ETL processes, reports).
* Stakeholder Engagement: Engage key business stakeholders for feedback and UAT.
* Provide Infrastructure Details: Provide information about current infrastructure (e.g., cloud environment, hardware).
* End-User Training: Ensure key team members are trained on the use of the data warehouse and reporting tools.
* Acceptance Testing: Participate in User Acceptance Testing (UAT) and approve the final solution before deployment.

### **5. Timeline**

| **Phase** | **Start Date** | **End Date** | **Cost** |
| --- | --- | --- | --- |
| Phase 1: Discovery & Requirements | April 10, 2025 | April 14, 2025 | $5,000 |
| Phase 2: Architecture Design | April 15, 2025 | April 22, 2025 | $7,500 |
| Phase 3: ETL Development | April 23, 2025 | May 7, 2025 | $12,000 |
| Phase 4: Data Warehouse Implementation | May 8, 2025 | May 21, 2025 | $15,000 |
| Phase 5: Reporting & Analytics Setup | May 22, 2025 | June 4, 2025 | $10,000 |
| Phase 6: Testing & Quality Assurance | June 5, 2025 | June 12, 2025 | $6,000 |
| Phase 7: Deployment & Support | June 13, 2025 | June 30, 2025 | $8,500 |

**Total Project Cost:** **$63,000**

**6. Deliverables**

| **Phase** | **Deliverables** | **Acceptance Criteria** |
| --- | --- | --- |
| Phase 1: Discovery & Requirements Gathering | - Requirements Document  - Data Source Mapping | - Documented business requirements and key data sources  - Client approval of requirements document |
| Phase 2: Data Warehouse Architecture Design | - Data Warehouse Architecture Design Document | - Architecture design reviewed and approved by the client  - Design aligns with business needs and scalability |
| Phase 3: ETL Process Development | - ETL Process Scripts  - ETL Process Documentation | - ETL processes tested with data from each source system  - Data successfully loaded into the data warehouse |
| Phase 4: Data Warehouse Implementation | - Fully Implemented Data Warehouse  - Database schema, tables, and indexes created | - Data warehouse deployed to production  - Data is accessible and queries return expected results |
| Phase 5: Reporting & Analytics Setup | - Integrated BI Tools (Power BI/Tableau)  - Sample Reports and Dashboards | - BI tools connected to the data warehouse and data is visualized correctly  - Reports meet business requirements |
| Phase 6: Testing & Quality Assurance | - Testing Report  - UAT (User Acceptance Testing) Sign-off | - All critical data is accurate and validated  - UAT sign-off from client indicating successful testing |
| Phase 7: Deployment & Support | - Deployment Report  - Training Materials and Sessions  - Post-Deployment Support | - Successful deployment to production  - Client’s team trained and able to use the system  - Ongoing support provided as agreed |

### General Acceptance Criteria for the Entire Project:

* Functional Requirements: All the project’s functional requirements (as defined during the Discovery phase) must be met and agreed upon by the client.
* The data warehouse is fully implemented and deployed to production.
* All ETL processes are operational and successfully load data.
* Reports and dashboards are developed and accessible to users.
* Data Integrity: Data in the warehouse must be accurate, consistent, and complete.
* Performance: The data warehouse and reporting tools should be optimized for performance, with acceptable query response times and minimal downtime.
* Client Sign-off: At each phase, the client must approve and sign off on the deliverables before proceeding to the next phase.

**7. Client Responsibilities and Assumptions**

#### **Client Responsibilities:**

* Provide Access to Data Sources: Ensure access to relevant source systems (e.g., CRM, ERP) for data extraction.
* Define Business Requirements: Clearly outline reporting and analytics needs.
* Timely Feedback: Provide prompt feedback during design, development, and testing phases.
* User Participation in UAT: Involve business users in User Acceptance Testing (UAT) to validate requirements.
* Infrastructure Support: Provide necessary resources for cloud infrastructure and security compliance.

#### **Assumptions:**

* Data Quality: Assumes data from source systems is accurate and consistent.
* Tools and Platforms: Client will provide or approve BI tools (e.g., Power BI, Tableau) for integration.
* Timely Approvals: Delays in approvals or feedback may affect the timeline.
* Scalability Requirements: Data Warehouse will scale as business needs grow but may need future upgrades beyond this project’s scope.

### **8. Staffing :**

### **Below is a table that outlines the Project Management and Team Roles for the Data Warehouse Creation project:**

| **Role** | **Name** | **Responsibilities** |
| --- | --- | --- |
| **Project Manager** | John Doe | - Overall project management and oversight  - Client communications  - Ensuring timely delivery and managing risks |
| **Lead Data Architect** | Jane Smith | - Designing the data warehouse architecture  - Creating data models and schemas  - Ensuring system scalability and performance |
| **ETL Developer** | Mark Brown | - Developing ETL processes for data extraction, transformation, and loading  - Ensuring data quality and validation during ETL |
| **Business Intelligence Developer** | Susan White | - Integrating BI tools (e.g., Power BI, Tableau) with the data warehouse  - Designing and developing reports and dashboards for end-users |
| **QA Specialist** | James Black | - Conducting data validation and integrity checks  - Performing performance and stress testing  - Managing user acceptance testing (UAT) |

### **9. Charges and Expenses:**

The total project cost is **$63,000**. Payments will be made as per the following schedule:

| **Payment Milestone** | **Amount** | **Due Date / Trigger** |
| --- | --- | --- |
| Initial Payment (Deposit) | $12,600 | Due upon project start (20% of total cost) |
| Phase 1 Payment: Discovery & Requirements Gathering | $5,000 | Due upon completion of requirements gathering and data mapping |
| Phase 2 Payment: Architecture Design | $7,500 | Due upon completion of the data warehouse architecture design |
| Phase 3 Payment: ETL Process Development | $12,000 | Due upon completion of ETL development |
| Phase 4 Payment: Data Warehouse Implementation | $15,000 | Due upon completion of data warehouse implementation |
| Phase 5 Payment: Reporting & Analytics Setup | $10,000 | Due upon completion of reporting and analytics setup |
| Phase 6 Payment: Testing & QA | $6,000 | Due upon completion of testing and user acceptance testing (UAT) |
| Final Payment: Deployment & Support | $8,500 | Due upon project completion and client sign-off |

### **10. Quality of services**

By signing below, both parties agree to the terms outlined in this Statement of Work.

**Client Representative:**Name: John Doe  
Title: Chief Information Officer  
Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Service Provider (Project Manager):**Name: Sarah Lee  
Title: Senior Project Manager  
Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_