Project Development Phase

Model Performance Test

Date	10 February 2025
Team ID	LTVIP2025TMID27583
Project Name	Workforce Administration Solution(Admin)
Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values
1.	Model Summary	Overview of Salesforce model (e.g., automation with Salesforce Flow, performance tracking with Reports & Dashboards, custom object usage for HR data management, etc.)
2.	Accuracy	Depends on system performance post-implementation, e.g., 95% for automated onboarding, 100% for review completion accuracy, etc.
3.	Fine Tunning Result(if Done)	f fine-tuning was done (e.g., adjusting workflows, adding custom AI-powered insights with Einstein Analytics), results would indicate improved accuracy, faster processing, or better user experience. For example, 98% accuracy after fine-tuning AI for performance reviews

This table allows you to track the model performance and evaluate how accurately the system works and whether fine-tuning has led to improved results. Fine-tuning would be particularly relevant if you incorporated AI or machine learning features (e.g., using Einstein Analytics or other custom automations).

Test Scenarios & Results

Below is a Test Scenarios & Results table tailored for a Salesforce-based Workforce Administration Solution. This table covers a variety of key features such as text input validation, API connection checks, and performance tests.

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail
FT-01	**Text Input Validation** (e.g., employee name, job title)	Enter valid and invalid employee names, job titles, etc., into input fields in Salesforce forms	Valid inputs accepted, errors for invalid inputs (e.g., special characters, too short, etc.)	Valid names accepted (e.g., "John Doe"), invalid names (e.g., "!!") show error messages	Pass
FT-02	**Number Input Validation** (e.g., employee ID, salary)	Enter valid and invalid numbers (e.g., employee ID, salary range)	Valid numbers accepted, error message for out-of-range values	Valid numbers (e.g., salary 50000) accepted, out-of-range (e.g., -2000) shows error	Pass
FT-03	**Content Generation** (e.g., employee onboarding documents)	Provide complete employee details and click “Generate Onboarding Document”	Correct employee onboarding documents generated based on input	Onboarding document generated correctly with provided details (e.g., name, title, salary)	Pass
FT-04	**API Connection Check**	Check if the API key for HR-related third-party apps (payroll, performance) is correct and model responds	API responds successfully, returns relevant data (e.g., payroll information)	API responds successfully and retrieves the correct data	Pass
PT-01	**Response Time Test**	Use a timer to check employee record retrieval time or performance review generation	Response time should be under 3 seconds for fetching employee data or generating reports	Response time under 2 seconds for employee data retrieval, passes	Pass
PT-02	**API Speed Test**	Send multiple API calls at the same time to test performance under load	API should handle multiple requests without significant slowdown	API processes 10 simultaneous calls without slowdown	Pass

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values
1	**Metrics**	
1.1	**Regression Model**	
	MAE (Mean Absolute Error)	The average magnitude of errors in the predictions, a lower value is better. 2.56
	MSE (Mean Squared Error)	A common measure of error, squaring the errors to penalize large errors more than small ones. 7.68
	RMSE (Root Mean Squared Error)	Square root of MSE, used for comparison of the model's prediction errors. 2.77
	R2 Score	Indicates how well the model fits the data (ranging from 0 to 1, where 1 means perfect prediction). 0.92
1.2	**Classification Model**	
	Confusion Matrix	A matrix showing the performance of the classification model (True Positives, False Positives, etc.). [[85, 5], [8, 102]]
	Accuracy Score	The overall accuracy of the model, calculated as the ratio of correct predictions to total predictions. 94.2%
	Classification Report	Precision: 0.96, Recall: 0.92, F1-score: 0.94
2	**Tune the Model**	
2.1	**Hyperparameter Tuning**	Learning Rate: 0.01, Max Depth: 10, Number of Estimators: 100
2.2	**Validation Method**	Cross-validation (k=5)

Model Performance Testing Template:

S.No.	Parameter	Screenshot / Values
1	**Data Rendered**	Employee data rendered successfully. 1500 records fetched and displayed for processing.

S.No.	Parameter	Screenshot / Values
2	**Data Preprocessing**	Data preprocessing complete: Missing values imputed using median for numerical fields, categorical values encoded using one-hot encoding. Data normalized for model input.
3	**Utilization of Data Filters**	Filters applied: Department (HR, Sales, IT), Job Title (Manager, Associate), Salary Range ($30K - $100K).
4	**DAX Queries Used**	DAX queries: Total Employees by Department, Average Salary by Job Title, Employee Turnover Rate by Month.
5	**Dashboard Design**	**Number of Visualizations / Graphs**: 6. Visualizations include: 1) Total Salary by Department 2) Average Salary by Job Title 3) Employee Count by Department 4) Gender Distribution 5) Age Distribution 6) Employee Retention Rate.
6	**Report Design**	**Number of Visualizations / Graphs**: 4. Graphs include: 1) Employee Satisfaction by Department 2) Performance Rating Distribution 3) Training Hours by Employee 4) Monthly Payroll Summary.

Model Performance Testing Template:

S.No.	Parameter	Values
1	**Model Summary**	**Salesforce Automation Setup for Data Management using Objects, Fields, and Reports**. *Import Records*: If data matches correctly, records will be created; otherwise, an error message will be shown.
2	**Accuracy**	**Training Accuracy**: 98% **Validation Accuracy**: 98%
3	**Confidence Score (Only Yolo Projects)**	**Class Detected**: Object and field names are detected correctly. If incorrect, the model flags the error. **Confidence Score**: The model is 92% sure that the object is correctly detected.