

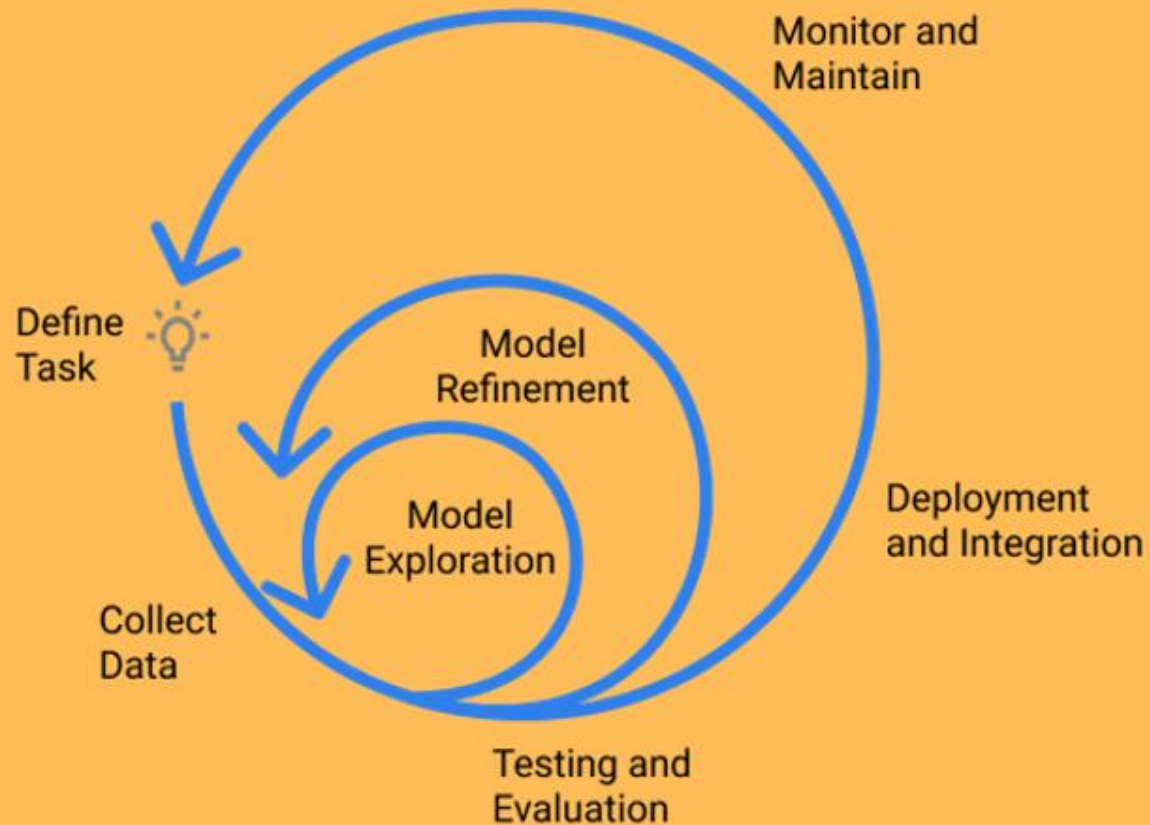
End to End ML Project 1 – Part 1

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Problem Statement and Solution Design

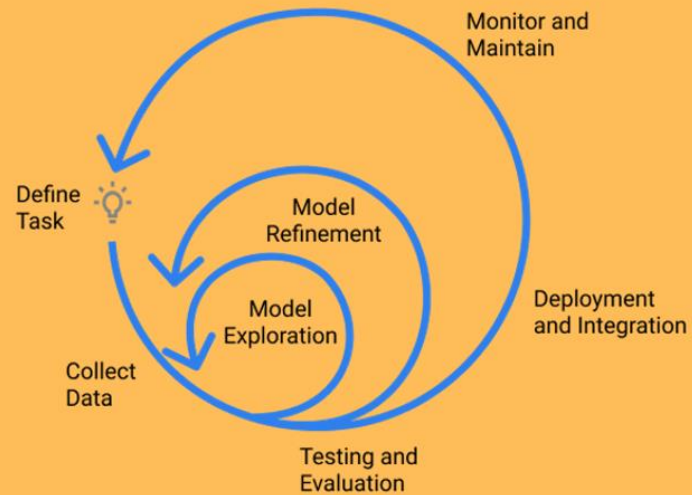
ML Project Life Cycle



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ML Project Life Cycle



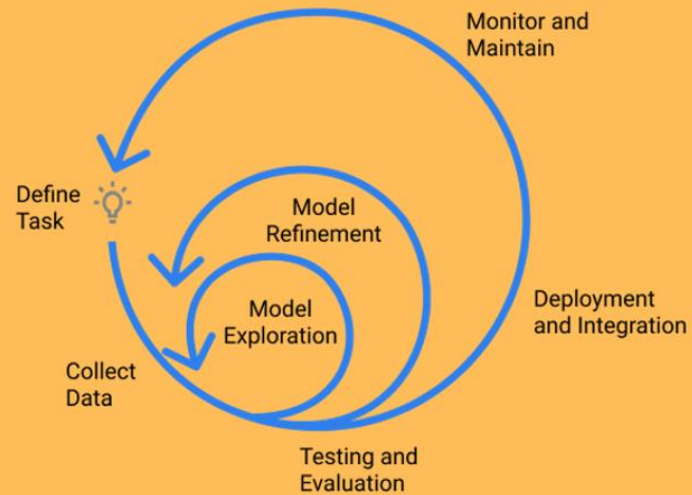
Data Collection

1. What are sources
2. Validate and transform
3. Data collection pipeline

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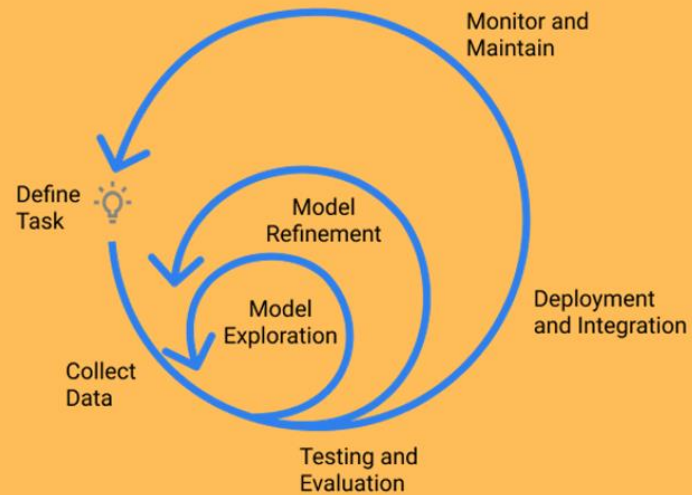
Model Exploration

1. Exploratory data analysis
2. Data preprocessing
3. Model Building

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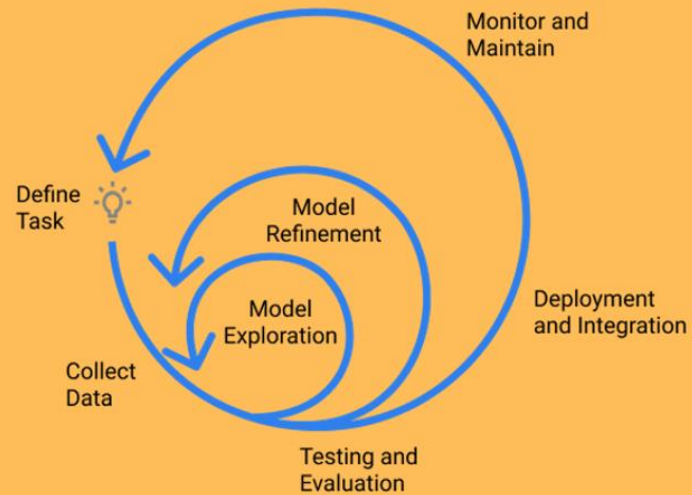
Model Refinement

1. Cross validation
2. Hyper parameter tuning

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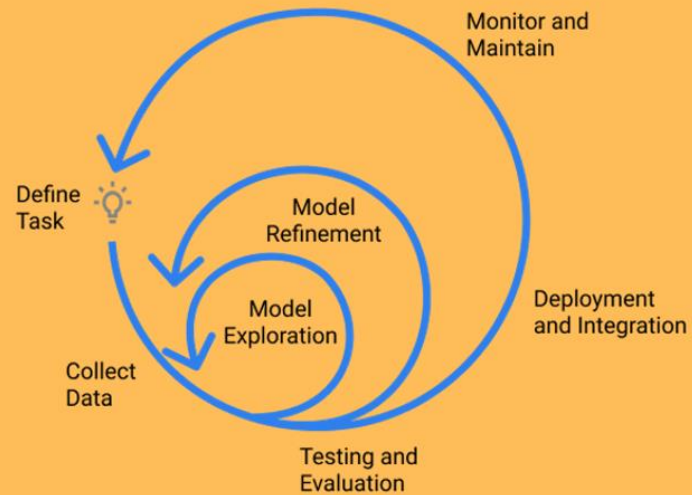
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Test and Evaluation

1. Evaluate model on test distribution

ML Project Life Cycle



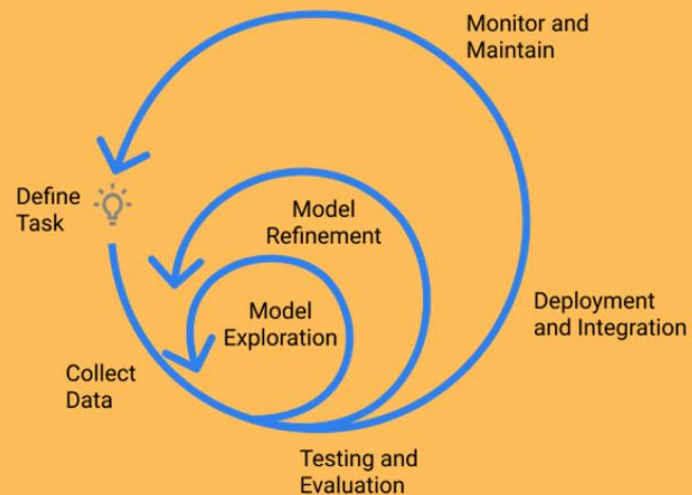
Deployment

1. Expose model as REST API
2. Through UI

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Maintenance Model

1. Monitor the model
2. Retrain the model if needed.

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Problem Statement

- Build a Model to Predict Employee Retention

empid	satisfaction_level	last_evaluation	number_project	average_monthly_hours	time_spend_company	Work_accident	promotion_last_5years	salary	left
1	0.38	0.53	2	157	3	0	0	low	1
2	0.8	0.86	5	262	6	0	0	medium	1
3	0.11	0.88	7	272	4	0	0	medium	1
4	0.72	0.87	5	223	5	0	0	low	1
5	0.37	0.52	2	159	3	0	0	low	1

- Data Inputs

EMPID
SATISFACTION_LEVEL
LAST_EVALUATION
NUMBER_PROJECT
AVERAGE_MONTHLY_HOURS
TIME_SPEND_COMPANY
WORK_ACCIDENT
PROMOTION_LAST_5YEARS
SALARY

- Data Output

LEFT

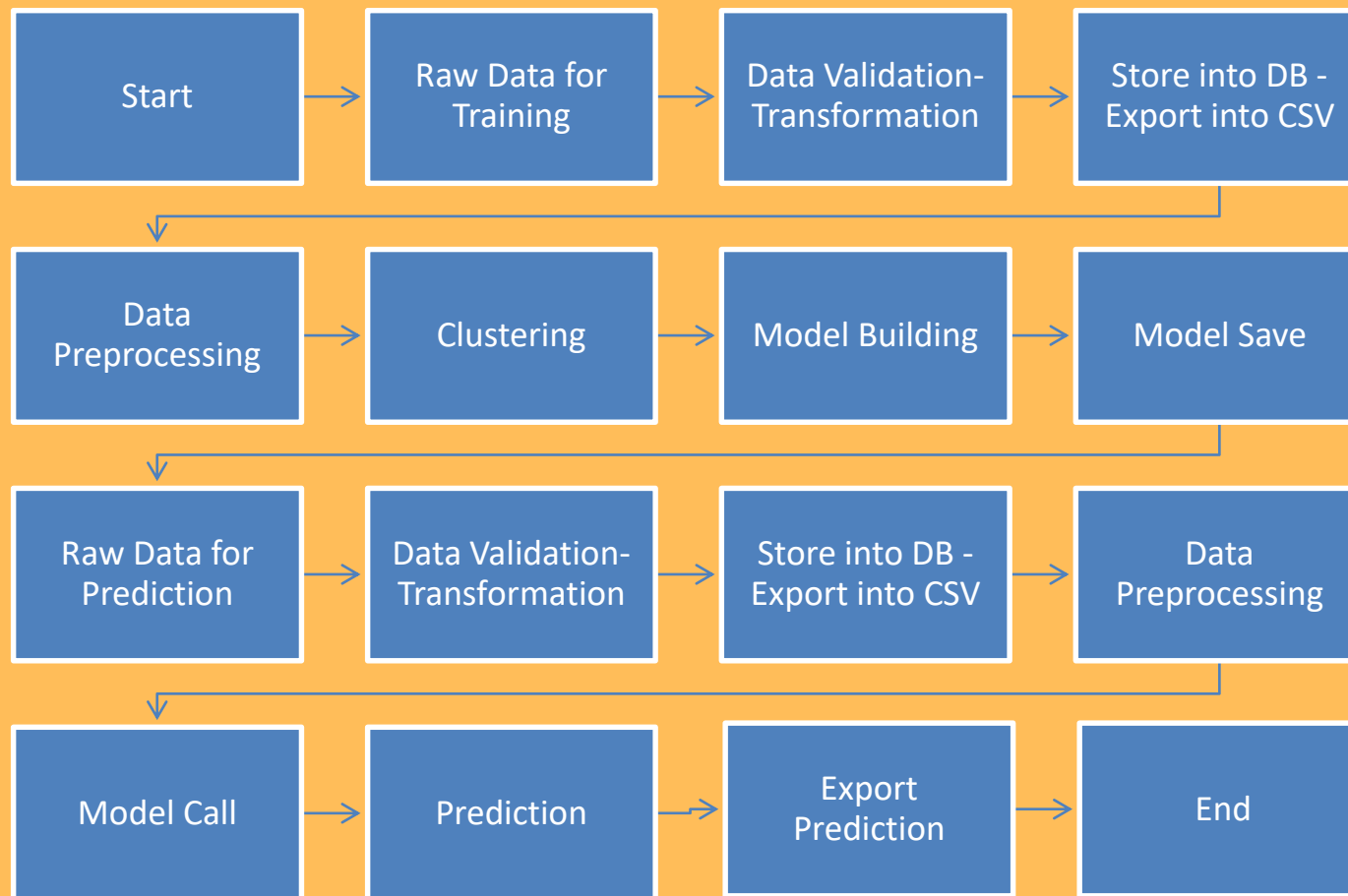
Expectation

- REST API to Train the Model using Training Batch Dataset
- REST API to Predict the Result using Prediction Batch Dataset

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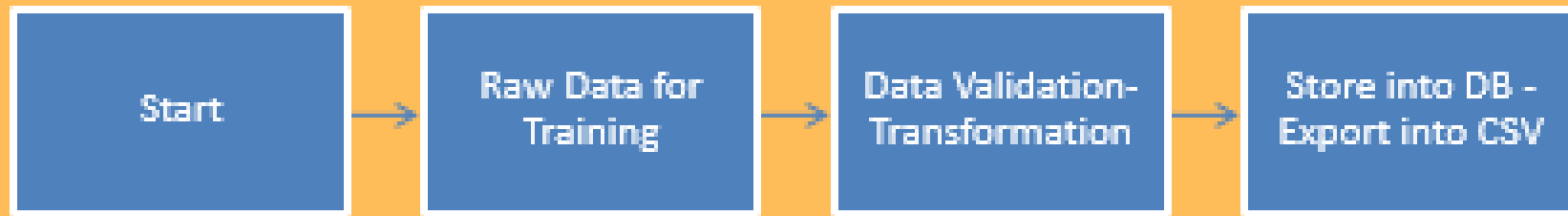
Solution Design



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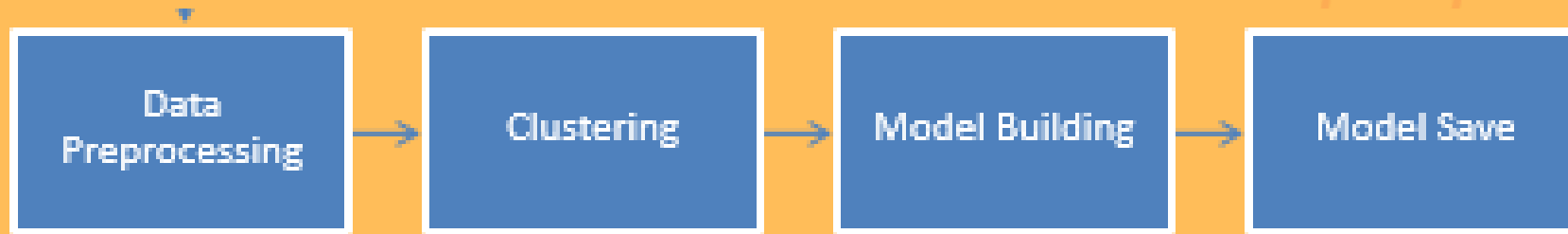
Solution Design – Train Model



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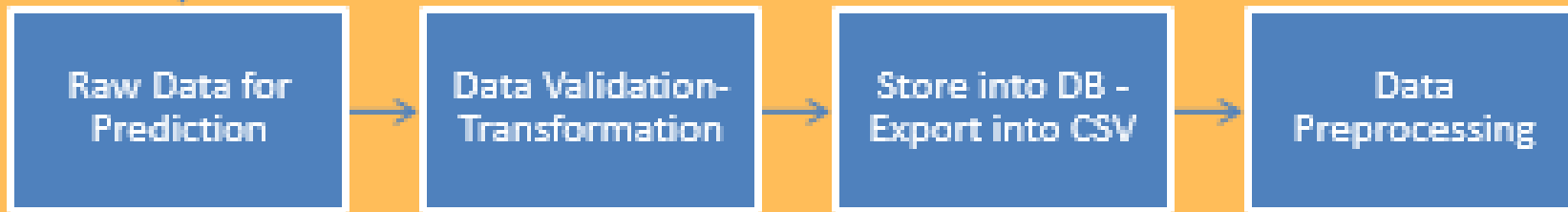
Solution Design – Train Model



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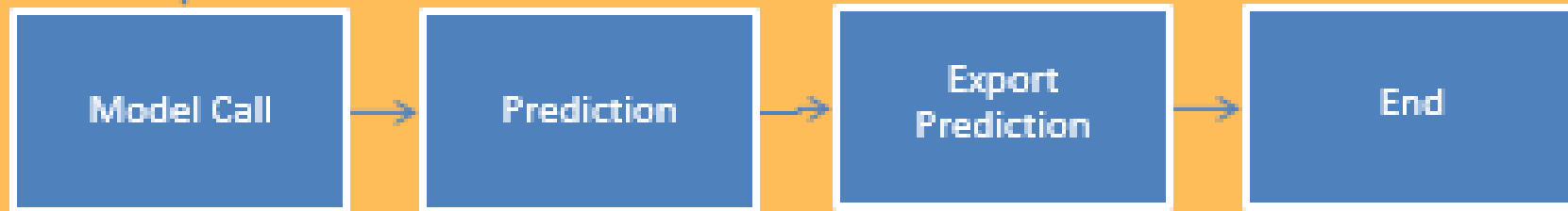
Solution Design – Prediction



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Solution Design – Prediction



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