Simple Workflow Service (SWF)

SWF – Simple WorkFlow Service

Is a web service that makes it easy to coordinate work across distributed application components?

Think about an expense report that you submit. It may require a report that you submit. It may require 3 approvals you submit. It may require 3 approvals. This would be the job of SWS, you can create a workflow to get approval from manager 1 and then send it for approval to manager 2 and then 3. When the workflow is completed it could even trigger an email notification to you.

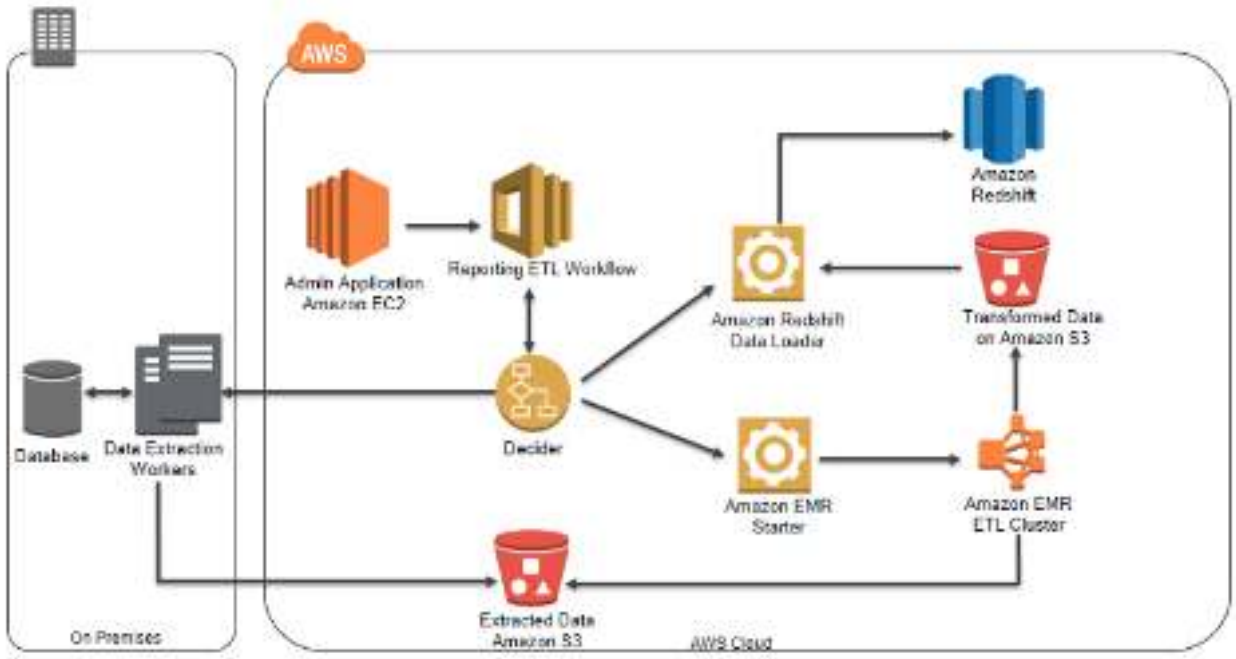
SQS – Message Oriented

SWS – Task Oriented.

SWS – Actors Workflow Starters – an application that can initiate a workflow. Example: your expense reporting tool. When you hit the “submit” button

Workflow Decider Control the flow of activity tasks in a workflow execution. i.e. if a task is finished in a workflow or if it fails the decider, decides what to do next.

Activity Workers Carry out the activity tasks.



The workflow's decider controls the flow of execution from task to task. At a high level, the following activities take place in the above workflow:

1. An admin application sends a request to start the reporting ETL workflow.
2. The decider assigns the first task to on-premises data extraction workers to extract data from a transactional database.
3. Upon completion, the decider assigns the next task to the EMR Starter to launch an EMR ETL cluster to validate and transform the extracted data set.
4. Upon completion, the decider assigns the last task to the Amazon Redshift Data Loader to load the transformed data into Amazon Redshift.
5. This workflow uses SWF for cron to automate failure handling and scaling in case you want to run your cron job on a pool of machines on-premises. In the latter case, this would eliminate any single point of failure, which is not possible with the traditional operating system cron.