## Lab 5-01: Text Analysis with Amazon Comprehend

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| **Introduction**  Amazon Comprehend is a Natural Language Processing (NLP) service from AWS that uses machine learning to uncover information from text. It can automatically identify the language, find key phrases, detect sentiment (positive, negative, neutral, or mixed), and recognize named entities such as names, locations, dates, and organizations. You do not need to train any models; Comprehend does all the work for you, allowing you to analyze and understand text with just a few clicks or a simple API call.  **Challenge**  Imagine you work for a customer support team that receives hundreds of feedback messages every day. You need a quick way to understand whether customers are happy or unhappy with your service and extract key themes from their comments. Instead of reading every message manually, you can use Amazon Comprehend to automatically analyze the text, detect sentiment, and identify important keywords, saving hours of effort.  **Lab Diagram**    **Solution**  **Step 1: Sign in to AWS**   1. Open your web browser and go to <https://aws.amazon.com>. 2. Log in using your AWS account credentials (email and password). 3. Once logged in, you will see the AWS Management Console home page.     **Step 2: Open Amazon Comprehend**   1. In the search bar at the top, type Comprehend.      1. Click on Amazon Comprehend from the search results.      1. You will be taken to the Amazon Comprehend console.     **Step 3: Choose a Supported Region**   1. From the top-right corner of the console, select a region where Comprehend is available. Example: us-east-1 (N. Virginia) or us-west-2 (Oregon). Staying in a supported region ensures that all features work properly.     **Step 4: Go to the Console Demo**   1. On the Amazon Comprehend home page, scroll down to find "Launch Amazon Comprehend". Click it, and this opens a simple interface where you can test Comprehend directly without any setup.     **Step 5: Enter Sample Text**   1. In the demo text box, type or paste any short paragraph, for example:   **I really love using this product! The customer service was fast and helpful, and I will recommend it to my friends.**    **Step 6: Choose Analysis Type**   1. From the options shown, select Sentiment.      1. Click Analyze.      1. In a few seconds, Comprehend will show results like:    * Overall Sentiment: Positive    * Positive: 0.99    * Negative: 0.00    * Neutral: 0.00     This means the text was identified as positive with high confidence.  **Step 7: Try Key Phrases and Entities**   1. Next, select Key Phrases from the menu on the left.      * Click Analyze.      * You will see important phrases like:   + “customer service”   + “recommend it to my friends.”      1. Then, select Entities to detect real-world objects or names.    * Example: In the text “I visited New York last month,” Comprehend identifies New York as a Location     **Step 8: Try Language Detection**   1. Go to Language.      1. Paste a sentence in another language and click Analyze, for example:   **Bonjour, je suis très heureux aujourd'hui.**     1. Now see that Comprehend identifies it as French (fr). |