

# PROJECT REPORT

## Amazon Product Availability Checker – Project Report

### 1. Introduction

The Amazon Product Availability Checker is an automation tool developed in Python to help users monitor the availability of products on Amazon. Instead of manually checking the product page repeatedly, this script automatically checks the product's stock status and alerts the user via email when the product becomes available.

### 2. Objectives

- To automate Amazon product availability tracking
- To provide real-time notification to users through email
- To reduce manual effort and save time
- To create a lightweight, easy-to-use monitoring tool

### 3. System Architecture

The system works as follows:

1. **User Input:** The user provides an Amazon product URL
2. **Periodic Fetching:** The script fetches the product webpage using HTTP requests

3. **HTML Parsing:** Using BeautifulSoup, it extracts the availability status
4. **Condition Check:** If the product is found "In Stock"
5. **Alert System:** An email notification is sent to the user
6. **Loop:** The process repeats in a defined time interval

## 4. Implementation Details

The implementation includes the following major steps:

### Step 1: Fetch Product Webpage

The script uses `requests.get()` with proper headers (like User-Agent) to mimic a real browser and avoid being blocked by Amazon.

### Step 2: Parse HTML Content

BeautifulSoup is used to identify HTML tags containing text such as:

- "In stock"
- "Currently unavailable"
- "Available from these sellers"

Based on this, the script determines availability.

### Step 3: Availability Detection

If the product transitions from "Unavailable" to "In Stock", the system triggers a notification.

### Step 4: Email Notification

Using SMTP:

- Connect to the email server
- Log in with sender's credentials

- Send an alert message to the receiver

## Step 5: Looping Mechanism

A continuous loop checks availability at defined intervals (for example, every 15 minutes). The interval is customizable.

## 5. Conclusion

The Amazon Product Availability Checker is a practical and lightweight automation tool designed to reduce manual monitoring of product stock status on Amazon.

It is particularly useful for:

- Limited-stock items
- Sale season purchases
- Price-sensitive or high-demand products

The project can be extended by adding:

- Price tracking
- Multi-product monitoring
- SMS / WhatsApp alerts
- GUI interface

This tool provides an efficient foundation for automated e-commerce tracking systems.