

Digital Classroom: Architecting on AWS

Addendum

Amazon CodeWhisperer

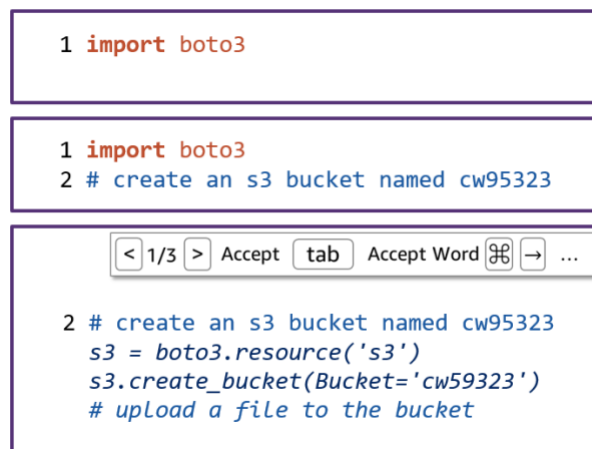
Amazon CodeWhisperer is a general purpose, machine learning-powered code generator that provides you with code recommendations in real time. As you write code, CodeWhisperer automatically generates suggestions based on your existing code and comments. Your personalized recommendations can vary in size and scope, ranging from a single line comment to fully formed functions.

Amazon CodeWhisperer analyzes your code and comments as you write code in your IDE. It goes beyond code completion by leveraging natural language processing to comprehend the comments in your code.

Additionally, Amazon CodeWhisperer analyzes the surrounding code, ensuring the generated code matches your style, naming conventions, and seamlessly integrates into the existing context.

Code Generation:

Amazon CodeWhisperer's code generation feature offers code suggestions in real-time in your development environment. It automatically offers code completion and code generation suggestions. It uses natural language processing of English comments in your code, and an understanding of surrounding code, to suggest whole lines of code, complete functions, and logical blocks of code.



Security Scan:

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The security scanning feature of Amazon CodeWhisperer detects security vulnerabilities in both generated and developer-written code. It scans the code to identify potential vulnerabilities and provides suggestions for remediation. This includes scanning for hard-to-find vulnerabilities that may be overlooked.

The security scan is compatible with popular IDEs such as VS Code and JetBrains. It supports Python, Java, and JavaScript.

```
1 import boto3
2
3 def upload_file(bucket_name, file_path):
4     s3 = boto3.client('s3')
5     with open(file_path, 'rb') as file:
6         s3.upload_fileobj(file, bucket_name, file_path)
7         print("File uploaded.")
8
9 bucket_name = input("Enter bucket name: ")
10 file_path = input("Enter file path to upload: ")
11 upload_file(bucket_name, file_path)
```

PROBLEMS



CWE-22 – Path traversal: Constructing path names with unsanitized user input can lead to...