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re:Invent
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DEV330-R

No Python? No problem! Generative AI for the rest of us

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Generative AI for the rest of us

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Generative AI for all of us!

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The Python paradigm

```python
client = boto3.client("bedrock-runtime", region_name="us-east-1")

request_body = {
    "anthropic_version": "bedrock-2023-05-31",
    "messages": [
        {
            "role": "user",
            "content": [{"type": "text", "text": "What is 'rubber duck debugging'?"}],
        }
    ],
}

response = client.invoke_model(
    modelId="anthropic.claude-3-haiku-20240307-v1:0",
    body=json.dumps(request_body)
)

response_text = json.loads(response["body"].read())["content"][0]["text"]
```

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The Java challenge

```java
BedrockRuntimeClient client = BedrockRuntimeClient
    .builder().region(Region.US_EAST_1).build();

JSONObject requestBody = new JSONObject()
    .put("anthropic_version", "bedrock-2023-05-31")
    .put("messages", new JSONObject[] {
        new JSONObject()
            .put("role", "user")
            .put("content", new JSONObject()
                .put("type", "text")
                .put("text", "What is 'rubber duck debugging?'"))});

InvokeModelResponse response = client.invokeModel(request -> request
    .modelId("anthropic.claude-3-haiku-20240307-v1:0")
    .body(SdkBytes.fromUtf8String(requestBody.toString())))
);

JSONObject responsePayload = new JSONObject(response.body().asUtf8String())

String text = new JSONPointer("/content/0/text")
    .queryFrom(responsePayload)
    .toString();
```

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What’s your primary language?

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The Converse API:

Simplifying interactions across languages

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Python with the Converse API

```python
messages = [
    {
        "role": "user",
        "content": [{"text": "What is 'rubber duck debugging?'"}],
    }
]

response = client.converse_stream(
    modelId="anthropic.claude-3-haiku-20240307-v1:0",
    messages=messages
)

response_text = response["output"]["message"]["content"][0]["text"]
```

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Java with the Converse API

```java
Message message = Message.builder()
    .content(ContentBlock.fromText("What is 'rubber duck debugging?'"))
    .role(ConversationRole.USER)
    .build();

ConverseResponse response = client.converse(request -> request
    .modelId("anthropic.claude-3-haiku-20240307-v1:0")
    .messages(message)
);

String responseText = response.output().message().content().get(0).text();
```

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Real-time interaction:

Streaming responses for better UX

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Python streaming

```python
messages = [
    {
        "role": "user",
        "content": [{"text": "What is 'rubber duck debugging?'"}],
    }
]

response = client.converse_stream(
    modelId="anthropic.claude-3-haiku-20240307-v1:0",
    messages=messages
)

for chunk in streaming_response["stream"]:
    if "contentBlockDelta" in chunk:
        text = chunk["contentBlockDelta"]["delta"]["text"]
        print(text, end="")
```

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Java streaming

```java
Message message = Message.builder()
    .content(ContentBlock.fromText("What is 'rubber duck debugging?'"))
    .role(ConversationRole.USER)
    .build();

client.converseStream(
    request -> request
        .modelId("anthropic.claude-3-haiku-20240307-v1:0")
        .messages(message),
    ConverseStreamResponseHandler.builder()
        .subscriber(ConverseStreamResponseHandler.Visitor.builder()
            .onContentBlockDelta(
                chunk -> System.out.print(chunk.delta().text()))
            ).build()
        ).build()
);
```

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Beyond Python and Java

JavaScript, C#, PHP, Go, Rust, Kotlin, Swift, and more . . .

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Let’s dive into some code!

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Remember: AI speaks your language

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Unlock AI in any language!

Scan now: Your key to generative AI across Python, Java, and beyond

https://github.com/dennistraub/bedrock-for-all

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