
AWS
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COM301

Serverless .NET on AWS with LambdaSharp

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Agenda

Introduction to LambdaSharp

Live coding

Live deployment

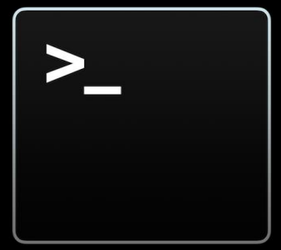
Recap and next steps



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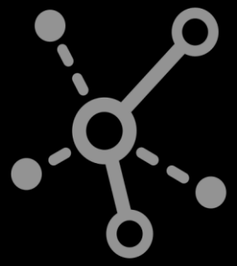
What is LambdaSharp?



CLI



SDK



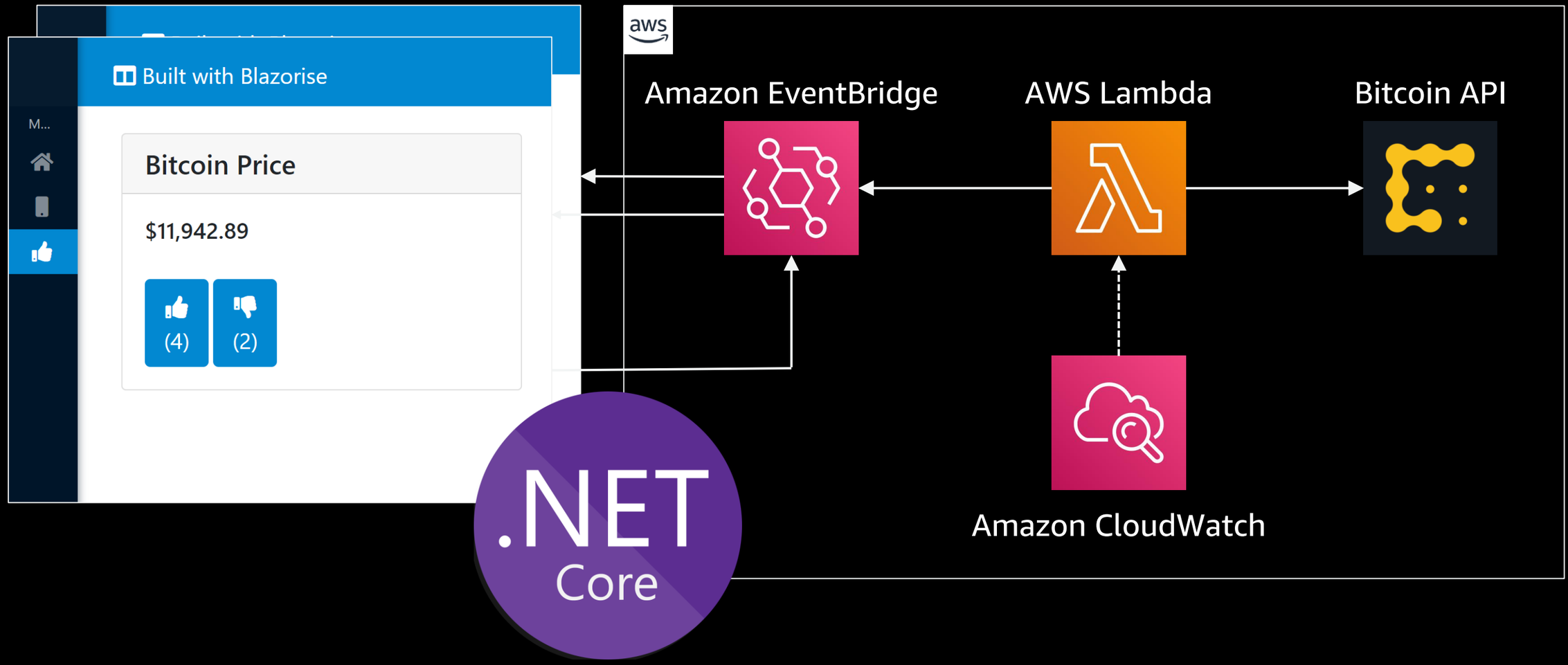
Module



Core services
(optional)

Mission – streamline serverless .NET experience on AWS

Sample app: Bitcoin Hot or Not



Getting started

1. Sign up for AWS account
2. Install .NET Core SDK 3.1.302+ (any platform)
3. Editor / IDE (e.g., visual studio code)
4. Run from terminal

```
# Install LambdaSharp CLI
> dotnet tool install -g LambdaSharp.Tool

# Setup LambdaSharp Deployment Tier (30s)
> lash init --quick-start
```

Coding Part 1: Lambda backend



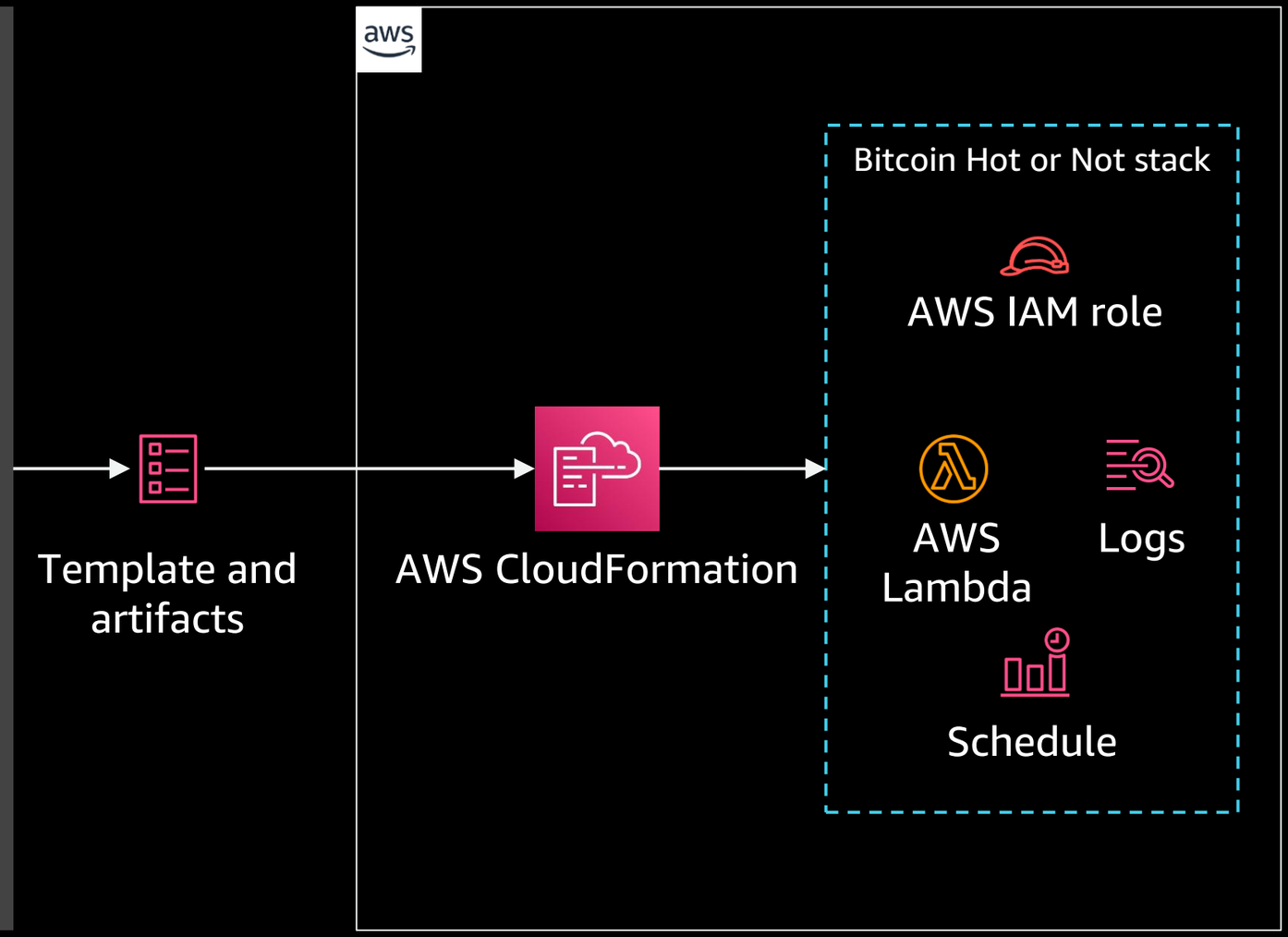
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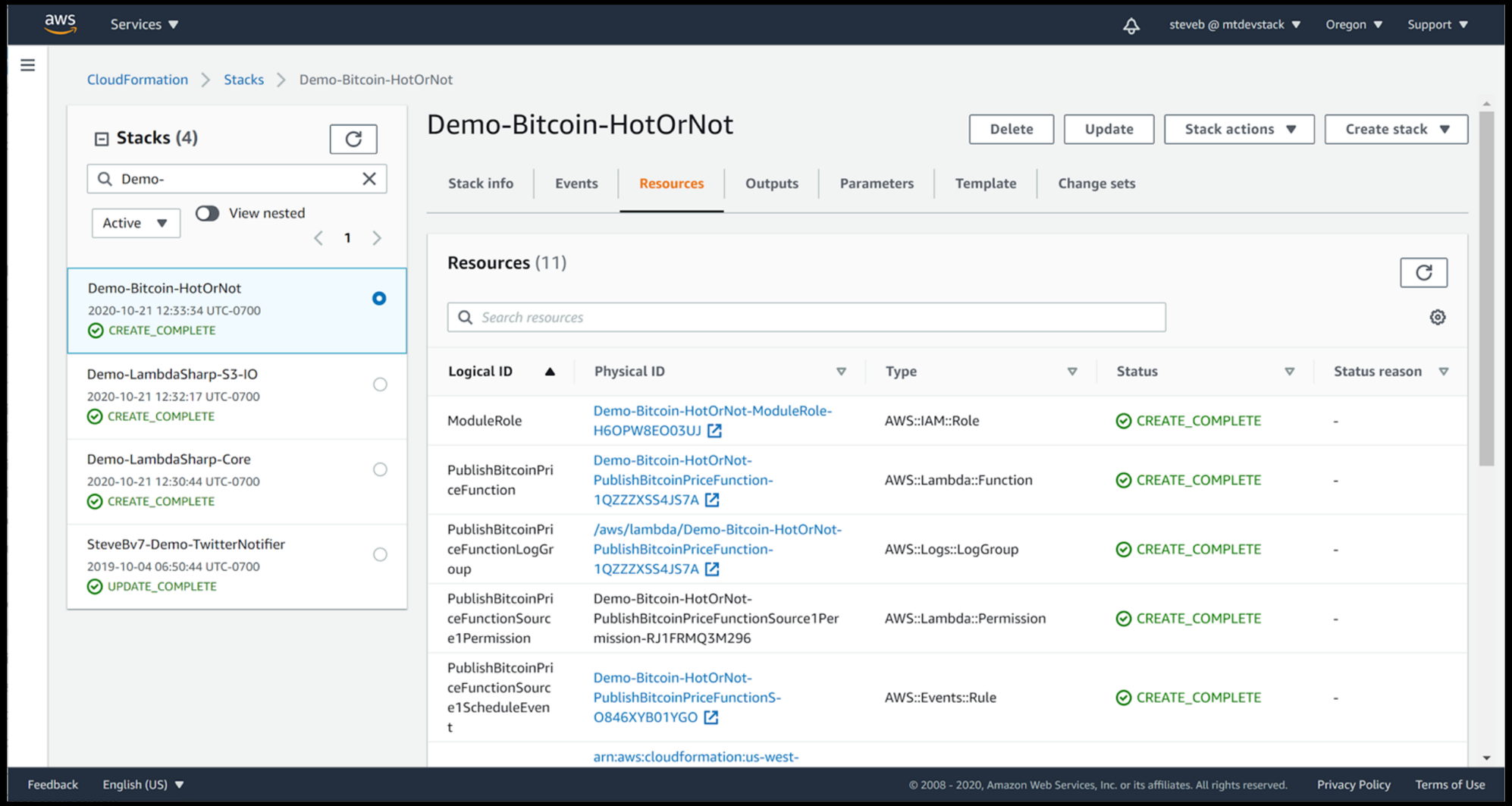
LambdaSharp module

```
Module: Bitcoin.HotOrNot
Version: 1.0-DEV
Items:

  - Function: PublishBitcoinPriceFunction
    Memory: 256
    Timeout: 30
    Sources:
      - Schedule: rate(1 minute)
```



AWS console


aws
Services
steveb @ mtdevstack
Oregon
Support
CloudFormation
Stacks
Demo-Bitcoin-HotOrNot
Stacks (4)
Demo-
Active
View nested
1
Demo-Bitcoin-HotOrNot
2020-10-21 12:33:34 UTC-0700
CREATE_COMPLETE
Demo-LambdaSharp-S3-IO
2020-10-21 12:32:17 UTC-0700
CREATE_COMPLETE
Demo-LambdaSharp-Core
2020-10-21 12:30:44 UTC-0700
CREATE_COMPLETE
SteveBv7-Demo-TwitterNotifier
2019-10-04 06:50:44 UTC-0700
UPDATE_COMPLETE
Demo-Bitcoin-HotOrNot
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Resources (11)
Search resources
Logical ID
Physical ID
Type
Status
Status reason
ModuleRole
Demo-Bitcoin-HotOrNot-ModuleRole-H6OPW8EO03UJ
AWS::IAM::Role
CREATE_COMPLETE
-
PublishBitcoinPriceFunction
Demo-Bitcoin-HotOrNot-PublishBitcoinPriceFunction-1QZZZXSS4JS7A
AWS::Lambda::Function
CREATE_COMPLETE
-
PublishBitcoinPriceFunctionLogGroup
/aws/lambda/Demo-Bitcoin-HotOrNot-PublishBitcoinPriceFunction-1QZZZXSS4JS7A
AWS::Logs::LogGroup
CREATE_COMPLETE
-
PublishBitcoinPriceFunctionSource1Permission
Demo-Bitcoin-HotOrNot-PublishBitcoinPriceFunctionSource1Permission-RJ1FRMQ3M296
AWS::Lambda::Permission
CREATE_COMPLETE
-
PublishBitcoinPriceFunctionSource1ScheduleEvent
Demo-Bitcoin-HotOrNot-PublishBitcoinPriceFunctionS-O846XYB01YGO
AWS::Events::Rule
CREATE_COMPLETE
-
arn:aws:cloudformation:us-west-
Feedback
English (US)
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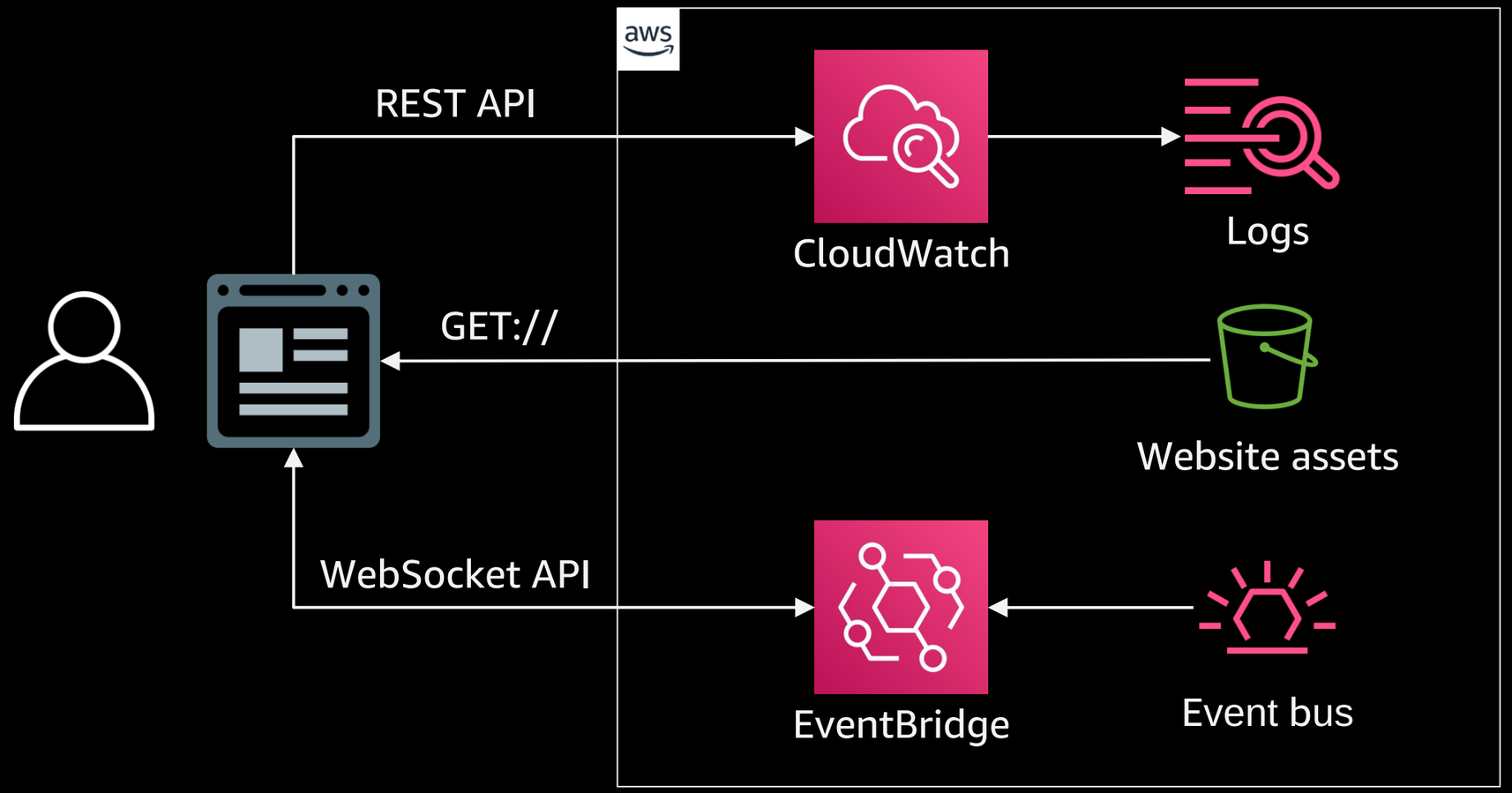
Coding Part 2: Blazor front end



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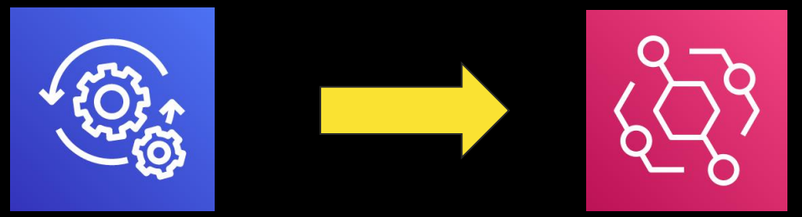
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Blazor WebAssembly app



EventBridge events

```
version: '0'
id: ab26e799-0b3b-637c-2f96-6a428401fdf3
detail-type: MyFirstEvent
source: LambdaSharp.Sample
account: '123456789012'
time: '2020-04-18T01:15:39Z'
region: us-west-2
resources:
  - lambdasharp:stack:Sample-Stack
  - lambdasharp:module:Sample.Event
  - lambdasharp:tier:Sample
detail:
  Message: hello world!
```



40+ AWS services

EventBridge

EventBridge patterns

```
- EventBus: default
  Pattern:
    source:
      - LambdaSharp.Sample
    detail-type:
      - MyFirstEvent
    detail:
      Message:
        - prefix: hello
```



LambdaSharp app EventBus



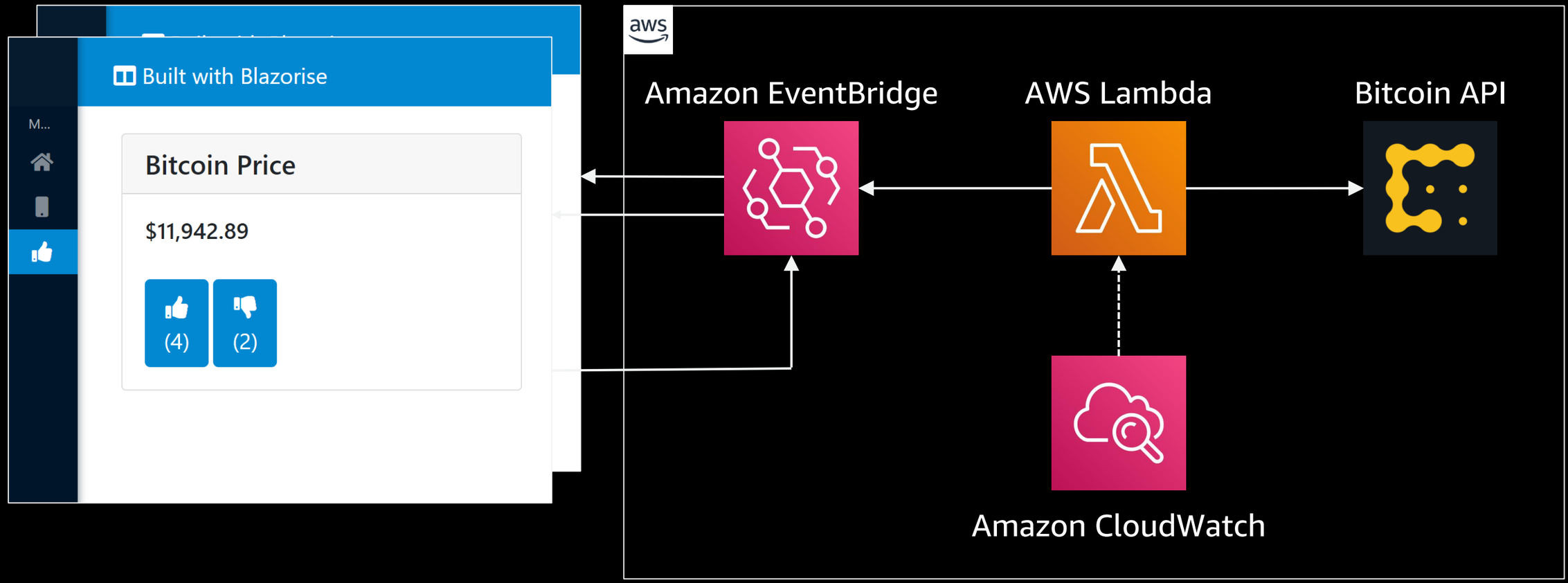
Coding Part 3: EventBridge connection



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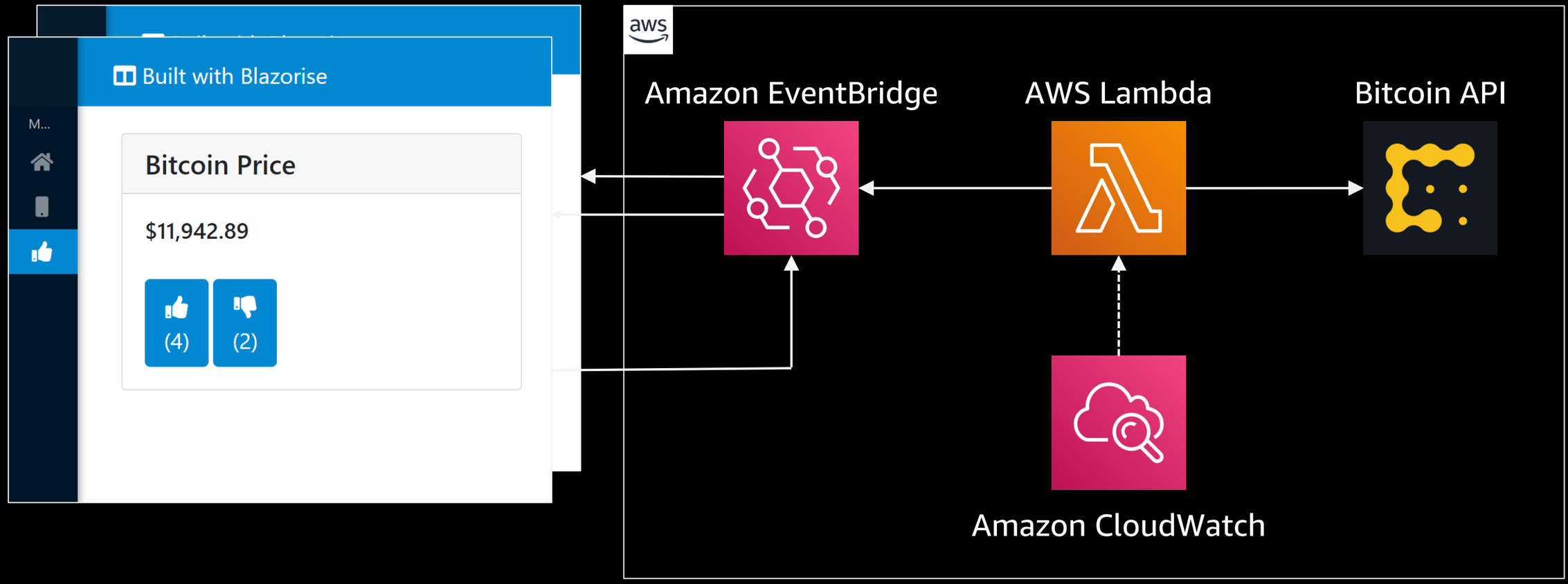
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Sample app: Bitcoin Hot or Not



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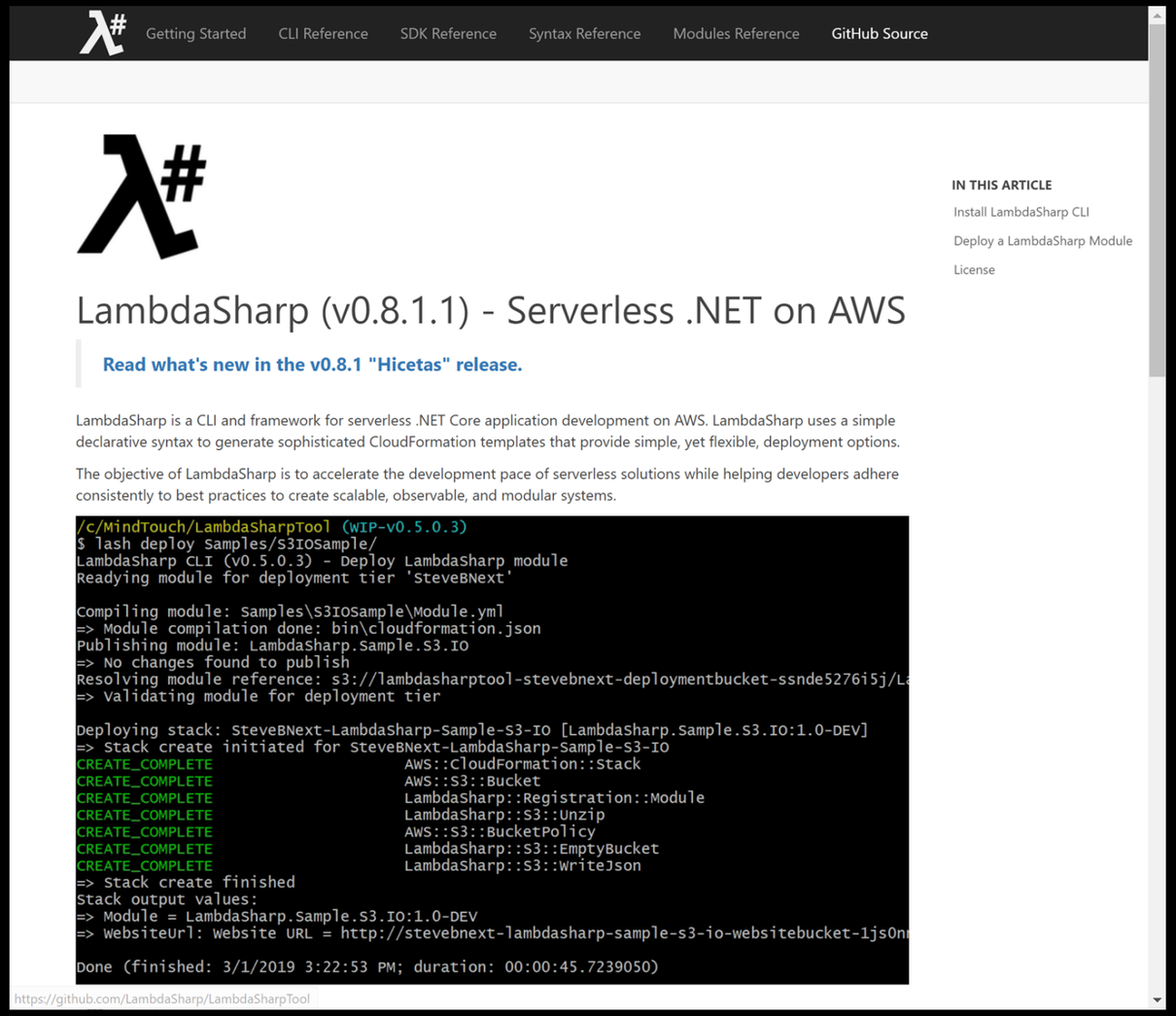
100% serverless .NET!



AWS serverless cost

- **Blazor WebAssembly** – $0.023 per GB
- **AWS Lambda**
  - $0.20 per 1M requests
  - $0.0000166667 for every GB-second
- **Amazon EventBridge** – $1.00 per 1M events
- **Amazon CloudWatch** – $0.03 per GB of storage
- **AWS CloudFormation** – free

Learn more at LambdaSharp.net



App source code:
GitHub.com/LambdaSharp/Bitcoin.HotOrNot

Meetup, GitHub, and Twitter:
@lambdasharp

Thank you!

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Twitter: @bjorg

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