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ıame=EventBridge&topic_url=https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-run-lambda-schedule.html)

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# Tutorial: Create an EventBridge scheduled rule for AWS Lambda functions

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You can set up a rule (./eb-rules.html) to run an AWS Lam (https://docs.aws.amazon.com/lambda/latest/dg/welcome.h function on a schedule. This tutorial shows how to use Management Console or the AWS CLI to create the rule want to use the AWS CLI but haven't installed it, see th Installing, updating, and uninstalling the AWS CLI versi (https://docs.aws.amazon.com/cli/latest/userguide/install-c .

For schedules, EventBridge doesn't provide second-lev precision in schedule expressions (./eb-create-rule-sched The finest resolution using a cron expression is one mi to the distributed nature of EventBridge and the targe services, there can be a delay of several seconds betwe time the scheduled rule is triggered and the time the t service runs the target resource.

**Steps:**

- Step 1: Create a Lambda function (#eb-create-lambd function)
- Step 2: Create a Rule (#eb-schedule-create-rule)
- Step 3: Verify the rule (#eb-schedule-test-rule)
- Step 4: Confirm success (#success)
- Step 5: Clean up your resources (#cleanup)

# Step 1: Create a Lambda functio

Create a Lambda function to log the scheduled events

**To create a Lambda function**

1. Open the AWS Lambda console at https://console.aws.amazon.com/lambda/ (https://console.aws.amazon.com/lambda/) .
2. Choose **Create function**.
3. Choose **Author from scratch**.
4. Enter a name and description for the Lambda func example, name the function `LogScheduledEven`

5. Leave the rest of the options as the defaults and c
**Create function**.
6. On the **Code** tab of the function page, double-clic
**index.js**.
7. Replace the existing code with the following code.

```
'use strict';

exports.handler = (event, context,
callback) => {
    console.log('LogScheduledEvent')
    console.log('Received event:',
JSON.stringify(event, null, 2));
    callback(null, 'Finished');
};
```

8. Choose **Deploy**.

## Step 2: Create a Rule

Create a rule to run the Lambda function you created i
on a schedule.

You can use either the console or the AWS CLI to creat
rule. To use the AWS CLI, you first grant the rule permi
invoke your Lambda function. Then you can create the
add the Lambda function as a target.

**To create a rule (console)**

1. Open the Amazon EventBridge console at
https://console.aws.amazon.com/events/
(https://console.aws.amazon.com/events/) .
2. In the navigation pane, choose **Rules**.
3. Choose **Create rule**.
4. Enter a name and description for the rule.

   A rule can't have the same name as another rule ir
   same Region and on the same event bus.

5. For **Event bus**, choose the event bus that you wan
associate with this rule. If you want this rule to ma
events that come from your account, select **AWS d
event bus**. When an AWS service in your account e
event, it always goes to your account's default eve
6. For **Rule type**, choose **Schedule**.
7. Choose **Next**.
8. For **Schedule pattern**, choose **A schedule that rur
regular rate, such as every 10 minutes.** and enter
choose **Minutes** from the drop-down list.
9. Choose **Next**.
10. For **Target types**, choose **AWS service**.
11. For **Select a target**, choose **Lambda function** from
drop-down list.
12. For **Function**, select the Lambda function that you
in the **Step 1: Create a Lambda function** section.
example, select `LogScheduledEvent`.
13. Choose **Next**.
14. Choose **Next**.
15. Review the details of the rule and choose **Create r**

**To create a rule (AWS CLI)**

1. To create a rule that runs on a schedule, use the `p`
`rule` command.

```
aws events put-rule \
--name my-scheduled-rule \
--schedule-expression 'rate(5
minutes)'
```

When this rule runs, it creates an event and then s
the targets. The following is an example event.

```
{
    "version": "0",
    "id": "53dc4d37-cffa-4f76-80c9-
8b7d4a4d2eaa",
    "detail-type": "Scheduled Event"
```

```
    "source": "aws.events",
    "account": "123456789012",
    "time": "2015-10-08T16:53:06Z",
    "region": "us-east-1",
    "resources": [
        "arn:aws:events:us-east-
1:123456789012:rule/my-scheduled-
rule"
    ],
    "detail": {}
}
```

2. To grant the EventBridge service principal (`events.amazonaws.com`) permission to run the use the `add-permission` command.

```
aws lambda add-permission \
--function-name LogScheduledEvent \
--statement-id my-scheduled-event \
--action 'lambda:InvokeFunction' \
--principal events.amazonaws.com \
--source-arn arn:aws:events:us-east-
1:123456789012:rule/my-scheduled-rul
```

3. Create the file `targets.json` with the following contents.

```
[
  {
    "Id": "1",
    "Arn": "arn:aws:lambda:us-east-
1:123456789012:function:LogScheduled
vent"
  }
]
```

4. To add the Lambda function that you created in st the rule, use the `put-targets` command .

```
aws events put-targets --rule my-
scheduled-rule --targets
file://targets.json
```

## Step 3: Verify the rule

Wait at least five minutes after completing step 2, and can verify that your Lambda function was invoked.

**View the output from your Lambda function**

1. Open the CloudWatch console at https://console.aws.amazon.com/cloudwatch/ (https://console.aws.amazon.com/cloudwatch/) .
2. In the navigation pane, choose **Logs**.
3. Select the name of the log group for your Lambda (*/aws/lambda/ function-name* ).
4. Select the name of the log stream to view the data provided by the function for the instance that you launched.

## Step 4: Confirm success

If you see the Lambda event in the CloudWatch logs, y successfully completed this tutorial. If the event isn't i CloudWatch logs, start troubleshooting by verifying th was created successfully and, if the rule looks correct, code of your Lambda function is correct.

## Step 5: Clean up your resources

You can now delete the resources that you created for tutorial, unless you want to retain them. By deleting A resources that you are no longer using, you prevent unnecessary charges to your AWS account.

### To delete the EventBridge rule(s)

1. Open the Rules page (https://console.aws.amazon.com/events/home#/rules) EventBridge console.
2. Select the rule(s) that you created.
3. Choose **Delete**.
4. Choose **Delete**.

### To delete the Lambda function(s)

1. Open the Functions page (https://console.aws.amazon.com/lambda/home#/func the Lambda console.
2. Select the function(s) that you created.
3. Choose **Actions**, **Delete**.
4. Choose **Delete**.

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