Introduction to Amazon ElastiCache

**SPL-80 - Version 1.6.5**

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Note: Do not include any personal, identifying, or confidential information into the lab environment. Information entered may be visible to others.

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**Overview**

This guide introduces you to Amazon ElastiCache. In this lab you will create an Amazon ElastiCache Redis node and connect to it from an Amazon EC2 instance to run commands. You will then clean up your resources by deleting the stack.

**Objectives**

By the end of this lab, you will be able to do the following:

* Create an Amazon ElastiCache cluster
* Authorize access to your Amazon ElastiCache cluster
* Connect to your Amazon ElastiCache cluster and run commands
* Delete an Amazon ElastiCache cluster

**Amazon ElastiCache**

Amazon ElastiCache is a web service that helps improve the performance of web applications by allowing you to retrieve information from fast, managed, in-memory caches, instead of relying entirely on slower disk-based databases. It supports two common, open-source engines, Memcached and Redis.

ICON KEY

Various icons are used throughout this lab to call attention to different types of instructions and notes. The following list explains the purpose for each icon:

* **Note:** A hint, tip, or important guidance.
* **Learn more:** Where to find more information.
* **Command:** A command that you must run.
* **Task complete:** A conclusion or summary point in the lab.

**Start lab**

1. To launch the lab, at the top of the page, choose **Start lab**.

 You must wait for the provisioned AWS services to be ready before you can continue.

1. To open the lab, choose **Open Console**.

You are automatically signed in to the AWS Management Console in a new web browser tab.

**Do not change the Region unless instructed.**

COMMON SIGN-IN ERRORS

**Error: You must first sign out**



If you see the message, **You must first log out before logging into a different AWS account:**

* Choose the **click here** link.
* Close your **Amazon Web Services Sign In** web browser tab and return to your initial lab page.
* Choose **Open Console** again.

**Error: Choosing Start Lab has no effect**

In some cases, certain pop-up or script blocker web browser extensions might prevent the **Start Lab** button from working as intended. If you experience an issue starting the lab:

* Add the lab domain name to your pop-up or script blocker’s allow list or turn it off.
* Refresh the page and try again.

**Task 1: Create an Amazon ElastiCache Cluster**

In this task, you create an Amazon ElastiCache cluster.

1. At the top of the page, in the unified search bar, search for and choose

ElastiCache

.

1. In the left navigation pane, under **Resources**, choose **Redis caches**.
2. Choose **Create Redis cache**.
3. On the **Create Redis cache** page, in the **Configuration** section:

* For **Deployment option**, choose **Design your own cache**.
* For **Creation method**, choose **Cluster cache**.

1. In the **Cluster info** section:

* For **Name**, enter

mycache

.

1. In the **Cluster settings** section:

* For **Node type**, select **cache.t2.micro** or **cache.t3.micro**.
* For **Number of replicas**, enter

0

.

1. In the **Connectivity** section:

* For **Subnet groups**, make sure **Create a new subnet group** is selected.
* For **Name**, enter

mysubnetgroup

.

* For **VPC ID**, select the VPC ID that is displayed on the left side of these lab instructions.

1. Leave all other settings at the default values and scroll to the bottom of the page and choose **Next** .
2. On the **Advanced settings** page, scroll to the bottom of the page and choose **Next**.
3. On the **Review and create** page, scroll to the bottom of the page and choose **Create**.

You cache cluster will display a **Status** of *creating*. Eventually the **Status** column will display *available* when the cluster is ready. You can proceed to the next task while the cluster is creating.

**Task complete:** You have successfully created an Amazon ElastiCache cluster.

**Task 2: Authorize Access To Your Amazon ElastiCache Cluster**

To connect to your Amazon ElastiCache cluster from an Amazon EC2 instance that is running in the same Amazon VPC, you need to grant network ingress access to the cluster. In this task, you grant network ingress access to your cluster.

1. At the top of the page, in the unified search bar, search for and choose

EC2

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1. In the left navigation pane, under **Network & Security**, choose **Security Groups**.
2. Select the security group for the VPC ID that is displayed on the left side of these lab instructions.
3. Choose the **Inbound rules** tab.
4. Choose **Edit inbound rules**.

You will first add a rule to allow your Amazon EC2 instances within your VPC to connect to your ElastiCache nodes.

1. Choose **Add rule**.

* **Type:** *Custom TCP*
* **Port Range:**

6379

 (This is the port range for Redis.)

* **Source type:** *Anywhere-IPv4*

1. For the **All traffic** rule at the top, choose **Delete**.
2. Choose **Save rules**.

**Task complete:** You have successfully granted network ingress access to the Amazon ElastiCache cluster.

**Task 3: Obtain Your ElastiCache Endpoint**

To connect to your ElastiCache cluster, you need to know what your ElastiCache endpoint is. In this task, you obtain your ElastiCache endpoint.

1. At the top of the page, in the unified search bar, search for and choose

ElastiCache

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1. In the navigation pane on the left, choose **Redis caches**.
2. Choose the **mycache** link.
3. Copy the **Primary Endpoint** value to a text editor.

**Do not copy** *:6379*. The copied value should look similar to this: *mycache.drossl.0001.usw2.cache.amazonaws.com*

**Task complete:** You have successfully obtained the ElastiCache endpoint.

**Task 4: Launch an Amazon EC2 Instance to Access Your ElastiCache Cluster**

In this task, you launch an Amazon EC2 instance in your VPC to access your ElastiCache cluster.

1. At the top of the page, in the unified search bar, search for and choose

EC2

.

1. Choose **Launch instances** and select **Launch instances**.
2. On **Launch an instance**, in **Name and tags** section configure:

* **Name:**

myCacheInstance

1. In **Application and OS images (Amazon Machine Image)**, Quickstart sub-section, choose **Amazon Linux** which will automatically select the latest *Amazon Linux 2 AMI* image.
2. In **Instance type** : You will configure a t2.micro instance.
3. In **Key pair (login)** : Choose **Proceed without a key pair (Not recommended)**.
4. In **Network settings** : Select **Edit** and then configure :

* **VPC - required:** *Lab VPC*
* **Firewall (security groups):** *Select existing security group*
* **Common security groups:** Select your security group from the dropdown.

1. In **Configure storage** section, keep the default value.
2. Locate and expand the  **Advanced details** section.
3. From the **IAM instance profile** dropdown menu, choose the role that has a name like **EC2InstProfile**.
4. Choose **Launch instance**.
5. At the **Next Steps** page, choose **View all instances**.

**Note:** Wait for the **Instance state** to show *Running* status. You can choose the **refresh**  button every 30 seconds to check the status.

**Task complete:** You have successfully launched an Amazon EC2 instance.

**Task 5: Connect To Your EC2 Instance**

In this task, you connect to your Amazon EC2 instance using Session Manager.

**Additional information:** Session Manager is a fully managed AWS Systems Manager capability that you use to manage your Amazon EC2 instances through an interactive one-click browser-based shell or through the AWS Command Line Interface (AWS CLI). You can use Session Manager to start a session with an Amazon EC2 instance in your account. After starting the session, you can run bash commands as you would through any other connection type.

1. At the top of the page, in the unified search bar, search for and choose

EC2

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1. In the left navigation pane, choose **Instances**.
2. Select  **myCacheInstance** and then choose **Connect**

The **Connect to instance** page is displayed.

1. For **Connection method**, choose the **Session Manager** tab.

**Additional information:** With Session Manager, you can connect to Amazon EC2 instances without needing to expose the SSH port on your firewall or Amazon VPC security group. See [AWS Systems Manager Session Manager](https://docs.aws.amazon.com/systems-manager/latest/userguide/session-manager.html) for more information.

1. Choose **Connect**.

A new browser tab or window opens with a connection to the **myCacheInstance**.

**Note:** The Session Manager service is not updated in real time. If you experience errors with Session Manager connecting to an Amazon EC2 instance you just launched, ensure that you have given the instance a few minutes to launch, pass health checks, and communicate with the Session Manager service before trying to open a session connection again.

**Task complete:** You have successfully connected to the Amazon EC2 instance using Session Manager.

**Task 6: Connect To Your ElastiCache Cluster**

In this task, you will connect to your ElastiCache cluster from your EC2 instance using the redis-cli.

First, you need to install the redis-cli. To install the redis-cli, you’ll need to install gcc.

1. Install gcc by entering

sudo yum install -y gcc

1. Press **Enter**.
2. Install the redis-cli by entering the following:

cd ~

wget http://download.redis.io/redis-stable.tar.gz

tar xvzf redis-stable.tar.gz

cd redis-stable

make

1. Connect to your Redis cluster by doing the following:

* Enter

src/redis-cli -c -h ENDPOINT -p 6379

* Replace **ENDPOINT** with the name of your Redis endpoint.
* Press **Enter**

The full command should look similar to *src/redis-cli -c -h mycache.rdyps9.0001.usw2.cache.amazonaws.com -p 6379*

You should now be connected to the cache node where you can run Redis commands.

**Task complete:** You have successfully connected to the ElastiCache cluster.

**Task 7: Test Your ElastiCache Cluster**

In this task, you run commands on your Amazon ElastiCache cluster.

1. **Command:** Enter

set a "hello"

This command sets key **a** with a string value and no expiration.

1. **Command:** Enter

get a

This command gets the value of **a**.

1. **Command:** Enter

get b

This command tries to get the value for **b**, but since it is not in cache, it returns **nil**

1. **Command:** Enter

set b "Good-bye" EX 5

This command sets the value of **b** to “Good-bye” for 5 seconds. Once 5 seconds has passed, **b** will no longer have a value.

1. **Command:** Enter

quit

This command closes the connection to your Redis cluster.

**Task complete:** You have successfully ran the commands on the ElastiCache cluster.

**Task 8: Delete Your Amazon ElastiCache Cluster**

In this task, you delete your Amazon ElastiCache Cluster.

1. At the top of the page, in the unified search bar, search for and choose

ElastiCache

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1. In the navigation pane on the left, choose **Redis caches**.
2. Select **mycache**.
3. Choose **Actions**, and then choose **Delete**.
4. In the **Delete mycache** window, configure:

* **Create backup**: *No*.
* Type

mycache

 into the text field.

* Choose **Delete**.

The status changes to **Deleting**.

As soon as the cache cluster is deleted, you stop incurring charges for that cache cluster.

**Task complete:** You have successfully deleted the Amazon ElastiCache cluster.

**End lab**

Follow these steps to close the console and end your lab.

1. Return to the **AWS Management Console**.
2. At the upper-right corner of the page, choose **AWSLabsUser**, and then choose **Sign out**.
3. Choose **End lab** and then confirm that you want to end your lab.

**Conclusion**

 Congratulations! You now have successfully:

* Created an Amazon ElastiCache cluster
* Authorized access to your Amazon ElastiCache cluster
* Connected to your Amazon ElastiCache cluster using the redis-cli
* Tested a few Redis commands on your cluster
* Deleted your Amazon ElastiCache cluster

**Additional Resources**

* [Amazon ElastiCache](http://aws.amazon.com/elasticache/)

For more information about AWS Training and Certification, see [*https://aws.amazon.com/training/*](https://aws.amazon.com/training/).

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