

Diffusion Cluster AWS Deployment guide

Before You Begin

It's assumed that you have:

- an AWS account,
- an EC2 key pair (optional)

System Requirements

The amount of CPU and system memory your Diffusion Server requires depends on the number of client connections, data topics, and the number of messages sent to and from the Diffusion Server. The free demo version supports up to 5 client connections.

For more information about required system resources, such as vCPUs, memory, and storage, see the resource calculator on www.diffusiondata.com or contact the DiffusionData field engineering team.

Step 1: Configure the Cluster

To configure your Diffusion Cluster, do the following:

The screenshot shows the AWS CloudFormation console configuration page for a stack. The form includes the following sections:

- Stack name:** A text input field with a placeholder "Enter a stack name". Below it, a note states: "Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-)".
- Parameters:** A section header with a note: "Parameters are defined in your template and allow you to input custom values when you create or update a stack."
- DashboardAccessCIDR:** A text input field with a placeholder "Enter String". A note above it says: "Please set CIDR to x.x.x.x/32 to allow one specific IP address access, 0.0.0.0/0 to allow all IP addresses access, or another CIDR range to grant access to the administration dashboard".
- DashboardPwd:** A text input field with a placeholder "Enter String". A note above it says: "The dashboard admin account password".
- DataSourceAccessCIDR:** A text input field with a placeholder "Enter String". A note above it says: "Please set CIDR to x.x.x.x/32 to allow one specific IP address access, 0.0.0.0/0 to allow all IP addresses access, or another CIDR range to grant access for sending/receiving data to the service from the datasource".
- InstanceType:** A dropdown menu with "t2.micro" selected. A note above it says: "EC2 instance type".
- KeyName:** A dropdown menu with "Select AWS::EC2::KeyPair::KeyName" selected. A note above it says: "Name of an existing EC2 keypair to enable SSH access to the instance".
- Region:** A dropdown menu with "us-east-1" selected. A note above it says: "AWS region for deployment".

- Enter the **Stack name**.

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- **DashboardAccessCIDR:** you can specify an IP address or a range of IPs from which access to the Dashboard is allowed.
- Under **DashboardPwd**, choose the password for the administrative account to access the Dashboard. Please note that the user name for the account is “admin”.
- **DataSourceAccessCIDR:** This parameter specifies the IP or IP range to grant access to the Diffusion Cluster (to send and receive data).
- Under the **Instance type**, choose an instance that meets your resource needs (for example, for evaluation purposes, you might choose t4.micro). For information about the resources provided by the various instance types, see [Amazon EC2 Instance Types](#).
- Under **KeyName**, enter your authentication key pair. This key pair is used to log in to the EC2 instance.
- Select the **Region** where you want to deploy the Diffusion Cluster.

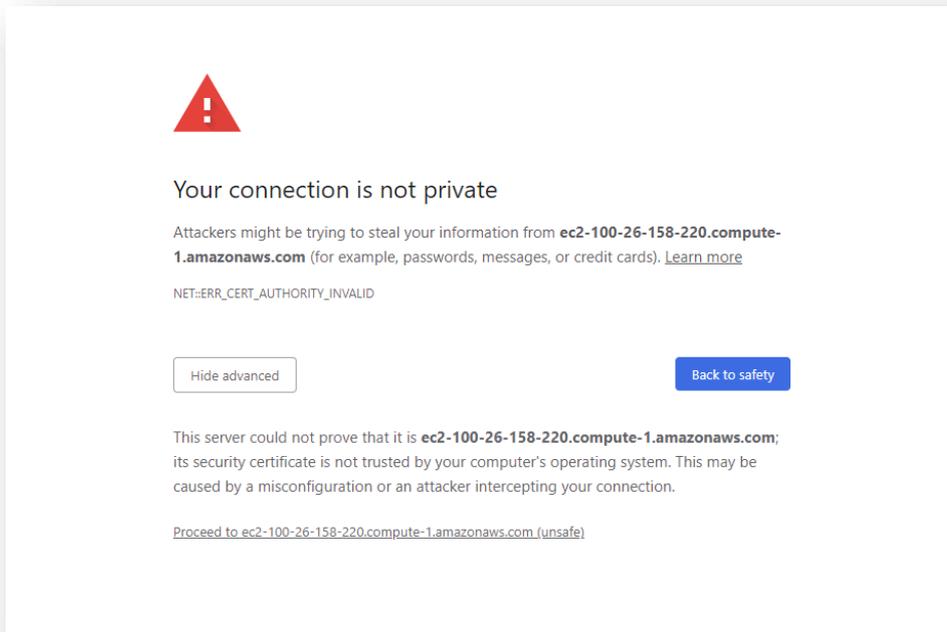


- Click **Submit** to create the Diffusion Cluster.

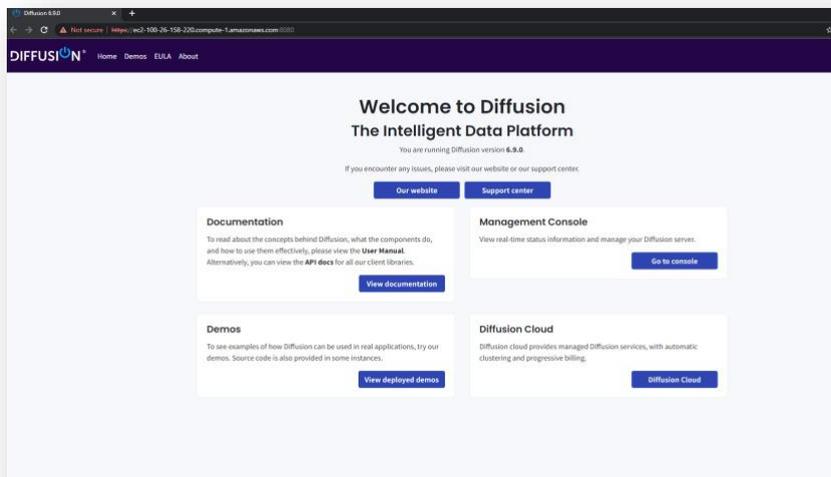
Step 2. Login to Diffusion Server Console

- This is the final setup step. Please open your favourite web browser and navigate to <http://<Public IPv4 DNS>:8090>. Please note, that the Diffusion server installation does not come with the preinstalled SSL certificate so, you'll see the following warning message from the browser:

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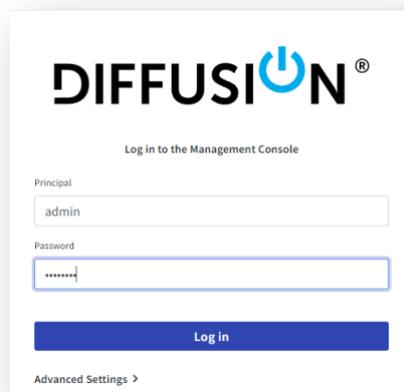


- As soon as you accept that warning you'll be navigated to the following page:



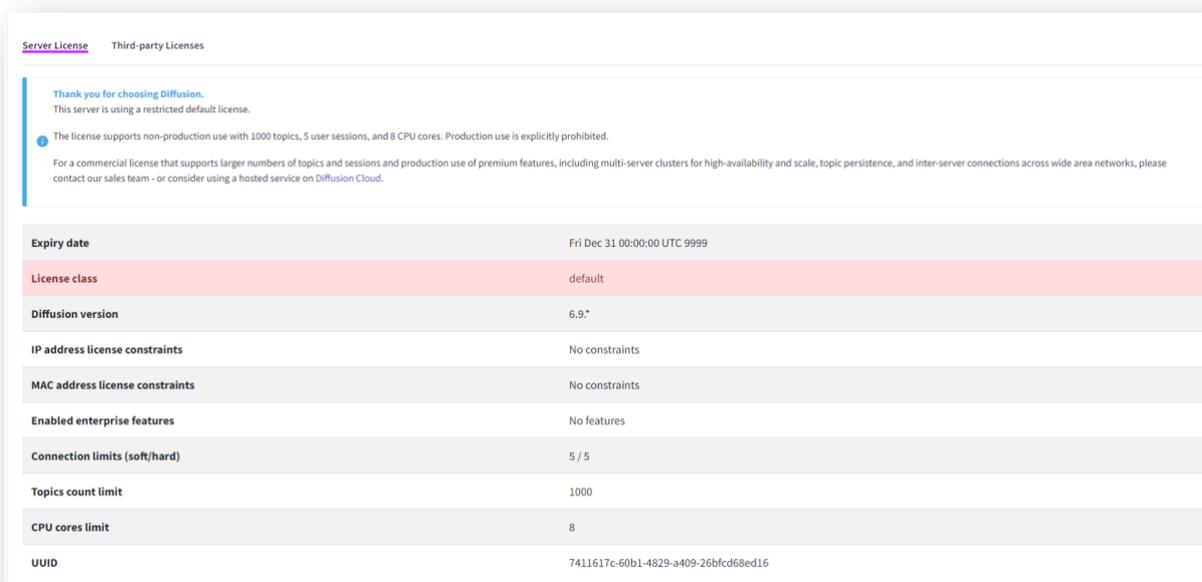
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- Click on the “Go to console” button and enter the credentials you’ve created on the previous step to the Login dialog.



The image shows the login dialog for the Diffusion Management Console. It features the Diffusion logo at the top, followed by the text "Log in to the Management Console". Below this, there are two input fields: "Principal" with the value "admin" and "Password" with masked characters. A blue "Log in" button is positioned below the password field. At the bottom left, there is a link for "Advanced Settings >".

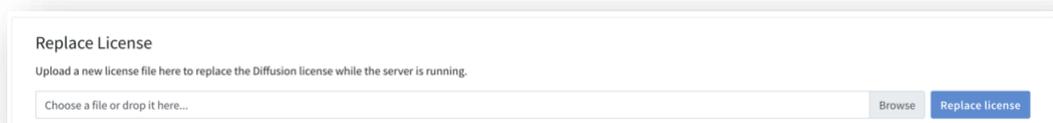
- Finally, navigate to the License section and check the details of your licence:



The image shows the "Server License" section of the Diffusion console. It includes a message: "Thank you for choosing Diffusion. This server is using a restricted default license. The license supports non-production use with 1000 topics, 5 user sessions, and 8 CPU cores. Production use is explicitly prohibited. For a commercial license that supports larger numbers of topics and sessions and production use of premium features, including multi-server clusters for high-availability and scale, topic persistence, and inter-server connections across wide area networks, please contact our sales team - or consider using a hosted service on Diffusion Cloud." Below this is a table of license details.

Expiry date	Fri Dec 31 00:00:00 UTC 9999
License class	default
Diffusion version	6.9.*
IP address license constraints	No constraints
MAC address license constraints	No constraints
Enabled enterprise features	No features
Connection limits (soft/hard)	5 / 5
Topics count limit	1000
CPU cores limit	8
UUID	7411617c-60b1-4829-a409-26bfcd68ed16

You can update your Diffusion™ license file without having to restart the Diffusion server. Copy the new license file (*license.lic*) over the existing file in the *diffusion_directory/etc* directory and ensure that the timestamp is updated. Diffusion checks the timestamp of the *license.lic* every minute. If the license file has been updated, Diffusion reloads it and logs this to stdout. Or alternatively you can use Diffusion Console to upload new license file:



The image shows the "Replace License" dialog in the Diffusion console. It contains the text "Upload a new license file here to replace the Diffusion license while the server is running." Below this is a file input field with the placeholder text "Choose a file or drop it here...". To the right of the input field are two buttons: "Browse" and "Replace license".

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