

Importing the Barracuda Web Application Firewall for AWS BYOL CFT and Deploying the Instance

<https://campus.barracuda.com/doc/73696986/>

The article walks you through how to import the Barracuda Web Application Firewall BYOL CFT and deploy the instance.

Pre-requisites

- Create all necessary S3 buckets (License S3 bucket, Cluster S3 bucket and Backup S3 bucket)
- Upload the BYOL licenses to the License S3 bucket. (Licenses can be activated [here](#).)
- Create an IAM Role to access the S3 buckets
- BYOL CloudFormation Template. See Barracuda CloudFormation Template (CFT) for BYOL Instance.

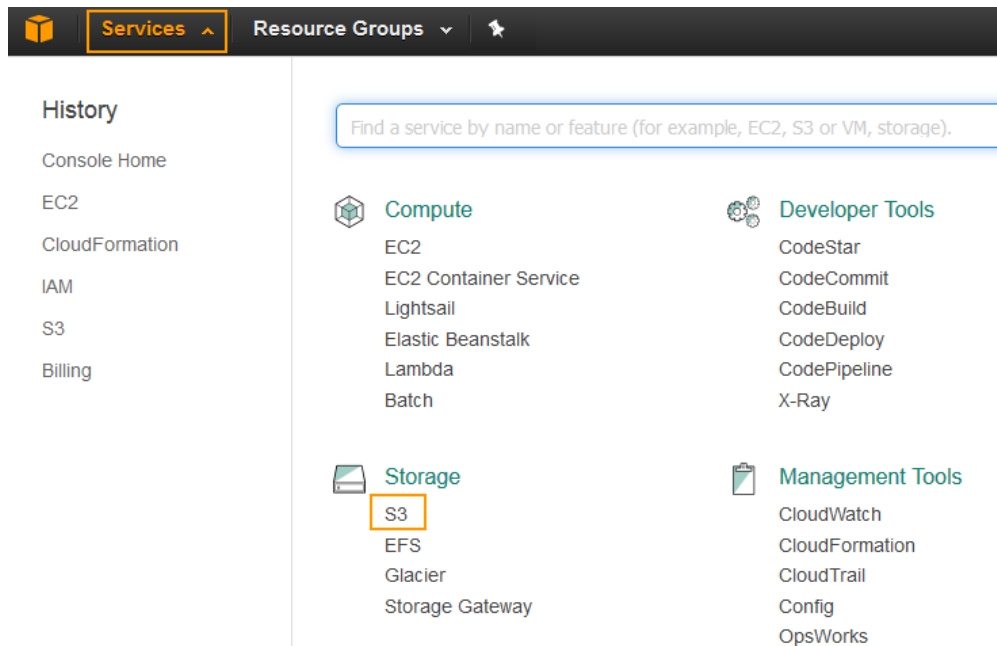
Upload the BYOL Licenses to the S3 Bucket

Before deploying the Barracuda Web Application Firewall instance(s) using the CloudFormation Template, upload the BYOL licenses to the predefined “Licenses” S3 bucket. The licenses should be activated manually by the administrator before being uploaded to the Licenses S3 bucket. If the licenses are not activated, the Barracuda Web Application Firewall will not boot up and will stop at the “Licensing” page.

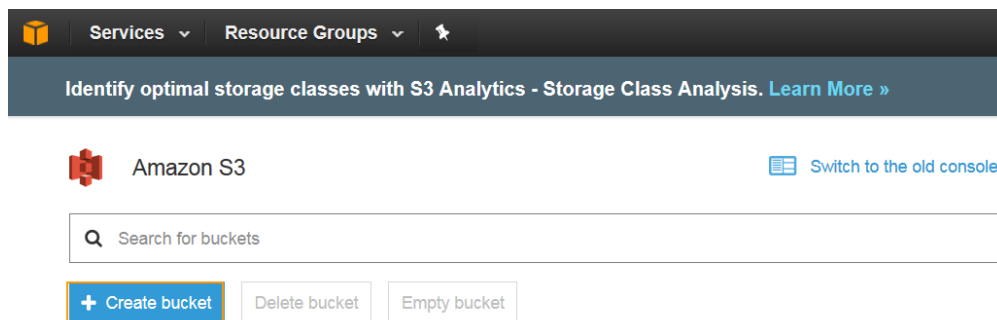
Ensure that you do not modify the license.json file when the autoscaling stack is up and running.

Uploading the BYOL Licenses

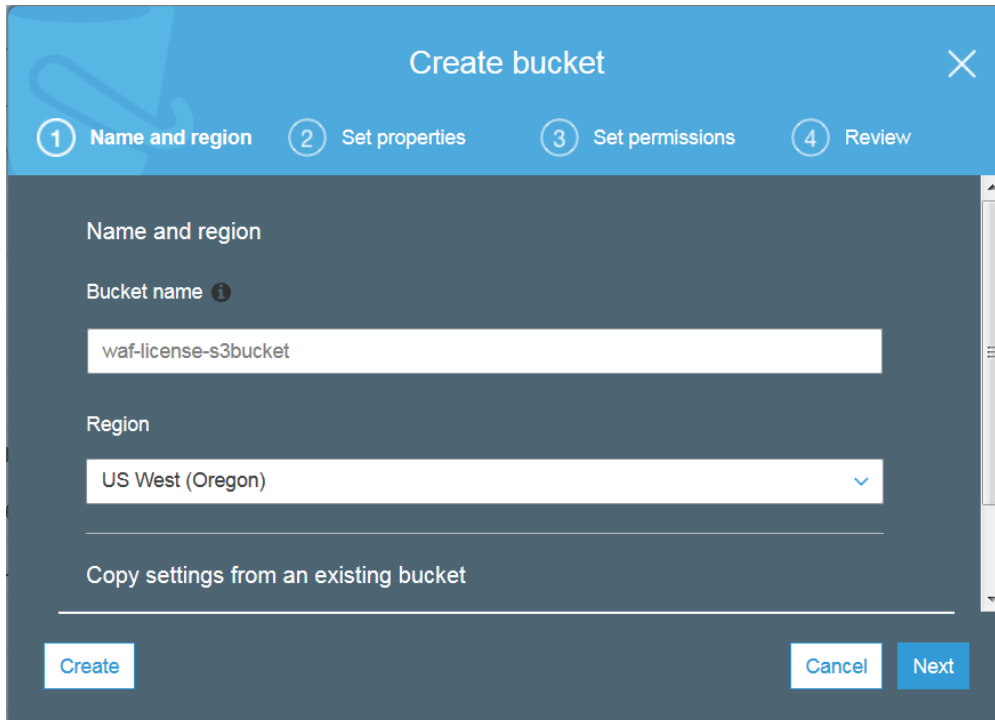
1. Log into the AWS Management Console.
2. Click **Services** and select **S3** under **Storage**.



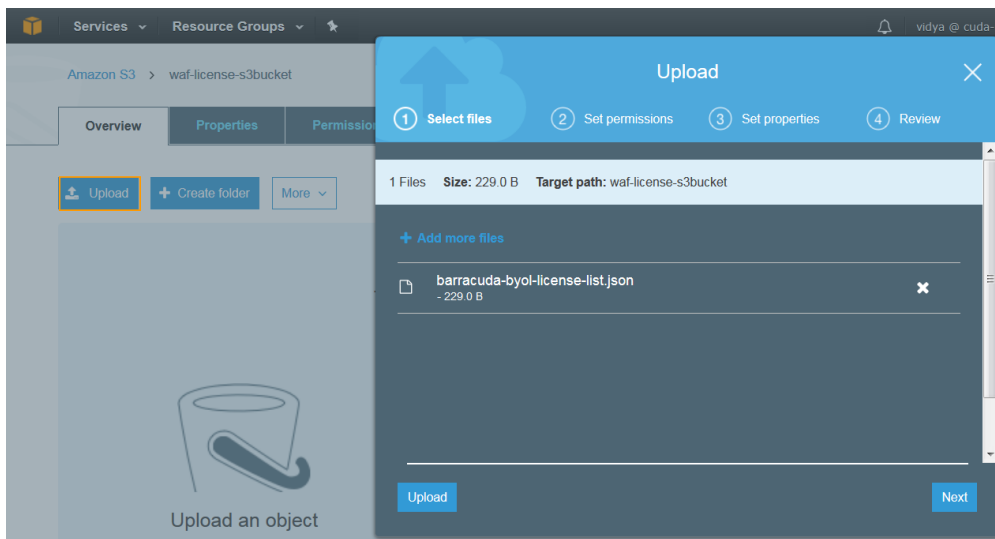
3. On the S3 Management Console, click **Create bucket** to add a S3 bucket to store the licenses.



4. In the **Create bucket** window, enter a unique bucket name, select the region where the instances will be deployed, and click **Create**.



5. Select the created S3 bucket and click **Upload**.
6. In the **Upload** window, locate the licenses file by clicking **Add files** and click **Upload**. **Note:** The licenses file should be created in the valid JSON format, and the file should be named as barracuda-byol-license-list". **Example:** *barracuda-byol-license-list.json*

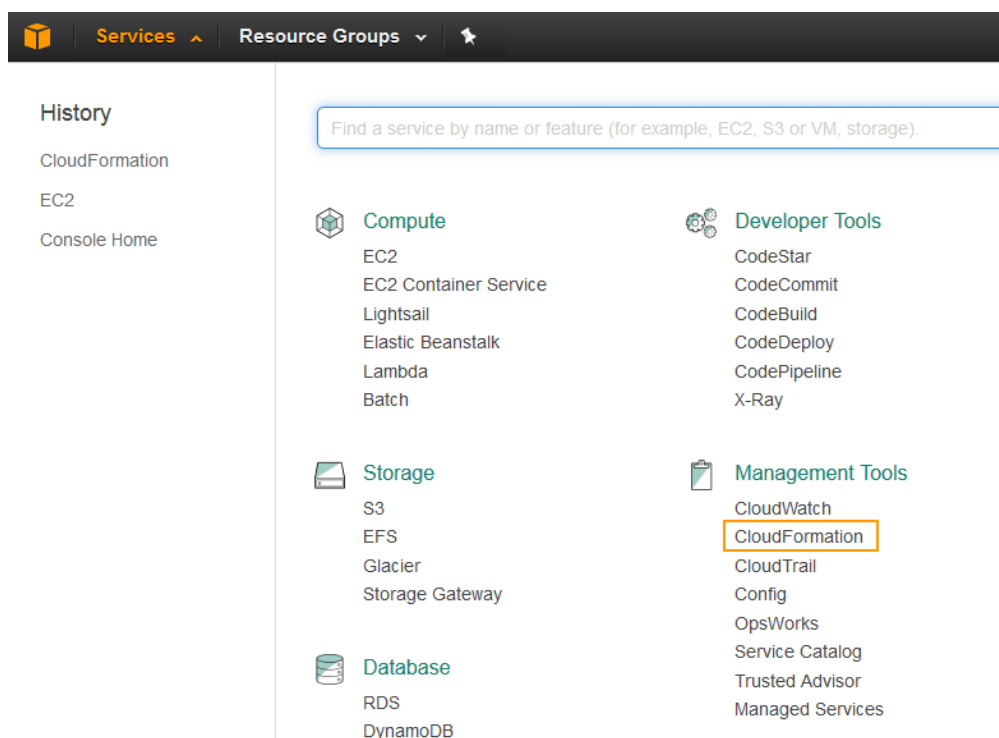


7. To create the Cluster S3 bucket, repeat step **3** and **4**.
8. To create the Backup S3 bucket, repeat step **3** to **5** and upload the backed up file(s) (if the backup was taken manually). If not, repeat step **3** and **4**. See "Backing Up the Barracuda Web Application Firewall Instance(s) System Configuration in AWS" section in the **Backing Up and Restoring Your System Configuration** article.

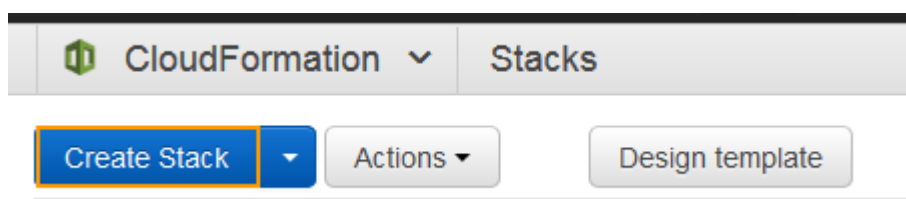
Importing the Barracuda Web Application Firewall for AWS BYOL CFT and Deploying the Instance

Perform the steps below to import the Barracuda Web Application Firewall CloudFormation Template and deploy the instance:

1. Log into the AWS Management Console.
2. Select **CloudFormation** under **Management Tools**.



3. On the **CloudFormation Management** page, click **Create Stack**.



4. On the **Create stack > Select Template** page:
5. Select the **Upload a template to Amazon S3** option, click **Browse** and locate the BYOL CFT file saved on your system. **Example:** `WAF_BYOL_AutoScaling_CFT.json`.
6. Click **Next**.

CloudFormation > Stacks > Create Stack

Create stack

Select Template

Select the template that describes the stack that you want to create. A stack is a group of related resources that you manage as a single unit.

Design a template Use AWS CloudFormation Designer to create or modify an existing template. [Learn more.](#)

[Design template](#)

Choose a template A template is a JSON/YAML-formatted text file that describes your stack's resources and their properties. [Learn more.](#)

☐ Select a sample template

☐ Upload a template to Amazon S3

[Browse...](#) WAF_BYOL_AutoScaling_CFT.json

☐ Specify an Amazon S3 template URL

[Cancel](#) [Next](#)

7. On the **Create stack > Specify Details** page, do the following configuration:
1. In the **Specify Details** section:
 2. Enter a name for the CloudFormation stack in the **Stack name** field.
 3. In the **Parameters** section, specify values for the following:

| AWS Networking Configuration Details | |
|--|---|
| Parameter Name | Description |
| VPC ID | Select the VPC that you wish to deploy the Barracuda Web Application Firewall instance(s) from the drop-down list. |
| Availability Zone(s) | Select the availability zones from the multi-select drop-down list. The VPC you choose to deploy in must be available across these availability zones. Note: It is recommended to deploy the instances in multiple availability zones. |
| Subnet ID(s) | Select the subnet ID(s) associated with the availability zone(s) where the Barracuda Web Application Firewall instance(s) needs to be deployed. Note that these subnets must be part of the VPC that you choose. |
| Elastic Load Balancer | Enter the name of the elastic load balancer(s) (ELB) that needs to be used to load balance/distribute the traffic between the Barracuda Web Application Firewall(s). The ELB(s) should be connected to all the subnets that are used for this deployment and be part of the VPC that is chosen for this deployment. |
| AWS Auto Scaling Configuration Details | |
| Parameter Name | Description |
| Instance Type | Select an instance type depending on your requirement. |
| Minimum Instances | Enter the minimum number of Barracuda Web Application Firewall instance(s) that needs to be up and running continuously in the Auto Scaling group. Default: 1 |
| Maximum Instances | Enter the maximum number of Barracuda Web Application Firewall instance(s) to be deployed in the Auto Scaling group. Default: 4 |
| Notification Email | Enter the email address(es) to which you want Amazon SNS to send email notifications. |

| Barracuda Web Application Firewall BYOL License(s) Storage Details | |
|--|---|
| Parameter Name | Description |
| License S3 Bucket | Specify the name of the S3 bucket where the licenses are uploaded. |
| License Sub Directory | Specify the name of the sub directory that contains the licenses. Leave it blank if there is no sub directory. |
| Barracuda Web Application Firewall Bootstrapping Configuration Storage Details | |
| Parameter Name | Description |
| Clustering S3 Bucket | Specify the name of the S3 bucket that contains the details of instances that are in cluster. |
| Barracuda Web Application Firewall Bootstrapping Configuration | |
| Parameter Name | Description |
| Default Domain | Specify the default domain name that needs to be configured on the Barracuda Web Application Firewall for AWS. |
| WAF Service Name | Specify the service name that needs to be configured on the Barracuda Web Application Firewall for AWS. |
| WAF Service Port | Specify the port number on which your web server responds. |
| WAF Server IP | Specify the IP address or Fully Qualified Domain Name (FQDN) of the server that hosts the service. |
| WAF Server Port | Specify the port number of the server. |
| Barracuda Web Application Firewall Proxy Server Configuration (Optional) | |
| Parameter Name | Description |
| Proxy Server IP | Specify the IP address of the proxy server. |
| Proxy Server Port | Specify the port number associated with the proxy server. |
| Proxy Server Username | Specify the username to authenticate to the proxy server. This field can be left empty if you do not have any username to authenticate to the proxy server. |
| Proxy Server Password | Specify the password associated with the username. This field can be left empty if you have not specified the Proxy Server Username. |
| Barracuda Web Application Firewall EULA Details | |
| Parameter Name | Description |
| Name | Specify your name. |
| Email Address | Specify your email address. |
| Company (if applicable) | Specify your company name. |
| AWS Identity & Access Management(IAM) Details | |
| Parameter Name | Description |

IAM Role Name

Specify the IAM role name that has appropriate permissions to the specified S3 buckets. See [IAM Policy](#).

8. Click **Next**.

CloudFormation > Stacks > Create Stack

Create stack

Select Template
Specify Details
 Options
 Review

Specify Details

Specify a stack name and parameter values. You can use or change the default parameter values, which are defined in the AWS CloudFormation template. [Learn more](#).

Stack name: WAFBYOL

Parameters

AWS Networking Configuration Details

VPC Id: vpc- (WAF-A...)
Select the VPC chosen for this deployment

Availability Zone(s): us-east-2a
Select the Availability Zones of the VPC that will be used for this deployment. Recommended deployment is across multiple AZ's

Subnet Id(s): subnet- us-east-2a
Select subnet Id's which has been already assigned to the VPC used. These subnets must reside on AZ's chosen

Elastic Load Balancer: elb-1-test
Enter a valid pre-configured Elastic Load Balancer name associated to the VPC and Subnet. This is the ELB that will distribute traffic to the WAF Cluster

AWS Auto scaling Configuration Details

Instance Type: m3.medium
Choose the instance type to use for this AutoScale group

Minimum Instances: 1
Enter the minimum number of WAF instances (1-20) to be available in the AutoScale Group

Maximum Instances: 4
Enter the maximum number of WAF instances (2-20) that can be created in the AutoScale Group

Notification Email: @barracuda.com
Enter a valid email address to send AutoScaling Event Notifications

Barracuda Web Application Firewall BYOL License(s) Storage Details

License S3 Bucket: license-bucket
Enter an existing S3 Bucket Name which contains the Barracuda Web Application Firewall BYOL Licenses

License Sub Directory: license
Specify the folder on the specified License S3 Bucket which contains the BYOL License File. Leave blank if there is no specific folder for Licenses on the S3 Bucket. Examples: BarracudaLicenses(Two level folder structure), BarracudaBYOLLicenses(One level folder structure).

Barracuda Web Application Firewall Bootstrapping Configuration Storage Details

Clustering S3 Bucket: cluster-bucket
Enter the existing S3 Bucket Name to be used for WAF Cluster bootstrapping. This bucket would also be used to dump the system report during the instance termination

Barracuda Web Application Firewall Bootstrapping Configuration

Default Domain: barracuda.com
Enter the default domain which needs to be configured on the Barracuda Web Application Firewall

WAFServiceName: Test1
Specify the Service Name to be configured on the Barracuda Web Application Firewall

WAFServicePort: 80
Specify the Service Port to be configured on the Barracuda Web Application Firewall. This is the port that is exposed to the outside world. Default is 80.

WAFServerIP: www.imdb.com
Specify the Server IP (inside the VPC) to be configured on the Barracuda Web Application Firewall; alternatively, you can also enter the FQDN of the instance or a downstream ELB to connect to.

WAFServerPort: 80
Specify the port number on which the web application responds. This is the port that the Barracuda Web Application Firewall will use to connect to the application

Barracuda Web Application Firewall Proxy Server Configuration (Optional)

Proxy Server IP:
Enter the IP of your Proxy Server

Proxy Server Port:
Enter the Port of your Proxy Server

Proxy Server Username:
Enter the Username for your Proxy Server. Leave it empty in case you don't have any username for your Proxy Server.

Proxy Server Password:
Enter the Password for your Proxy Server. Leave it empty in case you don't have any password for your Proxy Server.

Barracuda Web Application Firewall EULA Details

Name: BarracudaUser1

Email Address: @barracuda.com

Company (if applicable): None
By entering the Name, Email Address and Company (if applicable) above you agree to terms and conditions outlined in the product End User License Agreement (https://www.barracuda.com/legal/software_license_agreement) and Privacy Policy (<https://www.barracuda.com/legal/privacy>).

AWS Identity & Access Management(IAM) Details

IAM Role Name: -autoscale-byol
Enter the IAM Role which has appropriate permissions on the all the specified S3 bucket(s)

Cancel Previous **Next**

9. On the **Create stack > Options** page, add tags for resources in your stack (if required) and click **Next**.

Create stack

Select Template
Specify Details
Options
Review

Options

Tags

You can specify tags (key-value pairs) for resources in your stack. You can add up to 50 unique key-value pairs for each stack. [Learn more](#).

| Key (127 characters maximum) | Value (255 characters maximum) | |
|------------------------------|--------------------------------|---|
| 1 | | + |

Permissions

You can choose an IAM role that CloudFormation uses to create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses the permissions defined in your account. [Learn more](#).

IAM Role

Enter role arn

Advanced

You can set additional options for your stack, like notification options and a stack policy. [Learn more](#).

Cancel Previous **Next**

10. On the **Create stack > Review** page, verify the details and click **Create**.

Create stack

Select Template
Specify Details
Options
Review

Review

Template

Template URL https://s3-us-west-2.amazonaws.com/cf-templates-1ffa5vlypunam-us-west-2/2017229VCs-WAF_BYOL_AutoScaling_CFT.json
 Description Barracuda Web Application Firewall Auto Scaling with Basic Bootstrapping for BYOL Instances
 Estimate cost [Cost](#)

Details

Stack name: WAFBYOL

AWS Networking Configuration Details

VPCId vpc-
 AvailabilityZones us-west-2a
 SubnetID subnet-
 ELBNames c1-test

AWS Auto scaling Configuration Details

InstanceType m3.medium
 ScalingMinSize 1
 ScalingMaxSize 4
 NotificationEmail @barracuda.com

Barracuda Web Application Firewall BYOL License(s) Storage Details

LicenseS3Bucket -license-bucket
 CudaLicenseSubDir -license

Barracuda Web Application Firewall Bootstrapping Configuration Storage Details

ClusterS3Bucket -cluster-bucket

Barracuda Web Application Firewall Bootstrapping Configuration

DefaultDomain barracuda.com
 WAFServiceName Test1
 WAFServicePort 80
 WAFServerIP www.imdb.com
 WAFServerPort 80

Barracuda Web Application Firewall Proxy Server Configuration (Optional)

ProxyServerIP
 ProxyServerPort
 ProxyServerUsername
 ProxyServerPassword

Barracuda Web Application Firewall EULA Details

AdministratorName BarracudaUser1
 AdministratorEmailID @barracuda.com
 AdministratorCompany None

AWS Identity & Access Management(IAM) Details

S3AccessIAMRole -autoscale-byol

Options

Tags

No tags provided

Advanced

Notification none
 Timeout none
 Rollback on failure Yes

Cancel Previous **Create**

As per the configuration in the CFT above:

1. A stack with the name "WAFBYOL" will be created.
2. Deploys one (1) Barracuda Web Application Firewall VM in the specified availability zone (us-west-2a), and subnets (subnet-xxxxxxx) with instance type as m3.medium, and gets added to the "xx.c1-test" Elastic Load Balancer.

3. Sends notification to xxxxxx@barracuda.com.
 4. Scales up the instance (up to total of 4) whenever the alarm triggers
 5. Creates a service on the Barracuda Web Application Firewall with port 80 that protects the server(s) (**FQDN**: www.imdb.com on port 80). The created service can be accessed over the ELB, i.e., **xxx-c1-test**, using port 80.
 6. The IAM role (xxx.autoscale-byol) gains access to the specified S3 buckets.
 7. If AWS is unable to create the stack based on the inputs you provided, the stack will roll back.
11. The CFT now starts its operation. You can see the **CREATE_IN_PROGRESS** status displayed on the **CloudFormation Management Console** for the stack. Select the tabs and see the status of events and resources that are being created. An example of the successfully created resources is available in the screenshot below:

Next Step

Continue with [Verify the Instance in the Auto Scaling Group](#).

Figures

1. S3.png
2. Create_Bucket.png
3. License_S3_Bucket.png
4. Upload_Licenses_File.png
5. CloudFormation.png
6. Create_Stack.png
7. Upload_CFT.png
8. Specify_Details.png
9. Options.png
10. Review.png

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