USER DEPLOYMENT GUIDE



Introductory Material

Introduction

CLOUDBASIC, Inc. specializes in the development of enterprise cloud technology products designed to natively integrate with the leading Cloud infrastructure providers. AWS is our preferred cloud partner and the AWS Marketplace has been our main distribution channel. Underpinning the CLOUDBASIC replication products is a MS SQL Server Enterprise (High-Availability) AlwaysOn / Mirroring compatible data replication engine. This technology combines the speed and availability of the high-end MS SQL server high-availability commercial replication capabilities with the simplicity and cost effectiveness of a new generation "virtually no administration required" tools. With CLOUDBASIC, even the most complex replication scenarios can easily be configured in minutes using a simple web-based interface.

Use Cases

Data replication is at the core of numerous Use Case scenarios in complex enterprise environments:

- RDS Multi-AZ and Multi-AR Disaster Recovery solutions
- Multiple Load-Balanced Read Replicas
- Database Replication OnPrem to AWS to Amazon Redshift
- No-downtime Database migrations to AWS EC2, AWS RDS and Intercloud
- Feeding of data into S3 based Data Lakes using a number of different formats
- Intercloud fail-over solutions

Public case studies for these Use Cases along with additional deployment scenarios can be found at:

https://cloudbasic.net/case-studies/

Overview of Typical Customer Deployment on AWS

CLOUDBASIC for AWS is typically deployed as a preconfigured AWS Marketplace AMI in a customer controlled VPC. Security is paramount for us and our customers retain complete ownership and control of all data and AWS resources used in all deployments.

Initial setup is guided by an intuitive step-by-step wizard and usually takes about 10 minutes in the most typical deployments. CLOUDBASIC verifies access and connectivity to all involved resources and database environments before commencement of any data replication processes. Detailed instructions for configuring more complex scenarios can be found in our online documentation:

https://cloudbasic.net/documentation/configure-rds-sqlserver-alwayson/



Prerequisites and Requirements

A CLOUDBASIC configured AWS AMI contains all of the software and configurations required to run the service. No additional clients or downloads are needed on any of the source or destination database services. Basic knowledge of AWS is needed in order to configure the required connectivity between the CLOUDBASIC instance and the involved data repositories. For complex multi-region, multi-cloud and hybrid-cloud deployments advanced level skills will be required and consulting with the CLOUDBASIC advisors is highly recommended. To use CLOUDBASIC in the most typical scenarios, customers will need:

- An Amazon Web Services account
- A source SQL Server Database OnPrem, EC2 hosted, RDS hosted, or from a different cloud
- A destination SQL Server OnPrem, EC2 hosted, RDS hosted, or from a different cloud
- A VPC where the CLOUDBASIC instance will be started

Depending on your specific scenario, you may need additional resources. For more information please review the following articles in our online documentation:

https://cloudbasic.net/documentation/configure-rds-sqlserver-alwayson/sql-server-to-redshift/

https://cloudbasic.net/documentation/configure-rds-sqlserver-alwayson/sql-server-to-s3-datalake/

https://cloudbasic.net/documentation/configure-rds-sqlserver-alwayson/sql-server-to-redshift/

Advanced

Technology Partner

Architecture Diagrams

CLOUDBASIC recommends that when data replication is setup, best security practices are followed and a VPN connection is used from the corporate data center to AWS. The CLOUDBASIC instance(s) is usually in the Public subnet with the Database normally in the Private subnet of a VPC.



To meet more complex Disaster Recovery or High Availability requirements CLOUDBASIC can be deployed in a cross-region architecture that utilizes VPC peering.





Planning Guidance

Security

Customers retain full control and ownership of their infrastructure and are ultimately responsible for its configuration and security.

To ensure normal functioning of the CLOUDBASIC service the security group(s) assigned to the AWS instance must allow traffic on the following ports:

- TCP 1433 (or current port) when accessing MS SQL Server port
- TCP 80 (HTTP) to access the CLOUDBASIC management console
- TCP 5439 (or current port) when accessing Amazon Redshift

In scenarios where CLOUDBASIC is configured to write to S3, access can be controlled by either providing an IAM Role or a pair of Access Key/ Secret Access Key. Please note that the recommended best security practice is to use an IAM Role.

Depending on the Replication scenario the required permissions will fall in these basic groups:

SQL Server - to - SQL Server

ses:SendEmail ses:SendRawEmail

SQL Server - to - S3 Data Lake

ses:SendEmail ses:SendRawEmail s3:PutObject s3:ListAllMyBuckets s3:DeleteObjectVersion s3:ListBucket s3:DeleteObject s3:HeadBucket

SQL Server - to - Amazon Redshift

ses:SendEmail ses:SendRawEmail s3:PutObject s3:DeleteObjectVersion s3:DeleteObject s3:HeadBucket

Advanced Technology Partner

s3:Get* s3:List*

These default setting should be carefully reviewed before launching a CLOUDBASIC instance and can be modified using any AWS or third party provided tools.

Access to your CLOUDBASIC administrative console is through a webpage which is configured to respond on port 80 of your instance. Initially there is a single user configured with a default name of "admin" and a password of the actual EC2 Instance ID. As part of the initial login and instance verification you will be required to change this default password.

Resource tagging

To simplify tracking of resources you can implement a tagging strategy that helps you better catalog your resources and the entities within your organization that are using them. Throughout this guide we will show several examples of resource tagging.

Step-by-step IAM Role creation

This sequence illustrates how to create and IAM Role that is needed in the SQL Server-to-Amazon Redshift scenario. We will create a custom policy to grant a very limited access to the SES service and will then create a role that will use this new policy along with the standard policy AmazonS3ReadOnlyAccess.

1. In your AWS console navigate to the IAM Service, open the Polices section in the left menu and click on the "Create policy" button

aws Services v	Resource Groups 👻 🔭			🗘 CloudBasic, Inc. 🕶 Global 👻 Support 👻
Identity and Access Management (IAM)	Create policy Policy actions			2 * 0
← AWS Account	Filter policies V Q Search			Showing 551 results
Dashboard	Policy name 👻	Туре	Used as	Description
Groups Users	 AlexaForBusinessDeviceSetup 	AWS managed	None	Provide device setup access to AlexaForBusiness services
Roles	AlexaForBusinessFullAccess	AWS managed	None	Grants full access to AlexaForBusiness resources and access to re
Policies	AlexaForBusinessGatewayE	AWS managed	None	Provide gateway execution access to AlexaForBusiness services
Identity providers	AlexaForBusinessNetworkPr	AWS managed	None	This policy enables Alexa for Business to perform automated tasks
Account settings	AlexaForBusinessReadOnly	AWS managed	None	Provide read only access to AlexaForBusiness services
Credential report	AmazonAPIGatewayAdminist	AWS managed	None	Provides full access to create/edit/delete APIs in Amazon API Gate
Encryption keys	AmazonAPIGatewayInvokeF	AWS managed	None	Provides full access to invoke APIs in Amazon API Gateway.
Q Search IAM	AmazonAPIGatewayPushTo	AWS managed	None	Allows API Gateway to push logs to user's account.
- AM/C Organizations	AmazonAppStreamFullAccess	AWS managed	None	Provides full access to Amazon AppStream via the AWS Manageme
	AmazonAppStreamReadOnI	AWS managed	None	Provides read only access to Amazon AppStream via the AWS Man
Service control policies (SCPs)	AmazonAppStreamServiceA	AWS managed	None	Default policy for Amazon AppStream service role.
201102 201101 policies (001 0)	AmazonAthenaFullAccess	AWS managed	None	Provide full access to Amazon Athena and scoped access to the de

2. In the "Create Policy" dialog select the "Visual editor" tab and expand the Service dropdown. Type "SES" in the search field and select the SES Service.



(Create po	licy				1 2
A	policy defines the	e AWS permissions that you o	an assign to a user, group, or role. You can create and	edit a policy in the visual editor and using JSON. Learn more		
	Visual editor	JSON			Import m	anaged policy
	Expand all Colla	pse all				
	✓ Select a serv	rice			Clone	Remove
		 Service close 	Select a service below Q SES SES ⑦)	Enter servio	ce manually
		Actions	Choose a service before defining actions			
		Resources	Choose actions before applying resources			
		Request conditions	Choose actions before specifying conditions			

- 3. Under "Access level" expand the "Write" section and select the permissions
 - a. "SendEmail"
 - b. "SendRawEmail"

Q Filter actions	
Manual actions (add actions)	
Access level	Expand all Colla
CloneReceiptRuleSet	SetIdentityFeedbackForwardingE
CreateConfigurationSet ② DeleteReceiptRule ③	SetIdentityHeadersInNotificationsE
CreateConfigurationSetEventDest ? DeleteReceiptRuleSet ?	SetIdentityMailFromDomain 🕐
CreateConfigurationSetTrackingO ? DeleteTemplate ?	SetIdentityNotificationTopic ③
CreateCustomVerificationEmailTe ⑦ DeleteVerifiedEmailAddress ⑦	SetReceiptRulePosition ?
CreateReceiptFilter ⑦ PutIdentityPolicy ⑦	TestRenderTemplate (?)
CreateReceiptRule ⑦ ReorderReceiptRuleSet ⑦	UpdateAccountSendingEnabled ⑦
CreateReceiptRuleSet ③ SendBounce ③	UpdateConfigurationSetEventDes
CreateTemplate ③ SendBulkTemplatedEmail ③	UpdateConfigurationSetReputatio
DeleteConfigurationSet ③ SendCustomVerificationEmail ③	UpdateConfigurationSetSendingE
DeleteConfigurationSetEventDesti ⑦ SendEmail ⑦	UpdateConfigurationSetTracking
DeleteConfigurationSetTrackingO ⑦ SendRawEmail ⑦	UpdateCustomVerificationEmailTe
DeleteCustomVerificationEmailTe (?) SendTemplatedEmail (?)	UpdateReceiptRule 💿
DeleteIdentity (?) SetActiveReceiptRuleSet (?)	UpdateTemplate ③
DeleteldentityPolicy ⑦ SetIdentityDkimEnabled ⑦	

aws partner network

Advanced Technology Partner

4. Expand the "Resources" section, click on "All Resources" and then click on the "Review policy" button



5. Enter a Name and a Description and click the "Create policy" button

Create policy				1 2	
Review policy					
Name*	cb_SES_SND Use alphanumeric and '+=,.@' cha	aracters. Maximum 128 characters.			
Description	SES Send only policy Maximum 1000 characters. Use alp	hanumeric and '+=,.@' characters.		j.	
Summary	Q Filter				
	Service Allow (2 of 184 services) S	Access level	Resource	Request condition	
	Pinpoint Email	Limited: Write	All resources	None	
	555	Limitea: write	All resources	None	
					aws partner network
* Required			Cance	el Previous Create policy	Advanced Technology Partner

Review policy

Cancel

6. Next, select the "Roles" option in the menu on the left and click on the "Create role" button.

aws Services - R	Resource Groups 👻 윢		🗘 CloudBasic, Inc. 👻 Global 👻 Support 👻
Identity and Access Management (IAM)	Create role Delete role		<i>C</i> ¢
✓ AWS Account	Q Search		Showing 51 resu
Dashboard	Role name 👻	Description	Trusted entities
Groups	AD-Management-Console	Allows EC2 instances to call AWS services on your behalf.	AWS service: ec2
Users	Admins		AWS service: ec2
Policies	AmazonMLRedshift_us-east-1_test-cbr60		AWS service: machinelearning
Identity providers	aws-apn-demo	Allows EC2 instances to call AWS services on your behalf.	AWS service: ec2
Account settings	aws-ec2-spot-fleet-tagging-role		AWS service: spotfleet
Credential report	AWSServiceRoleForAmazonSSM	Provides access to AWS Resources managed or used by Amazon SSM.	AWS service: ssm (Service-Linked role)
Encryption keys	AWSServiceRoleForAutoScaling	Default Service-Linked Role enables access to AWS Services and Resources used or managed by Auto Scaling	AWS service: autoscaling (Service-Linked r
Q Search IAM	AWSServiceRoleForEC2Spot	Default EC2 Spot Service Linked Role	AWS service: spot (Service-Linked role)
	AWSServiceRoleForEC2SpotFleet	Default EC2 Spot Fleet Service Linked Role	AWS service: spotfleet (Service-Linked role)
 AWS Organizations 	AWSServiceRoleForElastiCache	Allows ElastiCache to manage AWS resources for your cache on your behalf.	AWS service: elasticache (Service-Linked ro
Organization activity	AWSServiceRoleForElasticLoadBalancing	Allows ELB to call AWS services on your behalf.	AWS service: elasticloadbalancing (Service
Service control policies (SCPS)	AWSServiceRoleForRDS	Allows Amazon RDS to manage AWS resources on your behalf	AWS service: rds (Service-Linked role)
	AWSServiceRoleForRedshift	Allows Amazon Redshift to call AWS services on your behalf.	AWS service: redshift (Service-Linked role)
	AWSServiceRoleForSupport	Enables resource access for AWS to provide billing, administrative and support services	AWS service: support (Service-Linked role)
	AWSServiceRoleForTrustedAdvisor	Access for the AWS Trusted Advisor Service to help reduce cost, increase performance, and improve security of y	AWS service: trustedadvisor (Service-Linke
	cb_access_basic	Allows EC2 instances to call AWS services on your behalf. S3 read-write AND SES send	AWS service: redshift and 1 more
	CB_CodeDeployServiceRole	Allows CodeDeploy to call AWS services such as Auto Scaling on your behalf.	AWS service: codedeploy
	CB_QL_demo		AWS service: lambda
	CB-SES-Full	Allows EC2 instances to call AWS services on your behalf.	AWS service: ec2

7. In the "Create role" dialog, select the "AWS service" option under "Select type of trusted entity", then select "EC2" under "Choose the service that will use this role" and click the "Next: Permissions" button.

Create role				1 2 3 4	
Select type of trust	ted entity				
AWS service EC2, Lambda and oth	hers Another A Belonging to	WS account you or 3rd party We Cog prov	b identity Inito or any OpenID ider	SAML 2.0 federation Your corporate directory	
Allows AWS services to perfo	orm actions on your behalf. Lea	arn more			
Choose the service	e that will use this ro	ble			
EC2 Allows EC2 instances to cal	I AWS services on your behalf.				
Lambda Allows Lambda functions to	call AWS services on your beh	alf.			
API Gateway	Comprehend	EMR	Kinesis	S3	
AWS Backup	Config	ElastiCache	Lambda	SMS	
AWS Support	Connect	Elastic Beanstalk	Lex	SNS	
Amplify	DMS	Elastic Container Service	License Manager	SWF	
AppSync	Data Lifecycle Manager	Elastic Transcoder	Machine Learning	SageMaker	
Application Auto Scaling	Data Pipeline	ElasticLoadBalancing	Macie	Security Hub	
Application Discovery	DataSync	Forecast	MediaConvert	Service Catalog	
Service	DeepLens	Glue	OpsWorks	Step Functions	
Batch	Directory Service	Greengrass	Personalize	Storage Gateway	
CloudFormation	DynamoDB	GuardDuty	RAM	Transfer	
CloudHSM	EC2	Inspector	RDS	Trusted Advisor	network
CloudTrail	EC2 - Fleet	IoT	Redshift	VPC	Advanced
CloudWatch Application	EC2 Auto Scaling	IoT Things Graph	Rekognition	Workl ink	Technology
* Required				Cancel Next: Permissions	Partner

8. In the "Attach permissions policies" section find and select the policy you created

Create role		1 2 3 4
 Attach permissions policies 		
Choose one or more policies to attach to your new role.		
Create policy		C
Filter policies v Q cb_SES		Showing 1 result
Policy name 👻	Used as	Description
Cb_SES_send_only	Permissions policy (1)	Allow only sending of emails

9. Repeat for the standard policy "AmazonS3ReadOnlyAccess" and click the "Next: Tags" button 10. Decide if you want to tag your new role and click the "Next: Review" button

Create role	1 2	3	4
Add tags (optional)			
IAM tags are key value pairs you can add to your role. Tags can include user information, such as an email address, or	r can be descriptive	such	as a iob

IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this role. Learn more

Кеу	Value (optional)	Remove
Service	CLOUDBASIC	×
Add new key		

You can add 49 more tags.

11. In the "Review" section give your Role a name and click the "Create role" button



Create role			1 2	3	4
Review					
Provide the required information below a	nd review	this role before you create it.			
Role	e name*	cb_SQL_to_Redshift			
		Use alphanumeric and '+=,,@' characters. Maximum 64 characters.			
Role des	cription	Allows EC2 instances to call AWS services on your behalf.			
		Maximum 1000 characters. Use alphanumeric and '+=,.@' characters.			.::
Trusted	entities	AWS service: ec2.amazonaws.com			
F	Policies	cb_SES_send_only C AmazonS3ReadOnlyAccess C			
Permissions bo	oundary	Permissions boundary is not set			
The new role will receive the following tag)				
Кеу	Value				
Department	DevOps				
* Required		Cancel	Previous	Create	role

Step-by-step access Key/ Secret creation

If your security requirements dictate that you must use an access Key/ Secret to access AWS resources the following steps will help you create and configure necessary elements.

1. In your AWS console navigate to the IAM Service, open the Users section in the left menu and click on the "Create user" button. Enter the "User name", select the "Programmatic access" option and click the "Next: Permissions" button





Add user		1	2 3	4 5
Set user details				
You can add multiple users at once wit	the same access type and permissions. Learn more			
User name*	cb-user			
	Add another user			
Select AWS access type	Access keys and autoapported passwords are provided in the last st		2010	
Select now these users will access Avv		ep. Leann	nore	
Access type*	Programmatic access Enables an access key ID and secret access key for the AWS Al other development tools.	PI, CLI, SD	K, and	
	AWS Management Console access Enables a password that allows users to sign-in to the AWS Management	gement Co	nsole.	
* Required		Cancel	Next: Perr	nissions

2. Click on the "Attach existing policies directly" button, select the applicable policies (for more details see the section "Step-by-step IAM Role creation") and

Attach existing policies directly	
	2
	Showing 2 results
Description	
ns policy (1)	
ns policy (1) Allow only ser	nding of emails
; ;	Attach existing policies directly Description ons policy (1) Allow only set



3. (Optional) Assign a tag to this user for better AWS resource tracking and click the "Next: Review" button



IAM tags are key-value pairs you can add to your user. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this user. Learn more

Кеу	Value (optional)	Remove
Service	CLOUDBASIC	×
Add new key		

You can add 49 more tags.

				Cancel	Previous	Next: Review
. Click th	ne "Creat	te user" button				
Add user			1 2 3 4	5		
Review						
Review your choices	6. After you create	the user, you can view and download the autogenerated passw	vord and access key.			
User details						
	User name	cb-user				
A	WS access type	Programmatic access - with an access key				
Permis	sions boundary	Permissions boundary is not set				
Permissions sur	mmary					
The following policie	s will be attached t	o the user shown above.				
Туре	Name					
Managed policy	cb_SES_sen	d_only				
Managed policy	AmazonS3Re	eadOnlyAccess				
Tags						
The new user will re-	ceive the following	tag				
Кеу		Value				aws partner
Service		CLOUDBASIC				HELWORK
						Advanced
			Canaal Bravious Cro	ateuser		Destroy

5. Click on the "Download .csv" button to download the access Key and Secret for the new user.

Add u	ser	1	2 3 4 5
•	Success You successfully created the users shown below. You can view and download instructions for signing in to the AWS Management Console. This is the last tii you can create new credentials at any time. Users with AWS Management Console access can sign-in at: https://versant-i	user security credentials. You ca me these credentials will be avai am.signin.aws.amazon.com/cons	an also email users lable to download. However, ole
🕹 Dowr	load .csv		
	User	Access key ID	Secret access key
• •	cb-user	AKIAZPVPKF6FFLQ5UKHM	********* Show

Rotating access Key/ Secret

It is a best security practice to regularly change the access Key/ Secret pair if your CLOUDBASIC replications are configured to use them.

1. In your AWS console navigate to the IAM Service, open the Users section in the left menu, find and click on "User name" of the user you are using in your CLOUDBASIC installation

Identity and Access Management (IAM)	Users > cb-user										
▼ AWS Account	Summary	1				De	elete user	0			
Dashboard	User ARN	arn:aws:iam::		user/cb-user 🖉							
Groups	Path	1									
Users	Creation time	2019-06-30 12	28 CDT								
Roles											
Policies	Permissions	Groups	lags (1)	Security credentials	Access Advis	or					
Identity providers	Sign-in cred	entials									
Account settings		C	. Heer d	less not have sensels man							
Credential report		summary	• User d	loes not have console man	agement access						
Encryption keys	Cons	ole password	Disabled	Manage							
Soareh IAM	Assigne	d MFA device	Not assig	gned Manage							
	Signin	g certificates	None 🖋								
AWS Organizations	Access keys	3									
Organization activity Service control policies (SCPs)	Use access key should never sl	is to make secure hare your secret l	e REST or ⊦ keys with ar	HTTP Query protocol reque nyone. As a best practice, v	sts to AWS service ve recommend freq	APIs. For your pro uent key rotation.	otection, yo Learn more	e			
	Access key l	D	Create	ed La	st used !	Status					
	AKIAZPVPKF	SFFLQ5UKHM	2019-0	06-30 12:28 CDT N//	A	Active Make i	inactive	×			
	SSH keys fo	or AWS Code	Commit							aws partne netwo	er erk
Open the "Se	curity cred	lentials'	′ tah	and click o	n the "(`reate a		s ke	v″	Advanced Technolo	JUN

Open the "Security credentials" tab and click on the "Create access key" button

Partner

3. Click on the "Download .csv" button to save the new access Key/ Secret

cess AM)	Users > cb-user		
Cr	eate access key		×
	 Success This is the only time that later. However, you can Download .csv file 	t the secret access keys can be viewed or downloaded. You cannot recover them create new access keys at any time.	
A	ccess key ID	Secret access key	
A	KIAZPVPKF6FBWP3OWWN	********* Show	
		Close	e
tions			

- 4. Click on the "Make inactive" link to Inactivate the old access Key/ Secret pair. After making sure that no applications are using the old Key/ Secret pair you can delete it.
- 5. To rotate the access Key/ Secret in your CLOUDBASIC configuration
 - a. Navigate to your CLOUDBASIC management console and log in using an administrator level credentials

Login				
Username				
		۵		
Password				
Can't access your	account?	=		
		Login		aws pa
Documentatiion Conta	ct Support Request	a feature Contact CLO	DUDBASIC	Advanced Techno

b. In the left-hand menu navigate to "Replications" and open the "Replication Schedules" menu

		Replica	tion Schedules														
Dashboard	📰 Rep	lication	Schedules														
New Replication	туре	All	*	Status All													S
Favorites 🛛							Schema	Error			Last	Promote					
Ø Runtime Logs	Edit	ID	Name	Replication ID O	Schedule	Data Replication	Replication	Logging Only 😡	Source	Replica/Staging	Successful Run	to Primary	Rebuild	Cluster Status	Owner	Reseed	Delet
Replication schedules Analyze O Redshift Logs O 53 Logs	œ	385	1	ff5820d9-d374- 48fe-a1c2- ec92719e9ad6	Dally 12:00:00 AM to 11:59:00 PM	Disabled		×	C	0	6/22/2019 1:01:22 AM			N/A	admin	Reseed	×
Replications	œ	375	, 1999 (27.12.50_01) /	f53c2658-69fa- 4e52-a8cd- 7c27d3db6194	Daily 12:00:00 AM to 11:59:00 PM	Disabled 0			() and a set	0	6/22/2019 1:01:20 AM		Rebuild	N/A	admin	Reseed 0	×
O Redshift Logs O S3 Logs Replication Schedules	Ø	420	weeks to see all the	47363d72-e551- 410b-8235- 5312585eb31f	Daily 12:00:00 AM to 11:59:00 PM	×	×	×		A	7/1/2019 6:18:57 AM	8		N/A	admin	Reseed	×
Advanced B+ Configuration	æ	408	1	abcb87ba-96e5- 4441-bde5- 688779b958c1	Daily 12:00:00 AM to 11:59:00 PM	×	×	×	0	0 - Alexandrian Coloria - Alexandrian	7/1/2019 6:19:04 AM	۵	Rebuild Schedule	N/A	admin	Reseed 0	×
Users Update About	Ø	406	server of the server state	f02e5dc6-d502- 434b-b436- c396e653ff71	Daily 12:00:00 AM to 11:59:00	×	æ	×	0 Internet in the second second		7/1/2019 6:19:02 AM		Rebuild Schedule	N/A	admin	Reseed 0	×

- c. Find your replication in the list and click on the "Edit" button.
- d. In the next dialog, click the "Edit S3 Credentials & Table Export List" button

	bal Settings		
Serialize Sched	ule Execution	Limit parallel database replications to	30 Update
Switch to seria	alized schedule execution when an initial replication is runnin erialized mode on Schedule Execution Service/Server restart.	g Limit parallel export/upload processes to	10 Update
Replication Sch	nedule Details		
Name	Voyager2TaskScheduler	HA Cluster Instance Affinity Load Balanced Execu	tion (execute on all ir 🔻 😧
	Data Replication Scher	ma Replication 😡	
	Error Logging Only Ø		
	Reseed		
Replication D	etails		
Source	Data Source=v2prod-vpc2-ssd08.csyinqcmzc19.us-east- ID=vpone:Password=******;Connect Timeout=12800;Ei	-1.rds.amazonaws.com;Initial Catalog=Voyager2TaskScheduler;P ncrypt=True;TrustServerCertificate=True :: Status=OK With Chan	ersist Security Info=False;User ge Tracking Configured :: Retention Period=2 day(s)
	- Data Source=v2prod-vpc2-ssd08.csyinqcmzc19.us-east	۔ ۱.rds.amazonaws.com;Initial Catalog=Voyager2TaskScheduler_n-	np2;Persist Security Info=False;User
Staging	ID=vpone;Password=*****;Connect Timeout=12800;E	ncrypt=True;TrustServerCertificate=True::Status=OK :: Replicate T	ables Only= Yes
Staging		***** Region Endpoint=us_east_1: Bucket Name=chr_test-SCD Tur	be=1;Folder Structure=OneFolderFilePerTable;Bucket
Staging Data Store	Access Key=AKIAZPVPKF6FH6LBJ3MX;Secret Key=***** Folder:ch-s3:Retention Policy:7 day(s):File Format=ISO	N-ISON Export Type=Document:Compression=None	Dared (S5 IS accessible)
Staging Data Store	Access Key=AKIAZPVPKF6FH6LBJ3MX;Secret Key=***** Folder:cb-s3;Retention Policy:7 day(s);File Format=JSOI	N;JSON Export Type=Document;Compression=None :: Status=Vali	dated (55 is accessible)
Staging Data Store	Access Key=AKIAZPVPKF6FH6LBJ3MX:Secret Key=***** Folder:cb-s3;Retention Policy:7 day(s):File Format=JSOI	N:JSON Export Type=Document:Compression=None :: Status=Vali	dated (55 is accessible)
Staging Data Store Change Tracki	Access Key=AKIAZPVPKF6FH6LBJ3MX:Secret Key=+++++ Folder:cb-s3;Retention Policy:7 day(s):File Format=JSOI	N:JSON Export Type=Document:Compression=None :: Status=Vali	dated (55 is accessible)
Staging Data Store Change Tracki	Access Key=AKIAZPVPKF6FH6LBJ3MX:Secret Key=***** Folder:cb-s3;Retention Policy:7 day(s):File Format=JSOI	N:JSON Export Type=Document:Compression=None :: Status=Vali	ratee (55 is accessible)

Advanced Technology Partner

e. Update the access Key/ Secret, click the "Test S3 connection" button and then click on "Save"

Edit S3 Credentials &	Table Export List						Х
Access Type	Access Key		۳	SCD Type	Type 1	• 😧	
Access Key	AKIAZPVPKF6FH6LBJ3	3MX		File Format	JSON	•	
Secret Key				JSON Export Type	Document	•	
Bucket Name	cbr-test			Compression	None	٣	
Bucket Folder Name	cb-s3		0	Folder Structure	One Folder/File per Ta	ab 🔻 🔞	
Region Endpoint	US East (Virginia)		•	Timeout	60	min(s) 🕑	
File Retention Policy	7	Ŧ	0				
[dbo].[_QL_test] Idbo].[jobEntity] [HangFire].[AggregatedCounter] Idbo].[jobType] [dbo].[AspNetUserClaims] Idbo].[jobType] [dbo].[AspNetUserClaims] Idbo].[jobType] [dbo].[AspNetUserClaims] Idbo].[jobType] [dbo].[AspNetUserClaims] Idbo].[jobType] [dbo].[AspNetUserClaims] Idbo].[jobType] [dbo].[AspNetUserSols] Idbo].[jobType] [dbo].[AspNetUserSols] Idbo].[jobType] [dbo].[AspNetUserSols] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [dbo].[AspNetUserSols] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [dbo].[JobRetRoles] Idbo].[jobType] [HangFire].[Lounter] Idbo].[jobResponse] [HangFire].[Schema] Idbo].[jobResponse]							Ŧ
Re-testing of S3 connection	i is required before savi	ng		Mask Data	Filter All Test S3 Connection	▼ Save Ca	ancel

f. Repeat the same steps for any other Replication schedules that use the S3 service

Encryption

VPN is recommended for cross-region replications but is not mandatory. Replications can be configured with data-in-transit encryption leveraging SQL Server level TLS/SSL encryption. For connections to SQL Server 2016 and above, TLS 1.2 is activated. For connections to SQL Server 2014 and below, TLS 1.1/1.0 or SSL is activated depending on the SQL Server version and applied updates. For more information see https://support.microsoft.com/en-us/help/3135244/tls-1

In CLOUDBASIC 10.0 and above all connections are encrypted by default. In CLOUDBASIC versions 9.11 and below, during configuration of a replication, go to

Advanced Technology Partner

Quick Setup, in the [Advanced Tab] select "Encrypt Data In Transit" for either the source, target or both connections.

For increased security, you may select to encrypt data in transit even if the CLOUDBASIC instance, source and target SQL Servers are deployed within same VPC. Data in transit encryption introduces a negligible computational overhead.

Basic 🌣 Advanced						
How to create a source SQL Server login?						
Source Connection String						
Data Source=serverEndPoint;Initial Catalog=dbName;Persist Security Info=False;User ID=user;Password=*****;Connect Timeout=12800;Encrypt=True;TrustServerCertificate=True						
Change Tracking Method: Change Tracking						
How to create a replica SQL Server login?						
Replica Connection String (replica database must not exist) 💽 Encrypt Data In Transit (TLS/SSL) 📀						
Data Source=serverEndPoint;Initial Catalog=d Timeout=12800;Encrypt=True;TrustServerCert	bName;Persist Security Info=False;User ID=user;Password=*****;Connect ificate=True					

If a replication was initially configured without activating encryption, then to activate data in transit encryption, go to Advanced/Connection Strings, locate the respective source and/or target link, add "Encrypt=True;TrustServerCertificate=True".

Connection Details	
Name	DES_055819
Connection String	Data Source= .csyinqcmzc19.us-east-1.rds.amazonaws.com;Initial Catalog=TeamCityDb3;Persist Security Info=False;User ID= ;Password=******;Connect Timeout=12800 Encrypt=True;TrustServerCertificate=True
	Update Connection Cancel

Cluster communication encryption

CLOUDBASIC RDS AlwaysOn/Geo-Replicate for SQL Server HA/DR version 8.0 and above features encrypted communication between Multi-AZ High-Availability Cluster instance members. HTTPS/TLS 1.2 communication is handled over port 4431 (444 in versions 8 and 9; 4431 in version 10 and above).

Product version 10.0 and above

If securing Multi-AZ HA Cluster instances communication (port 4432) suffices (i.e. in test environment), a self-signed certificate can be generated and bound to the respective web server site WS (port 4431) with a click-of-a-button. Go to

Advanced Partner Partner

/Configuration, in the top section "SSL Certificate", click [Create]. Note that the same self-signed certificate cloudbasic.local will be bound to sites UI (port 443; browser console access) and API (port 4432; REST API) as well.

To install and bind a CA issued production certificate, RDP (remote desktop) to the CLOUDBASIC Windows server, install the certificate into the Certificate Storage (default storage is [Personal]). Then go to /Configuration and click [Bind]. Note that the same certificate will be bound to sites UI (port 443; browser console access) and API (port 4432; REST API) as well.

Home / Configuration	
📽 Configuration	
SSL Certificate	SMTP/Mail Server Configuration Notifications General Settings
Create & bind a	self-signed certificate
→ Sites → API → UI → WS	A self-signed certificate cloudbasic.local will be generated & bound to IIS sites UI (port 443; browser access). WS (port 4431; HA cluster communication) & API (4432; REST API)
Bind an installed	d certificate
✓ Sites → API → UI → WS	Store Name Personal V Certificate licapi.rds365.com V Bind Selected certificate will be bound to II5 sites UI (port 443; browser access), WS (port 4431; HA cluster communication) & API (4432; REST API)

Under /Advnaced/Multi-AZ HA Cluster, select port 4431 (https) to activate cluster instance members communication over https TLS 1.2:



Home / Clusters	
Cluster Details	
Remote Server	
	the remote server being joined to the cluster. Note that unlike elastic IPv4, private and public IPv4 and host names may change on server reboot.
Remote Port	4431 (https)
User	
Password	
This Server	
	This is the public, private or elastic IPv4, or host name or DNS record associated with this server - will be used by the remote server to communicate with this server. Note that unlike elastic IPv4, private and public IPv4 and host names may change on server reboot.
	Create Cluster Cancel

For instructions on how to configure cluster communication encryption in earlier versions, please see our online documentation at https://cloudbasic.net/documentation/encrypting-ha-cluster-communication/ .

Costs

CLOUDBASIC is available in two subscription options in the AWS Marketplace – an Annual subscription or an Hourly subscription. Prices depend on the AWS Region, the size of the selected instance and the length of the subscription. Here is an example of our current prices for the US East (N. Virginia) region:

CLOUDBASIC Hourly Subscription Costs												
EC2 Instance Type	Software/ hr	EC2/ hr	Total/ hr									
t2.medium	\$1.37	\$0.064	\$1.434									
m4.large (*vendor recommended)	\$2.74	\$0.192	\$2.932									
m4.xlarge	\$5.48	\$0.384	\$5.864									
M4.2xlarge	\$5.48	\$0.768	\$6.248									



CLOUDBASIC Annual Subscription Costs												
EC2 Instance Type	Software/ hr	EC2/ hr	Percent Savings (%)									
t2.medium	\$9,950.00	\$0.064	17%									
m4.large (*vendor recommended)	\$19,950.00	\$0.192	17%									
m4.xlarge	\$39,950.00	\$0.384	17%									
M4.2xlarge	\$39,950.00	\$0.768	17%									

For the latest pricing and discounts, please see our AWS Marketplace listing https://aws.amazon.com/marketplace/pp/B000U0PE5M?qid=1560792424876&sr=0-1&ref = srh res product title#pdp-pricing.

Depending on your CLOUDBASIC deployment scenario AWS costs will include:

- CLOUDBASIC fees based on selected instance type
- AWS EC2 usage charges
- EBS fees for the storage used by the CLOUDBASIC instance(s)
- S3 fees for any S3 storage used by the deployment
- Redshift usage charges when Redshift is used
- IOPS fees for any EBS or S3 storage configured with IOPS
- Data transfer fees

Sizing

CLOUDBASIC recommends that you use at least an m4.large class instance. Please note that due to the variety of business needs, instance size is best determined during a POC when latency requirements, volume of changes, number of databases and the need for an HA cluster or a standalone service can be properly assessed.

Deployment Guidance

Deployment Assets

The CLOUDBASIC deployment is very easy and, in the most common scenario, consists of launching a single EC2 instance from the AWS Marketplace. For more complex scenarios we strongly recommend executing a joint POC, which is free to new potential customers. Please ensure that you have all Prerequisites described earlier in this guide.

1. Find the CLOUDBASIC listing in the AWS Marketplace

https://aws.amazon.com/marketplace/pp/B000U0PE5M?qid=1560819052154&sr=0-1&ref =srh res product title

2. Click on the button

Continue to Subscribe

- 3. Decide if Annual Subscription is more appropriate for your case or you prefer the Hourly billing
- 4. Click on the button Continue to Configuration



5. Verify the AWS Region where you plan to launch your CLOUDBASIC instance and click the Continue to Launch button



CLOUDBASIC RDS Always-On/Geo-Replicate for SQL Server HA/DR/Redshift/S3

Continue to Launch

< Product Detail Subscribe Configure

Configure this software

Choose a fulfillment option below to select how you wish to deploy the software, then enter the information required to configure the deployment.

Fulfillment Option	
64-bit (x86) Amazon Machine Image (AMI)	
Software Version	
12.23 (Feb 26, 2019) ~	
Region	
US East (N. Virginia)	

- 6. In the "Launch this software" section:
 - a. Select the Launch from Website option





Choose Action

Launch from Website

b. Select the EC2 Instance Type that best suits your needs

EC2 Instance Type	
t2.medium	~

c. Select the VPC and Subnet where the CLOUDBASIC instance is to be launched.

VPC Settings
* indicates a default vpc
vpc-9235ecf7 ~
Create a VPC in EC2
Subnet Settings
subnet-cc100b8a (us-east-1c) ~
Create a subnet in EC2 C (Ensure you are in the selected VPC above)

d. Choose the Security Group to be used



Security Group Settings

A security group acts as a firewall that controls the traffic allowed to reach one or more instances. You can create a new security group based on seller-recommended settings or choose one of your existing groups. Learn more

launch-wizard-34	~	C
------------------	---	---

e. Select a Key Pair to launch the instance with

Key Pair Settings

To ensure that no other person has access to your software, the software installs on an EC2 instance with an EC2 key pair that you created.

test	~	C
------	---	---

f. Click the Launch button



- 7. (Optional) To assign an IAM Role to your newly launched instance
 - a. navigate to the AWS EC2 service, expand the Instances section in the left menu and select the Instances option



Placement Groups

	aws	Serv	ices	*	Resource Gr	oups	× \$										
	EC2 Dashboard Events	^		Launo	h Instance	•	Connect	A	ctions v								
	Tags			Q, Fi	lter by tags and	l attrib	ites or sear	ch by l	keyword								
	Reports		Ġ		Name					~	Instance ID	Ţ	Instance Type 👻	Availability Zone -	Ins	tance State	
	Limits													,			
	INSTANCES				/suproduct/apbi	ni Henova			101114660101000A		I-004/5bcec6858be0c		t2.medium	us-east-1e	•	running	
ĭ	Instances				1999 I.A. 2982 I.A.	ылеты жетт	an an the state of the second s		r withdeprover.		i-00bbfc5e1d6c692e7		t2.large	us-east-1e	•	running	
1	Launch Templates					<i>⊾12 L.17</i> T			1.141204000000		i-00dca9292b4be20b7		t2.large	us-east-1e	0	running	
	Cost Doguests								1.1412040000000		i-03bf6147aaf9d5269		c4.xlarge	us-east-1c	0	running	
	Spot Requests					8. 10 ° 1. 11 ° 1			1.141204000000		i-03ffa8e4f08b6cc33		t2.small	us-east-1e	0	running	
	Reserved Instances										i-04e271b83e3888b11		t2.large	us-east-1e	0	running	
	Dedicated Hosts						an an tao amin' an		1.1412040111111		i-0501aafd		t2.medium	us-east-1e	0	running	
	Scheduled Instances	5					an a		1.1412040111111		i-075b3a452ccec05eb		t2.large	us-east-1e	0	running	
	Capacity Reservations					8 17 ° 1. 17 °		en.en			i-0774bd5da289842bf		t2.large	us-east-1e	0	running	
											i-08913344b326dd4a5		t2.medium	us-east-1c	۲	running	
-	IMAGES				- 10 - A 220 - LA	10° - 16-10° 17	anan di kasara di man				i-08bbbc65dcba47937		t3.medium	us-east-1c	0	running	
	AIVIIS				. • • • • • • • • • • • • • •				1. 16. 1. 16. 16. 16. 16. 16. 16. 16. 16		i-0c006a78444b83025		t1.micro	us-east-1a	0	running	
	Bundle Tasks					N 18 - 16 - 17 - 1	an a		11412080011111		i-0c0f7c3df2353839d		t2.medium	us-east-1c	0	running	
	ELASTIC BLOCK STORE				• < <	S. C. L. M. S			1. 14. 1. Page 1. P. P.		i-0de6e1588c89bcbcf		t3.medium	us-east-1c	0	running	
	Volumes				6 g i 16 8 8 8 11 10 1	e:	···· b.· e* 1				i-0e84cfba07a1fad57		t2.large	us-east-1e	0	running	
	Snapshots				- 10	11° - 11-11° 11	anan karaktera at har	1			i-0fe5852d062caf2b9		t2.large	us-east-1c	۲	running	
	Lifecycle Manager			Select	an instance	abov	e										
-	NETWORK & SECURITY																
	Security Groups																
	Elastic IPs																

- b. Find and select your new CLOUDBASIC instance
- c. In the "Actions" menu expand the "Instance Settings" section and select the "Attach/ Replace IAM Role"

	aws	Ser	vic	es		Resource Grou	ips 👻 🛠					
E	C2 Dashboard		^		Laur	nch Instance 🗖	Connect	Actions A				
T F	ags teports imits		ŀ	•		search : production	nbuild 💿 Add	Connect Get Windows Password Create Template From Instanc Launch More Like This	e,	nce ID 👻	Instance Type	 Availability Zone
■ I I	NSTANCES					v3-productionbuild		Instance State Instance Settings Image)))	5bcec6858be0c Add/Edit Tags Attach to Auto Scaling Gr	t2.medium	us-east-1e
L S F	aunch Templates pot Requests teserved Instances	s						Networking ClassicLink CloudWatch Monitoring		Attach/Replace IAM Role Change Instance Type Change Termination Prote	ction	
5	edicated Hosts	es								View/Change User Data Change Shutdown Behavi Change T2/T3 Unlimited	or	
F F	apacity teservations									Get System Log Get Instance Screenshot Modify Instance Placemer	nt	
E	Mis undle Tasks								ļ	Modify Capacity Reservati	ion Settings	
= ا د د	TORE				<							

d. Select the IAM role that you want to assign (for instruction on how to create one, see the section Security in this guide) and click the "Apply" button



aws Services - Rea	source Groups 👻 🛠											
Instances > Attach/Replace IAM Role												
Attach/Replace IAM Role												
Select an IAM role to attach to your instance. If you don't have any IAM roles, choose Create new IAM role to create a role in the IAM console. If an IAM role is already attached to your instance, the IAM role you choose will replace the existing role. Instance ID i-00475bcec6858be0c (v3-productionbuild) (1)												
IAM role*	V2CodeDeployWithSSMRole	C Create new IAM role										
* Required	Q, cb Profile Name CB-SES-Full											
	cb_eccess_basic											

- 8. (Optional) To tag your instance
 - a. navigate to the AWS EC2 service, expand the Instances section in the left menu and select the Instances option



Elastic IPs Placement Groups

	aws s	Serv	ices	*	Resource Gr	roups 🗸	۶								
	EC2 Dashboard Events	^		Laur	nch Instance	Con		Actions v							
	Tags		4	Q	Filter by tags and	l attributes or	search	by keyword							
	Reports				Name				*	Instance ID	Ŧ	Instance Type 👻	Availability Zone -	Inst	ance State
	Limits				เริ่มหลายก็กำระหว่					i-00475bcec6858be0c		t2.medium	us-east-1e		running
Ξ	INSTANCES							The subscription of the		i-00bbfc5e1d6c692e7		t2.large	us-east-1e		running
I.	Instances				1.100 LA 250 LLA	n an an an an an a mara				i-00dca9292b4be20b7		t2.large	us-east-1e		running
	Launch Templates				1.5 Q 1.6 200 1.1.6	h ar an		The Constant of the		i-03bf6147aaf9d5269		c4.xlarge	us-east-1c		running
	Spot Requests					N 12 - L 21 - ETTER MARK				i-03ffa8e4f08b6cc33		t2.small	us-east-1e		running
	Reserved Instances				1.4.9 a.A.2.5.5 a.A.	No. and the second	1			i-04e271b83e3888b11		t2.large	us-east-1e	•	running
	Dedicated Hosts				0.000.000.000.000	har a ar torretheadd	er en la maria de la composition	1994 - 11 - 12 - 12 - 12 - 12 - 12 - 12 - 12 - 12		i-0501aafd		t2.medium	us-east-1e		running
	Scheduled Instances				0.4 g 1.6 23g 1.6 4	ha da mara da ang ang ang ang ang ang ang ang ang an		100-111-10-12-0-200-11-1-1-1-1-1-1-1-1-1		i-075b3a452ccec05eb		t2.large	us-east-1e		running
	Capacity Reservations					N 12 - L 12 - 1777 - L -49	an a	THE PARTICULAR		i-0774bd5da289842bf		t2.large	us-east-1e		running
						a an	ur en de manueller			i-08913344b326dd4a5		t2.medium	us-east-1c		running
-	IMAGES				1.00100.0000.000	a na mara ang sang manang kanang kan	· · · · · · · · · · · · · · · · · · ·			i-08bbbc65dcba47937		t3.medium	us-east-1c		running
	Rundlo Tacko					an an an the second				i-0c006a78444b83025		t1.micro	us-east-1a		running
	Bunule Tasks				110000000000000000000000000000000000000	A SP 14 AP 100000 AP 10	ar e da transfer	771-11-12-12-12-12-17-1		i-0c0f7c3df2353839d		t2.medium	us-east-1c		running
	ELASTIC BLOCK STORE				0.0000000000000000000000000000000000000	A NET A VET TO THE OWNER		771-171-1812-1810-1711		i-0de6e1588c89bcbcf		t3.medium	us-east-1c		running
	Volumes					ar a ar merek enter				i-0e84cfba07a1fad57		t2.large	us-east-1e		running
	Snapshots					lar alar merek anta				i-0fe5852d062caf2b9		t2.large	us-east-1c	•	running
	Lifecycle Manager			Sele	ct an instance	above									
-	NETWORK & SECURITY														
	Security Groups														

- b. Find and select your new CLOUDBASIC instance
- c. In the "Actions" menu expand the "Instance Settings" section and select the "Add/Edit Tags"

	aws	Se	erv	ices	s •		Resource	Groups	• •	۶								
	EC2 Dashboard		^		L	aun	ch Instance	-	Con	nect	Actions *							
	Events Tags Reports Limits			•		Q (search : prod Name	uctionbu	uild 😒) Add fil	Connect Get Window Create Temp Launch Mor	s Password date From Instanc E Like This	Ð	nce ID	¥	Instance Typ	e -	Availability Zone
	INSTANCES						v3-production	build			Instance Sta Instance Se	ite Itings	• •	75bcec6858be0c Add/Edit Tags		t2.medium		us-east-1e
	Launch Templates Spot Requests										Image Networking ClassicLink			Attach to Auto Attach/Replace Change Instanc	Scaling Gri IAM Role e Type	oup		
	Reserved Instances Dedicated Hosts	s									CloudWatch	Monitoring	•	Change Termina View/Change U	ation Protes ser Data	ction		
	Scheduled Instance Capacity Reservations	es												Change T2/T3 L Get System Log Get Instance So	Inlimited G Creenshot	л		
-	IMAGES AMIs Bundle Tasks													Modify Instance Modify Capacity	Placemer / Reservati	it on Settings		
-	ELASTIC BLOCK STORE																	
	Volumes Snapshots				<													

d. In the "Add/Edit Tags" dialog enter the tag keys and values and click the "Save" button





Add/Edit Tags		×				
Apply tags to your resou	irces to help organize and identify t	hem.				
A tag consists of a case-sensitive key-value pair. For example, you could define a with key = Name and value = Webserver. Learn more about tagging your Amazon resources.						
Кеу	Value					
Name	build-copy	😣 Hide Column				
Service	CLOUDBASIC	8				
Create Tag	Cancel	ave				

9. Once your instance is up and running, you can access the CLOUDBASIC management console on port 80 using the IP assigned to the instance. You will be prompted with the Activate Instance dialog.

Login	
Login	
Username	
admin 🚨	
Password	
Enter EC2 Instance ID (i-nnnnnnn)	
Login	aws



10. Select your new password and provide the email address to be used for administrative purposes

	CLOUDBASIC RDS MULTI-AR™ 12.36
	Reset Password
	Password
	Confirm Password
	Admin's email (to be used to reset password)
	Update My Password
About [Documentatiion Contact Support Request a feature Contact CLOUDBASIC

11. For evaluation or testing purposes select the "Dev/ Test". For production environments that need High Availability we recommend a cluster deployment.

aws	partner network
Advanced Tech Partr	nology ner



12. After you have activated your instance, login to the admin console using the default user "admin" and the password you created during activation



LOUDBASIC RDS MUL	.TI-AR™ 12
Login	
Username	
	<u></u>
Password	
can't access your account?	
	Login

About Documentatiion Contact Support Request a feature Contact CLOUDBASIC

13. For additional instructions on how to setup CLOUDBASIC replications for various use cases, please referrer to the following article in our documentation:

https://cloudbasic.net/documentation/configure-rds-sqlserver-alwayson/

Deploying with AWS Active Directory Service

Many CLOUDBASIC customers operate in enterprise environments and utilize Active Directory to manage security and resources. The following steps describe how to setup CLOUDBASIC to work with the AWS Active Directory Service.

Setting up AWS Active Directory Service

1. Review the AWS Active Directory Service prerequisites

https://docs.aws.amazon.com/directoryservice/latest/adminguide/ms_ad_getting_started_prereqs.html

 In the Directory Service management console expand the Active Directory section and select the Directories option. In the upper right corner, click the "Set up Directory" button

Advanced Technology Partner

Directory Service	×	Directory Service > Directories		
 Active Directory Directories Directories shared with me 		Directories	C Actions V	Set up directory
 Cloud Directory Directories Schemas 		Directory ID V Directory name V Type	▼ Size	▼ Status
			No directories found	
		<		>

3. In the "Select directory type" dialog, choose the "AWS Managed Microsoft AD" option

Step 1: Select directory type	Select directory type	
Step 2: Enter directory informa- ion	Directory types	
itep 3: Choose VPC and subnets itep 4: Review & create	 AWS Managed Microsoft AD Simple AD AD Connector Amazon Cognito Your User Pools 	AWS Managed Microsoft AD With AWS Managed Microsoft AD, you can easily enable your Active Directory-aware workloads and AWS resources to use managed actual Mi- crosoft Active Directory in the AWS Cloud. Workload examples include Amazon EC2, Amazon RDS for SQL Server, custom .NET applications, and AWS Enterprise IT applications such as Amazon WorkSpaces.

4. Choose between Standard and Enterprise edition, fill out the rest of the form and click "Next"

aws	partner network
Advanced Tech Partr	nology ner

ĺ

p 3: oose VPC and subnets	Directory information A managed Microsoft Active Directory domain based on Windows S	erver 2012 R2. Info
oose VPC and subnets		
	Directory type Microsoft AD	
view & create	Edition Info Microsoft AD is available in the following two editions:	
	• Standard Edition	O Enterprise Edition
	Best for small to medium sized businesses.	Best for large businesses.
	 1GB of storage for directory objects Optimized for up to 30,000 objects 	 17GB of storage for directory objects Optimized for up to 500,000 objects
	~USD 86.4000/mo (USD 0.1200/hr)*	~USD 288.0000/mo (USD 0.4000/hr)*
	 * includes two domain controllers, USD 43.2000/mo for each additional domain con- troller. 	 * includes two domain controllers, USD 144.0000/mo for each additional domain con- troller.
	Directory DNS name A fully qualified domain name. This name will resolve inside your Vi ad.cloudbasic.net Directory NetBIOS name - Optional A short identifier for your domain. If you do not specify a NetBIOS n	PC only. It does not need to be publicly resolvable.
	cbr	
	Maximum of 15 characters, can't contain the following characters: Directory description - Optional Descriptive text that appears on the details page after the directory	<pre>' / : * ? " < > `. It must not start with `.`. y has been created.</pre>

aws	partner network

Advanced Technology Partner

ad.cloudbasic.net		
	_	
lirectory NetBIOS name - Optional		
short identifier for your domain. If you do not specify a NetBIOS name, it will default to the first part of your Directory DNS name.	1	
cbr		
faximum of 15 characters, can't contain the following characters: $'/:*?" <> `. It must not start with `.`.$		
prectory description - Optional		
escriptive text that appears on the details page after the directory has been created.		
CLOUDBASIC Demo AD		
taximum of 128 characters, can only contain alphanumerics, and the following characters: _@#%*+=:?./! It may not start if the special character.		
dmin password he nassword for the default administrative user named Admin		
	1	
asswords must be between 8 and 64 characters, not contain the word "admin", and include three of these four categories: lowercase, ppercase, numeric, and special characters.		
onfirm Password		
•••••		
his password must match the Admin password above.	_	

5. Select the VPC and subnets where your AD Service will be installed



Directory Service > Directories > Set up a directory							
Step 1: Select directory type	Choose VPC and subnets						
Step 2: Enter directory informa- tion	Networking The VPC that contains your directory. If you do not have a VPC with at least two subnets, you must create one.						
Step 3: Choose VPC and subnets Step 4: Review & create	VPC Info ▼ v2prod vpc-eac3378e (172.30.0.0/16) ▼ Create new VPC 【* Subnets Info ▼ v2prod-private subnet-e88376d5 (172.30.10.0/24, us-east-1e) ▼ V2prod-private3 subnet-0b65eaacf5fa67276 (172.30.11.16/28, us-east-1c) ▼ Create new subnet 【*						
		Cancel	Previous	Next			

6. Finally, review the parameters of your new directory and click "Create Directory"

Directory Service > Directo	ries > Set up a directory	
Step 1: Select directory type	Review & create	
Step 2: Enter directory informa- tion	Review	
Step 3: Choose VPC and subnets Step 4: Review & create	Directory type Microsoft AD Directory DNS name ad.cloudbasic.net Directory NetBIOS name cbr Directory description CLOUDBASIC Demo AD	VPC v2prod vpc-eac3378e (172.30.0.0/16) Subnets v2prod-private subnet-e88376d5 (172.30.10.0/24, us-east-1e) v2prod-private3 subnet-0b65eaacf5fa67276 (172.30.11.16/28, us- east-1c)
	Pricing Edition Standard ~USD 86.4000/mo (USD 0.1200/hr)* * Includes two domain controllers, USD 43.2000/mo for each additional domain con- troller.	Free trial eligible Learn more 30-day limited trial
		cancer Previous Create directory

7. Please note that the AWS AD Service does not include tools for AD configuration and you will need to do that on your own using and instance from the EC2 service. The details of AD administration are beyond the scope of this guide and will not be covered here.

Advanced Partner Partner



- 8. Joining your CLOUDBASIC instance to the AD Service
 - a. RDP into your CLOUDBASIC instance using an AD user with enough privileges to modify the machine.

퉣 Remote		×		
N	Remote Desktop Connection			
Computer: User name:	52.45.241.116 cbr\Admin	~		
Saved creder You can <u>edit</u>	ntials will be used to connect to th or <u>delete</u> these credentials.	is computer.		
Show O	ptions	Connect	He	lp

b. Open a Windows Explorer window and navigate to "Control Panel\All Control Panel Items\System". Click on "Change Settings"

يق ا	Control Pane	el\All Control Panel Items\System		-	
🍥 🍥 👻 🛧 🛃 🕨 Control Pan	el 🔸 All Control Panel Items 🔸	System	~ ¢	Search Control Panel	Q,
File Edit View Tools Help					
Control Panel Home	View basic information	about your computer			0
🚱 Device Manager	Windows edition				
🛞 Remote settings	Windows Server 2012 Stand	lard	_		
Advanced system settings	dvanced system settings © 2012 Microsoft Corporation. All rights reserved.			dows Server	°2012
	System				
	Processor:	Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GH	z 2.40 GHz		
	Installed memory (RAM):	8.00 GB			
	System type:	64-bit Operating System, x64-based proces	ssor		
	Pen and Touch:	No Pen or Touch Input is available for this	Display		
	Computer name, domain, and	workgroup settings			
	Computer name:	WIN-5J0JQKCTCNK		🛞 Change	e settings
	Full computer name:	WIN-5J0JQKCTCNK.ad.cloudbasic.net			
	Computer description:				
	Domain:	ad.cloudbasic.net			
	Windows activation				
	Windows is activated View	v details in Windows Activation			
	Product ID: 00184-30000-0	0001-AA420			
See also					
Action Center					
Windows Update					

c. In the "System Properties" window select the "Computer Name" tab and click on the "Change" button



	System Properties X			
Computer Name Hardwa	are Advanced Remote			
Windows uses on the network	s the following information to identify your computer <.			
Computer description:				
	For example: "IIS Production Server" or "Accounting Server".			
Full computer name:	WIN-5J0JQKCTCNK.ad.cloudbasic.net			
Domain:	ad.cloudbasic.net			
To rename this computer workgroup, click Change	r or change its domain or Change			
	OK Cancel Apply			

d. In the "Computer Name/ Domain Changes" select the "Domain" option in the "Member of" section and enter the name of your AD domain. Click OK and then provide an AD administrator account to complete the change.

Computer Name/Domain Changes					
You can change the name and the membership of this computer. Changes might affect access to network resources.					
Computer name: WIN-5J0JQKCTCNK					
Full computer name: WIN-5J0JQKCTCNK.ad.cloudbasic.net					
More					
Member of					
O Domain:					
ad.cloudbasic.net					
O Workgroup:					
OK Cancel					



- e. Reboot your CLOUDBASIC instance in order to complete the setup
- f. Next, to configure your CLOUDBASIC instance to use Active Directory:
 i. Login to your CLOUDBASIC console

ECLOUDBASIC RDS MULTI-AR™ 12.36

Login	
Username	
	\$
Password	
Can't access your account?	
	Login

About Documentatiion Contact Support Request a feature Contact CLOUDBASIC

ii. Stop the system-wide replication execution by pressing the gear button in the upper right corner and then clicking the "Turn OFF" red button





iii. Select the "Configuration" option in the left-hand menu and navigate to the "Active Directory Integration" tab

E CLOUDBASIC RDS M	ULTI-AR™ 12.36	% ? 🛛 🗭
Left The Administrator	Home / Configuration	%
bashboard	Configuration	
New Replication		
★ Favorites	SSL Certificate SMTP/Mail Server Configuration Notifications Active Directory Integration General Settings	
O Runtime Logs Is Replication Schedules Is Analyze	• To enable Active Directory authentication against database servers, this EC2 server needs to be joined to the respective Active Directory domain - RDP (remote desktop), open Server Manager, then select Local Server, join this instance to Active Directory. After that proceed with Active Directory activation below.	
Replications III	Before initiating the process, stop system-wide replications execution (see 📽 in upper right corner), then wait for any running processes to finish (See \Replications\Runtime Logs) or cancel those processes.	
Advanced 🗉	Username cbr\admin	
Configuration	Pareneed 0	
嶜 Users	Passworu	
🔂 Update	Deactivate Active Directory	
1 About		
G		

- iv. Enter the AD user name and password that the CLOUDBASIC Replication services should run under and click the "Activate Active Directory" button.
- v. Restart the system-wide replication execution by pressing the green "Start Service" button in the upper right corner

	CLOUDBASIC RDS MU	ULTI-A	R™ 12.36							🎭 ? 🔀 🕩
-	The Administrator		/ Configuration							
L.	Dashboard	0 % C	onfiguration					Background Execution Service is	stopped	Start Service
Ø	New Replication									
*	Favorites 🛛		SSL Certificate	SMTP/Mail Server Configuration	Notifications	Active Directory Integration	General Settings	5		
╞	- 🗿 Runtime Logs									
╞	- 📰 Replication Schedules		To enable Ac open Server M	tive Directory authentication agains anager, then select Local Server, joir	t database servers this instance to A	, this EC2 server needs to be joined ctive Directory. After that proceed w	to the respective Ac vith Active Directory	ctive Directory domain - RDP (remote desktop), activation below.		
ŀ	- 🎟 Analyze		Before initiatin	g the process, stop system-wide rep	lications execution	(see 🕸 in upper right corner), then	wait for any runnin	ng processes to finish (See \Replications\Runtime		
	Replications III		Logs) or cancel	those processes.	_				1	
Ŷ	Advanced 🖽		Username	cbr\admin	0					
•	Configuration		Password		0					
2	Users			Deactivate Active Directo	ry					
C	Update									
6	About									
	G									





Your CLOUDBASIC instance is preconfigured to respond to HTTP requests on port

80 with the login screen of the management console.

CLOUDBASIC RDS MULTI-AR™	12.3	36
Login		
Username		
	2	
Password		
Can't access your account?		
Login		

About Documentatiion Contact Support Request a feature Contact CLOUDBASIC

If this is not the behavior that you are observing, verify that the instance is running and the assigned security group allows to communicate with the instance on port 80.

Setting up a Highly Available CLOUDBASIC deployment

For production deployment scenarios that demand highly available architectures, CLOUDBASIC can be deployed in a Multi-AZ or Multi-Region configuration. This type of deployments require two instances in separate AZs or Regions that are setup to compete with each other for replication tasks and are fully capable of handling the complete workload in cases when there is a failure of any severity – a VM, an AZ or a whole Region.

- 1. For Multi-AR, setup your VPCs and VPC-peering as demonstrated in the section "Architecture Diagrams" of this guide
- 2. Create a CLOUDBASIC instance in each VPC by following the direction in the section "Deployment Assets"
- 3. Ensure that the Security Groups assigned to each instance allow communication between the two on port 81 for unencrypted traffic or port 4431 if traffic is to be encrypted.



- 4. If you need traffic to be encrypted between the two instances, follow the steps in the "Cluster communication encryption" section
- 5. To initialize your CLOUDBASIC High Availability cluster, login to one of the instances, expand the section "Advanced" in the left-hand menu, and select the "Multi-AZ HA Cluster"

9	CLOUDBASIC RDS MI	JLTI-AR™ 12.36	;				
2	The Administrator	Home / Clusters					
6	Dashboard	Cluster Details	5				
Ø	New Replication		Ē				
*	Favorites 🛛	Remote Server	TP	is is the public, private or elastic IPv4, or host na	me or DNS record associated with the remote		
	❷ Runtime Logs		se	rver being joined to the cluster. Note that unlike ames may change on server reboot.	elastic IPv4, private and public IPv4 and host		
-	Replication Schedules	Remote Port		81 (http)	Ŧ		
	Analyze		IN	IPORTANT: Port is required to be opened for con	nmunication between cluster servers		
	O Reashirt Logs	User					
	Replications III	Password					
	Advanced 🛛	-					
1	C Connections	This Server	P	ie ie tha sublic privets ar sheets IDuf, ar bart as	no or DNS moved array lated with this popular		
-	Multi-AZ HA Cluster		wi	ill be used by the remote server to communicate ivate and public IPv4 and host names may chang	with this server. Note that unlike elastic IPv4, ge on server reboot.		
-	A Event Logs						
	Service Execution Logs			Create Cluster			
	Sustem Maintenance						
	 System Maintenance 	Olusters					
03	Configuration	Edit	ID	Remote Server	Remote Port	This Server	Added On
**						No data available in table	
C	' Update						
0	About						
	G						

- 6. Fill out the "Cluster Details" form
 - a. In the field "Remote Server" enter the IP address of the second (remote) CLOUDBASIC instance you created in Step 2.
 - b. In the field "Remote Port" select how the instances will communicate with each other
 - c. In the field "User" enter the username that this instance will use to authenticate itself with when communication with the remote instance
 - d. In the field "Password" enter the password of the remote user
 - e. In the field "This Server" enter the IP address of the instance you are working with
- 7. Click "Create Cluster"
- 8. You now have a Highly Available CLOUDBASIC cluster

aws	partner network
Advanced Tech Partr	nology 1er

E CLOUDBASIC RDS MULTI-AR™ 12.36						% ? X 0+			
🐣 The Administrator	Home	/ Clusters							ô°
Lill Dashboard	• • •	lusters							
New Replication		Edit	ID	Remote Server	Remote Port	This Server	Added On	Active	Delete
★ Favorites		8	з	SUNDI241.116	4431	0000.217.3	7/3/2019 11:20:06 AM	8	×
O Runtime Logs Enclose Enclose Enclose Enclose Enclose Co Redshift Logs	5								
Replications									
Advanced C Connections Multi-AZ HA Cluster Event Logs F Service Execution Log Disable Change Tract System Maintenance	e gs king								
Configuration									
嶜 Users									
🔁 Update									
About									

Setting up an automated RDS SQL Server cross-region failover

Scenarios where high assurance of uninterrupted RDS SQL Server operation is critically important require close orchestration between AWS services and a Multi-AR CLOUDBASIC deployment. The following guide demonstrates how to leverage CloudWatch, Route 53 HealthCheck, Lambda and CLOUDBASIC API to achieve automated cross-region RDS SQL Server failover.

The overall strategy is based on the following high-level workflow:

"An RDS CloudWatch alarm goes into INSSUFICIENT DATA state" because the monitored RDS instance goes down

- -> This condition triggers a "Route53 Health Check to FAIL"
 - -> Which then triggers "A ROUTE 53 Health Check alarm to go into ALARM state"
 - -> Which causes a notification to be send to an SNS topic
 - -> Which triggers LAMBDA functions that are subscribers to the SNS topic to execute
 - -> The LAMBDA functions call CloudBasic API methods to configure the secondary RDS for Primary duties (activation of constraints, triggers, etc,) and to switch the Route53 record to point to the new Primary RDS instance



Here is how to setup the individual components of this workflow:

- 1. Setup a CloudWatch alarm for your RDS instance
 - a. Select the CPUUtilization metric and configure to look for condition of CPUUtilization > 100 %
 - b. Configure to look for "1 out of 1 datapoints"
 - c. Period to be "1 minute"
 - d. Configure Statistic to be "Standard" and select "Average"

		Alarm Preview	
Provide the details and thre appropriate threshold.	shold for your alarm. Use the graph on the right to help set the	This alarm will trigger when the blue above the red line for 1 datapoints w	line goes ithin 1 minute
Name: awsrds-t	est-1t-High-CPU-Utilization	awsrds-test-1t-High-CPU-Utiliz CPUUtilization > 100 for 1 datapoints wi	thin 1 minute
Whenever: CPUUti is: > for: 1 2 00 Additional setti	ization 100 t of 1 datapoints 0 NGS	75 50 25 0 10/07 22:00 10/07 23:00 Namespace: AWS/RDS	10/08
Provide additional configura	tion for your alarm.	DBInstance- Identifier:	
		Metric Name: CPUUtilizatio	n
Treat missing data as:	missing 🗸 🗸		
Treat missing data as: Actions	missing V 0	Period: 1 Minute	ustom
Treat missing data as: Actions	en when your alarm changes state.	Period: 1 Minute V Statistic: • Standard O C Average V	Custom

<u>Note</u>: The goal is to configure a CloudWatch alarm that will never be triggered based on the triggering condition.

- 2. Setup a Route53 Health check to monitor the RDS CloudWatch alarm
 - a. In the "What to monitor" select "State of CloudWatch" alarm
 - b. Under the "Monitor CloudWatch alarm" section select the AWS Region and the name of your RDS CloudWatch alarm
 - c. **VERY IMPORTANT** in the "Health check status" section, for the "When the alarm is in the INSUFFICIENT state" select the "the status is unhealthy" option



Route 53 health checks let you track the hea outage occurs.	Ith status of your resources, such	h as web servers or mail servers, and	take action when a		
Name	rds-test-1t-rdsalarm-based	0			
What to monitor	 Endpoint 	0			
	Status of other health checks (calculated health check)				
	State of CloudWatch alarr	n			
Monitor CloudWatch alarm					
The status of this health check is based on the	ne state of a specified CloudWate	ch alarm.			
CloudWatch region	us-east-1 • 0 awsrds-test-1t-High-CPU-Utilization • 20				
CloudWatch alarm *					
	Choose an existing CloudWatch alarm or create C a new one.				
awsrds-test-1t-High-CPU-Utilization (us	-east-1)		C		
Details Average of CPUU minute Namespace AWS/RDS	Jtilization > 100 for one period of	a CPUUtilization			
Dimensions DBInstanceIdenti	fier = test-1t	15	Anna		
Current state OK		5			
		0 10/07 10/07 10/07 16:30 16:45 17:00	10/07 17:15		
Health check status	When the alarm is in the INSU	FICIENT state, the status is unhealth	ny • O		
	When the alarm is in the ALAR	M state the status is unhealthy			
Invert health check status	∩ 6				
Health check type	Basic - no additional options se	elected (View Pricing)			

- 3. Set up a Route53 Health check alarm
 - a. Select the Route53 Health check you created in the last step
 - b. In the Alarms tab click on "Create alarm"
 - c. Under "Send notification" select "Yes"
 - d. Create a new SNS topic
 - e. Click on "Confirm"

For at least	1 (+) consecutive period(s) of 1 minute						
Fulfill condition	Minimum		17:00	17:15	17:30	17:45	
Alarm target	Health check status	0.0	10/07	10/07	10/07	10/07	-
Notification target	Alarm-RDS-Primary-Down New SNS topic	0.4					
Send notification	Yes No	0.6					
Alarm description	Primary RDS is down	1.0	********				
Alarm name *	Primary-RDS-Down	Hea 1.2	ith check :	status			
oudwatch alarms to be not	lied automatically whenever metric data meets conditions that	you deline.					

aws	partner network
Advanced Tech	ı nology
Partr	her

- 4. Setup your Lambda functions as subscribers to the SNS topic
 - a. In the SNS service select the SNS topic you created in the previous step
 - b. In the "Subscriptions" section click the "Create subscription" button
 - i. Under "Protocol" select "AWS Lambda"
 - ii. Under "End point" select the Lambda function you would like to call

Alarm-RDS-P	rimary-Down
Create subscription	
Topic ARN	arn:aws:sns:us-east-1:652128956298:Alarm-RDS-Primary-Down
Protocol	AWS Lambda 🗸
Endpoint	arn:aws:lambda:us-east-1:652128956298:function:CBR_QL_Route53
Version or alias	default
	Cancel Create subscription
-1.002120900290.Mami-AL	0-Frimary-Down.070ca04c-0400-4401-901 iambua am.aws.iambua.us-east-1.002120900290.iu

5. When setting up your Lambda functions refer to our GitHub library

https://github.com/cloudbasic

a. Promoting an RDS replica to primary status

https://github.com/cloudbasic/Lambda-Promote-to-Primary

b. Switching a Route 53 record

https://github.com/cloudbasic/Lambda-Update-Route53

Operational Guidance

Health Check

When CLOUDBASIC is operating normally it will respond on port 80 of your instance. Use the AWS EC2 console to monitor the basic performance metrics of your instance and to verify that it is not being overloaded.

The health of the replication service and the status of individual replication schedules can be verified in the CLOUDBASIC management console. When the service is operating normally you will see a spinning set of gears in the upper right corner.





For more details on how to monitor the progress of individual replication schedules please see our online documentation

https://cloudbasic.net/documentation/monitor-continuous-copy-relationship/

Backup and Recovery

CLOUDBASIC RDS AlwaysOn/Geo-Replicate allows replication servers deployed in different availability zones (Multi-AZ) or multi-availability-regions (Multi-AR) to be clustered achieving High-Availability replication processing. The replication workload is load balanced by default. If one server goes down the other one picks up the replication workload. Lower latency can be achieved (version 10.12 and above only) by assigning affinity to the server replicating with lower lag.

For more detailed information, please see our online documentation

https://cloudbasic.net/documentation/multiaz-high-availability-cluster/

In deployment scenarios where a CLOUDBASIC cluster is not justified, the recovery of a failed instance will require the complete rebuild of the instance along with the replication schedules. Please note that this process will result in reseeding of all replicated databases and can take a very long time depending on the amount of data, the size of your CLOUDBASIC instance and the speed of all involved network connections.

Routine Maintenance

Your CLOUDBASIC instance comes with the ability to check for newer releases. To update your CLOUDBASIC instance to the latest version of the software supported in your use case, select "Update" from the menu on the left. CLOUDBASIC supports two ways to update the version of the software you are using



å 1	he Administrator		lome / Update
. l	Dashboard	K	Automated System Update
C			Check for updates
*	Favorites		Always install the latest updates to enhance your system's performance and security
	Replications	₩ <	Check for updates
Ø	Advanced	⊕ <	Most recent check for updates: Mar-18-2019 06:04 PM
¢ŝ			Updates were installed: Mar-18-2019 06:06 PM View logs
쓭			
C	Update		Semi-Automated System Update
0		G	Check for updates Ways instille these updates to enhance your system's performance and security Step (1): Click the URL below for copy and open from a network with access to internet) to check for updates. https://tagundsi95.com/update.sppi/testionr12.25&build=(51,R_UAO) Step (2): If an update is available, upload the file downloaded in step (1) below: Drop files to upload (Or Click)
			Most recent check for updates: Mar-18-2019 06:04 PM Updates were installed: Mar-18-2019 06:06 PM View logs

Fully automated updates

When your CLOUDBASIC instance is configured to have access to the Internet, clicking the "Check for updates" button causes the instance to check with the CLOUDBASIC servers whether a newer version is available. If a new version is available, you will see the "Update" button along with a link to the "Release notes".



Manual updates

When your CLOUDBASIC instance cannot access the Internet, you will need to obtain and upload the update package manually. Just follow the steps in the section "Semi-automated System Update". You will be taken to a page that looks like this and will be able to download the appropriate version.







Emergency Maintenance

As described in the section "Backup and Recovery", the best practice to address emergency situations is to deploy CLOUDBASIC in a High Availability configuration with nodes in multiple Availability Zones or AWS Regions.

Support

All CLOUDBASIC customers receive the Basic Support, which comes included with all service subscription plans. In addition, 24x7 access is provided to online documentation, white papers, and case studies. Priority over the phone Technical Support and Advisory Services are available to higher service tiers and Premium Support subscribers. Please refer to our online documentation for additional details

https://cloudbasic.net/supportplans/

Support Costs

Support is included with a CLOUDBASIC AWS Marketplace subscription.

Accessibility

Reference Materials

Additional consideration along with more detailed discussions of CLOUDBASIC deployment scenarios are available at:

aws partner network

^{Advanced} Technology Partner

https://cloudbasic.net/documentation/

Localization

This user guide is available in English.

aws partner network

Advanced Technology Partner