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# **Quick Guide**



**Automatic MongoDB Backup Solution** 

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# Introduction to MongoSafenet: Automating MongoDB Backups to AWS S3

In today's data-driven landscape, efficient data management is paramount for businesses and organizations of all sizes. MongoDB, a NoSQL database management system, has emerged as a popular choice for its scalability and flexibility in handling vast volumes of data. As organizations increasingly migrate their operations to the cloud for improved accessibility and scalability, there arises a pressing need for robust database backup solutions that seamlessly integrate with cloud platforms.

The MongoSafenet project represents a significant advancement in the realm of MongoDB database management. This innovative solution is meticulously designed to automate MongoDB backup processes and streamline data storage in the cloud. Specifically, MongoSafenet leverages the power of Amazon Web Services (AWS) S3 Buckets to offer a reliable and efficient cloud-based storage solution for MongoDB backups.

The core objective of MongoSafenet is to save valuable time and resources by simplifying the complex task of MongoDB backup, while ensuring the security and accessibility of these backups through AWS infrastructure. This project seamlessly marries several cutting-edge technologies to provide a comprehensive and hassle-free MongoDB backup and cloud integration solution.

#### Key Technologies Utilized in MongoSafenet:



MongoDB: At the heart of this project lies MongoDB, a robust NoSQL database management system
 known for its scalability, flexibility, and document-oriented data storage capabilities. MongoDB serves as the primary database engine for this solution.



MongoDB Compass: MongoDB Compass is a sophisticated GUI (Graphical User Interface) tool designed to facilitate the management and visualization of MongoDB databases. It plays a pivotal role in configuring, monitoring, and interacting with the MongoDB database.



Amazon Web Services (AWS): AWS, Amazon's comprehensive cloud computing platform, offers a vast array of services and resources. In the context of MongoSafenet, AWS provides the infrastructure needed to host and manage MongoDB backups seamlessly.



Windows Task Scheduler: On the Windows platform, the Task Scheduler is a powerful utility that allows users to automate various tasks, including running scripts and executing programs at specified intervals. In MongoSafenet, it is harnessed to automate the MongoDB backup process, ensuring regular and reliable data backups.



AWS Command Line Interface (CLI): AWS CLI is a command-line tool provided by Amazon Web Services, enabling users to interact with AWS services from the command line. Within the MongoSafenet project, the AWS CLI is employed to interact with AWS S3 for secure storage of MongoDB backups.



AWS S3 Bucket: Amazon S3 (Simple Storage Service) is a highly scalable and durable object storage service provided by AWS. It serves as the cloud-based repository for MongoDB backups, ensuring data availability and durability.



IAM User for Bucket Access: AWS Identity and Access Management (IAM) is used to create a dedicated IAM user with specific permissions, including "AmazonS3FullAccess," to securely access and manage the S3 bucket. This IAM user ensures that backups are stored, accessed, and maintained with the highest level of security.



Amazon EC2 (Elastic Compute Cloud) is a cloud service that allows you to rent virtual servers, known as instances, to run your applications. You can choose from a variety of instance types and configure them to suit your needs. EC2 offers scalability, high availability, and a wide range of use cases, including web hosting, data analysis, and machine learning.

The following sections of this guide will delve into the step-by-step instructions required to implement MongoSafenet effectively, from MongoDB installation to configuring the Task Scheduler and leveraging AWS resources for cloud-based MongoDB backups. By embracing this automation solution, organizations can not only safeguard their valuable MongoDB data but also enhance operational efficiency through seamless cloud integration.

# Technique 1

# WINDOWS 11/10 USING TASK SCHEDULER

# **MongoDB** Installation

#### **Download MongoDB:**

Step 1: Visit the MongoDB website at https://www.mongodb.com/.

Here, you'll find MongoDB versions tailored to different operating systems like Windows, macOS, and Linux.

MongoDB Enterprise Advanced	$\{\overline{\bullet}\}$
MongoDB Community Edition	
MongoDB Community Server	MONGODB COMMUNITY SERVER
MongoDB Community	MongoDB Community Server
Kubernetes Operator	Download
Tools	The Community version of our distributed database offers a flexible document data model along with support for ad-hoc queries, secondary indexing, and real-time
Atlas SQL Interface	aggregations to provide powerful ways to access and analyze your data.
Mobile & Edge	The database is also offered as a fully managed capies with Manag00 Atlas. Get
	access to advanced functionality such as auto-scaling, serverless instances, full-text
	search, and data distribution across regions and clouds. Deploy in minutes on AWS, Google Cloud, and/or Azure, with no downloads necessary.
	Give it a try with a free, highly-available 512 MB cluster. or get started from your terminal with the following two commands:
	<pre>\$ brew install mongodb-atlas</pre>
	\$ atlas setup
	Version
	7.0.1 (current) ~
	Platform
	Platform Windows x64 ~
	Platform Windows x64 ~
	Platform Windows x64 ~ Package msi ~
	Platform Windows x64 ~ Package msi ~

Step 2: Select the appropriate version for your operating system by clicking on the respective download link.

#### **Install MongoDB:**

**Step 1**: Once the download is complete, locate the downloaded installer file (usually ending in .msi for Windows).

Step 2: Double-click the installer file to run it. The installation wizard will guide you through the process.

**Step 3**: You can typically choose the installation directory and configure options as needed during the installation.

**Step 4**: Follow the on-screen instructions to complete the installation.

#### Add MongoDB to PATH:

Note: - To use MongoDB from the command line, you can add it to your system's PATH. PATH is a system environment variable that contains a list of directories. When you run a command in the command prompt or terminal, your system checks these directories for executable files.

**Step 1**: Find the directory where MongoDB was installed on your computer. This is typically under C:\Program Files\MongoDB on Windows or /usr/local/bin on macOS and Linux.

Step 2: Append this directory path to your system's PATH variable.

**Step 3**: On Windows, you can do this by opening the Start menu, searching for "Environment Variables," and clicking "Edit the system environment variables." Then, click the "Environment Variables" button, select "Path" in the "System variables" section, and click "Edit." Add the MongoDB directory to the list of paths.

Environm	nent Variables	×
User E	dit environment variable	×
Va Ch Int Or Pa QI	C\Program Files\MySQL\MySQL Shell 8.0\bin\ C:\Python\Python311\Scripts\ C:\Python\Python311\ %USERPROFILE%\AppData\Local\Microsoft\WindowsApps C:\Program Files (x86)\mingw-w64\i686-8.1.0-posix-dwarf-rt_v6 C:\Users\lenovo\AppData\Roaming\npm	New Edit Browse
TN	E:\Visual Studio Code\Microsoft VS Code\bin %IntelliJ IDEA Community Edition% C:\Program Files\Java\jdk-17	Delete
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Syste Va	E:\MongoDB\MongoDB Atlas CLI\ E:\MongoDB\MongoDb Tools\100\bin	Move Down
Cc co Dr NL OS Pa		Edit text
	ОК	Cancel

# **MongoDB Compass Installation**

This guide provides concise steps for installing MongoDB Compass.

#### **Download MongoDB Compass:**

Step 1: Visit the MongoDB website.

MongoDB, Products Solutions Resources	Company Pricing	Q Sign In
MongoDB Atlas		
MongoDB Enterprise Advanced	TOOLS	
MongoDB Community Edition	MongoDB Compass Do	wnload (GUI)
Tools		
MongoDB Shell	Easily explore and manipulate your database with Cr Intuitive and flexible, Compass provides detailed sch performance metrics, sophisticated querying abilitie	impass, the GUI for MongoDB. ema visualizations, real-time s, and much more.
MongoDB Compass (GUI)	Please note that MongoDB Compass comes in three to features, a read-only version without write or delete of the state of t	versions: a full version with all capabilities, and an isolated edition,
Atlas CLI	whose sole network connection is to the MongoDB in	stance.
Atlas Kubernetes Operator	For more information, see our documentation pages.	
MongoDB CLI for Cloud	Compass	
Manager and Ops Manager	The full version of MongoDB Compass, with all feature	es and capabilities.
MongoDB Cluster-to-Cluster	Readonly Edition	
Sync	This version is limited strictly to read operations, with removed.	all write and delete capabilities
Relational Migrator		
3/16/96/16/2017 4/17/19/15/46/70/2016/	Isolated Edition	
MongoDB Database Tools	This version disables all network connections except instance.	the connection to the MongoDB

Step 2: Download the MongoDB Compass version that matches your operating system (Windows, macOS, or Linux).

#### Install MongoDB Compass:

Step 1: Locate the downloaded installer file (usually with a .msi extension for Windows).

- Step 2: Run the installer by double-clicking it.
- **Step 3**: Follow the installation wizard's prompts, customizing settings as needed.
- **Step 4**: Complete the installation by following the on-screen instructions.

MongoUB Compass				-	0
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Compass O					
			New to Compass and don't have a		
New connection ±	New Connection	( <del>1</del> )	cluster?		
	Connect to a MongoDB deployment	FAVORITE	If you don't already have a cluster, you can create one for free using MongoDB Atlas 🖉		
Saved connections	URI ()	Edit Connection String 🦲	CREATE FREE CLUSTER		
	mongodb://localhost:27017/				
③ Recents			How do I find my connection string in		
Iocalhost:27017		h	Atlas?		
Sep 5, 2023, 1:57 PM	Advanced Connection Options				
Iocalhost:27017	Advanced Connection Options		view. Click the 'Connect' button for the		
Sep 2, 2023, 2:57 PM			cluster to which you wish to connect.		
<ul> <li>Iocalhost:27017</li> <li>Sep 2, 2023, 2:23 PM</li> </ul>	Save	Save & Connect Connect	See example		
Iocalhost:27017			How do I format my connection string?		
Sep 2, 2023, 2:17 PM			See example		
Iocalhost:27017					

# **MongoDB Command Line Tools Installation**

This guide provides concise steps for installing MongoDB Command Line Database Tools, along with adding to your system's PATH on Windows.

**Step 1:** Visit the official MongoDB website.

**Step 2:** Find the MongoDB Command Line Database Tools section.

MongoDB Atlas	
MongoDB Enterprise Advanced	TOOLS
MongoDB Community Edition	MongoDB Command Line Database
Tools	Tools Download
MongoDB Shell	The MongoDB Database Tools are a collection of command-line utilities for working with
MongoDB Compass (GUI)	a MongoDB deployment. These tools release independently from the MongoDB Server schedule enabling you to receive more frequent updates and leverage new features as soon as they are available. See the MongoDB Database Tools documentation for more
Atlas CLI	information.
Atlas Kubernetes Operator	Version
	100.8.0 ~
MongoDB CLI for Cloud	
Handger and Ops Handger	Platform
MongoDB Cluster-to-Cluster	Windows x86_64
Syno	
Relational Migrator	Package
	zip

Step 3: Download the tools for your operating system.

Step 4: Run the downloaded installer.

**Step 5:** Follow the installation instructions provided.

**Step 6:** Note that some tools may require additional configuration after installation.

#### Adding MongoDB Command Line Database Tools to PATH (Windows)

**Step 1:** Locate the Tools. Find the directory where MongoDB Command Line Database Tools are installed, which contains executable files like mongodump and mongorestore.

Step 2: Open the Start menu and search for "Environment Variables."

Step 3: Click "Edit the system environment variables."

**Step 4:** In the System Properties window, click the "Environment Variables" button.

Step 5: Under "System Variables," find and select the "Path" variable, then click "Edit."

**Step 6:** Click "New" and add the path to the MongoDB Command Line Database Tools directory (e.g., C:\Program Files\MongoDB\Tools\bin).

#### **Step 7:** Click "OK" to save the changes.

nvironment Variables	×
- Liser Edit environment variable	×
Va C:\Program Files\MySQL\MySQL Shell 8.0\bin\	New
Int C:\Python\Python311\Scripts\	
Or C:\Python\Python311\	Edit
Pa %USERPROFILE%\AppData\Local\Microsoft\WindowsApps	
OT C:\Program Files (x86)\mingw-w64\i686-8.1.0-posix-dwarf-rt_v6	Browse
TF C:\Users\lenovo\AppData\Roaming\npm	
TN E:\Visual Studio Code\Microsoft VS Code\bin	Delete
%IntelliJ IDEA Community Edition%	Delete
C:\Program Files\Java\jdk-17	
E:\MongoDB\Server\5.0\bin	Movellp
E:\MongoDB\Shell\mongosh-1.10.3-win32-x64\bin	wove op
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E:\MongoDB\MongoDb Tools\100\bin	wove Down
Va	
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CC	Edit text
co	
	Cerrer
OK	Cancel
OK	C Cancel

By following these steps, you'll have MongoDB Compass and MongoDB Command Line Database Tools installed and added to your Windows system's PATH, making them accessible from any command prompt or terminal window.

# **MongoDB Compass Configuration**

#### Step 1: Connecting to MongoDB:

After successfully installing MongoDB Compass, it's time to connect it to your MongoDB server.

Launch MongoDB Compass from your computer, either by clicking its icon in the applications menu or searching for it in the start menu.

#### Step 2: Connection:

MongoDB Compass will open with a connection dialog.

You'll need to enter the following information to connect:

- Host: The address of your MongoDB server.
- Port: The port number where MongoDB is running (the default is usually 27017).
- Authentication Credentials: This includes your username and password for accessing MongoDB.

at Edit View Help		
ompass 🌣		
New connection +	New Connection	
	Connect to a MongoDB deployment	FAVORITI
) Saved connections		Edit Connection String 🧲
Recents	mongodb://localhost:27017/	
localhost:27017 Sep 21, 2023, 3:22 PM		A
localhost:27017 Sep 5, 2023, 1:57 PM	Advanced Connection Options	
localhost:27017 Sep 2, 2023, 2:57 PM	Save	Save & Connect Connect
localhost:27017 Sep 2, 2023, 2:23 PM		
localhost:27017 Sep 2, 2023, 2:17 PM		
localhost:27017		
		I
New Connec	ction	
New Connect	<b>ction</b> 8 deployment	(cr) FAVORITE
New Connect Connect to a MongoDA URI (1)	<b>ction</b> 8 deployment	FAVORITE Edit Connection String <b>C</b>
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New Connect Connect to a MongoDa URI () mongodb://localhc	<b>S</b> deployment	FAVORITE Edit Connection String
New Connect Connect to a MongoDA URI () mongodb://localhc	ction <sup>3</sup> deployment bst:27017/	FAVORITE
New Connect Connect to a MongoDa URI () mongodb://localhc	otion B deployment ost:27017/	FAVORITE
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New Connect Connect to a MongoDA URI () mongodb://localhc ) Advanced Connect () Connect ECON	etion B deployment ost:27017/ etion Options	FAVORITE Edit Connection String

#### Step 3: Connection Troubleshooting:

If you encounter any issues connecting to MongoDB, consider the following steps:

- Ensure that your MongoDB server is running. You can check by running **mongod** in the command prompt or terminal.
- Verify that the connection details, including the host and port, are correct.

Command Prompt - mongod X + V					٥	
Microsoft Windows [Version 10.0.22621.2283] (c) Microsoft Corporation. All rights reserved.						
C:\Users\\enovo>mongod {"t":{"\$date":2023-09-21115:22:09.067+05:30"},"s":"I", "c 1.0 snerify _=sc[DisabledDrotocols 'pone'"}	":"CONTROL",	"id":23285,	"ctx":"-","msg":"Automatically disabling TLS 1.0, to force-e	enabl	e TLS	s
"t":{"\$date":"2023-09-21T15:22:09.723405:30"},"s":"I", "c incomingExternalClient":{"minWireVersion":0,"maxWireVersion	:":"NETWORK",  ":13},"incomin	"id":4915701, gInternalClier	"ctx":"main","msg":"Initialized wire specification","attr":{ t":{"minWireVersion":0,"maxWireVersion":13},"outgoing":{"min	"spe Wire	c":{' Vers:	
on":0,"maxwireversion":13},"isinternallient":true}} {"t":{"\$date":"2023-09-21T15:22:09.724+05:30"},"s":"W", "c ace startup"}	":"ASIO",	"id":22601,	"ctx":"main","msg":"No TransportLayer configured during Netw	orkI	nter	f
<pre>{"t":{^\$date":"2023-09-21T15:22:09.725+05:30"},"s":"I", "c' {"t":{^\$date":"2023-09-21T15:22:09.730+05:30"},"s":"W", "c' ace startup"}</pre>	":"NETWORK", ":"ASIO",	"id":4648602, "id":22601,	"ctx":"main","msg":"Implicit TCP FastOpen in use."} "ctx":"main","msg":"No TransportLayer configured during Netw	orkI	nter	f
<pre>{"t":{"\$date":"2023-09-21T15:22:09.730+05:30"},"s":"I", "c" ":{"service":"TenantMigrationDonorService","ns":"Config.ten fut:</pre>	":"REPL", antMigrationDo	"id":5123008, nors"}}	"ctx":"main","msg":"Successfully registered PrimaryOnlyServi	ice",	"attı	r
":{"service":"C#23-09-2113:22:09.730+05:30"},"":"; ":{"service":"C#antMigrationRecipientService","ns":"config {"t":{"\$date":"2023-09-2113:22:09.731+05:30"},"s":"I", "c	.tenantMigrati ":"CONTROL",	onRecipients"} "id":5945603,	"ctx":"main","msg": Successfully registered Primaryontyserv; } "ctx":"main","msg":"Multi threading initialized"}	.ce",	atti	r
{"t":{"\$date":"2023-09-21T15:22:09.732+05:30"},"s":"I", "c ort":27017,"dbPath":"c:/data/db/","architecture":"6d-bit"," fut=%fich_terw:"nog2-00-21T15:22:09.732405:2011,","	":"CONTROL", host":"Phoenix	"id":4615611, "}}	"ctx":"initandlisten","msg":"MongoDB starting","attr":{"pid'	:128	84,"; cion	р <sup> </sup> "
<pre>"att":{"targetMinOS":"Windows 7/Windows Server 2008 R2"}} {"t":{"\$date":"2023-09-21T15:22:09.732+05:30"},"s":"I", "c"</pre>	":"CONTROL",	"id":23403,	"ctx":"initandlisten", msg . hayet operating system minimum	':{"v	ersio	0
n":"5.0.7","gitVersion":"b977129dc70eed766cbee7e412d901ee21: ","target_arch":"x86_64"}}} "#"":"{"data":"302-000-2115.22.00 732485.30"} "e":"T" "c	3acbda","modul	.es":[],"alloca	.tor":"tcmalloc","environment":{"distmod":"windows","distarc?	יא":"xi נויי:	86_64	4
Microsoft Windows 10*,"version":"10.0 (build 22621)"}}} {"t":{"\$date":"2023-09-21T15:22:09.732+05:30"},"s":"I", "c	":"CONTROL",	"id":21951,	"ctx":"initandlisten","msg.:Optialing System , act :[05	ttr"	""e . :{"op	р
<pre>tions":{}}} {"t":{"\$date":"2023-09-21T15:22:09.736+05:30"},"s":"I", "c' jlee" "attr":{"duta:/db/" "storageEngine":"wired"</pre>	:":"STORAGE",	"id":22270,	"ctx":"initandlisten","msg":"Storage engine to use detected	by d	ata 🗄	f
{"t":{"\$date":"2023-09-21T15:22:09.736+05:30"},"s":"I", "c eate,cache_size=7640M,session_max=33000,eviction=(threads_m)	:":"STORAGE", in=4,threads_m	"id":22315, ax=4),config_b	"ctx":"initandlisten","msg":"Opening WiredTiger","attr":{"cc ase=false,statistics=Cfast),log=(enabled=true,archive=true,), msc/alacs_dd_atistics=cfast).comercesteresteresteresteresteresteresteres	onfig ath=	":"cı jouri	r n
al, compressor=snappy, pullin_extension_con+ig=(2std=(Compr 0),statistics_log=(wait=0),verbose=[recovery_progress,checky {"t":{"\$date":"2023-09-2115:22:09.771+05:30"},"s":"I", "c'	<pre>cession_level=c cpoint_progress :":"STORAGE",</pre>	;,compact_progr "id":22430,	r=(close_ldle_time=000,close_scan_interval=10,close_nandle_n "ess],"}} "ctx":"initandlisten","msg":"WiredTiger message","attr":{"m	essag	um=2: e":"	。 [
1695289929:779590J[12884:140707127568288], txn-recover: [WT {"t":{\$date":"2023-09-21T15:22:09.821+05:30"},"s":"I", "c" 1695289929:826620J[12884:140707127568288], txn-recover: [WT	_VERB_RECOVERY ":"STORAGE", _VERB_RECOVERY	'_PROGRESS] Rec "id":22430, '_PROGRESS] Rec	overing log 15 through 16"}} "ctx":"initandlisten","msg":"WiredTiger message","attr":{"me overing log 16 through 16"}}	essag	e":"	Γ

#### • Now try again to connect the database.

MongoDB Com	pass - localhost:2	7017/1	myDB					- 0	×
Connect Edit V	iew Help ost:27017			Collections					
A My Queries	s			+ Create collection	Refresh		View	Sort by Collection Name	17
Databases	\$	Ð	+	records					
Search				Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:	
🕨 🛢 admin				20.48 kB	2	37.00 B	1	36.86 kB	
🕨 🛢 config									
🕨 🛢 local									
🔹 🛢 myDB		+	Ŧ						
reci	ords								

## **Task Scheduler Configuration**

#### About the Backup Script:

The backup script is a set of commands that automate the process of creating backups of your MongoDB database and securely uploading them to an AWS S3 bucket. This script ensures the safety of your data.

Task Scheduler (Local)	lask scheduler sommary (Last retrested: 21-09-2023 100/12)		Actions
sk Scheduler Library			Task Scheduler (Local)
	Overview of task Scheduler		Connect to Another Computer
	👔 You can use Task Scheduler to create and manage common tasks that your computer will carry out automatically at the times you specify. To begin, click a cor	mmand in the Action	🛐 Create Basic Task
	V menu.		🐮 Create Task
	Tasks are stored in folders in the Task Scheduler Library. To view or perform an operation on an individual task, select the task in the Task Scheduler Library and	click on a command in	Import Task
	Line Action ments		Display All Running Tasks
			Enable All Tasks History
	Task Status	•	AT Service Account Configuration
	Status of tasks that have started in the following time period:	Last 24 hours -	View
	Summer Divid Duration Documented Deland		Refresh
	Summary: v total - v tunning, v succeeded, v stopped, v laned		Help
	Task Name Run Result Run Start Run End Triggered By		
	Active Tasks		
	Active tasks are tasks that are currently enabled and have not expired.		
	Active tasks are tasks that are currently enabled and have not expired.		
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#### **Create MongoDB Backup Schedule:**

**Step 1:** Create a Dedicated Folder: - Start by creating a dedicated folder on your computer where you'll store your backup scripts. For example, create a folder named "C:\MongoDBBackups."

**Step 2:** Create a Backup Script File: - Inside the folder, create a new text file and give it a name like "backup\_mongodb.bat." (This script will be provided with the guide)

Step 3: Edit the Script: - Open the "backup\_mongodb.bat" file using a text editor (like Notepad).

Step 4: Copy and paste the provided script into the file.

**Step 5:** Replace the placeholders in the script with your actual MongoDB server details, such as the host, port, and database name.

#### \*backup\_to\_s3.bat - Notepad

File Edit Format View Help @echo off

:: Set MongoDB connection details
set MONGO\_HOST=localhost
set MONGO\_PORT=27017
set MONGO\_DB=Kyour mongoDB database name>

:: Set AWS S3 details
set AWS\_S3\_BUCKET=
Kyour S3 bucket name>
set AWS\_S3\_PREFIX=backups/

:: Create a timestamp for the backup folder set TIMESTAMP=%date:~4,2%-%date:~7,2%-%date:~10,4%\_%time:~0,2%-%time:~3,2%

:: Upload the backup to AWS S3 (assuming you have aws-cli configured) aws s3 cp <mark><path of your local backup folder></mark>\%TIMESTAMP% s3://%AWS\_S3\_BUCKET%/%AWS\_S3\_PREFIX%%TIMESTAMP% --recursive

:: Clean up the local backup folder
rmdir /s /q kpath of your local backup folder>

echo Backup completed!

Step 6: Save the Script.

#### Schedule Backups with Task Scheduler:

**Step 1:** Access Windows Task Scheduler from your computer. You can find it in the Control Panel or by searching for "Task Scheduler" in the start menu.

**Step 2:** Click "Create Basic Task" to start the task creation wizard in the Actions panel. The wizard will guide you through the following steps:

**Step 3:** Name the task and provide a description.

Step 4: Choose a schedule for your backups (e.g., daily, weekly).

Step 5: Select "Start a Program" as the action to perform.

Step 6: Locate and select the "backup\_mongodb.bat" script that you created earlier.



Create Basic Task Wizard		×	Create Basic Task Wizard		×
Create a Basic Tas	¢		Task Trigger		
Create a Basic Task Trigger Action Finish	Use this wizard to quickly schedule a common tas such as multiple task actions or triggers, use the C Name testtask Description: Guide	k. For more advanced options or settings reate Task command in the Actions pane.	Create a Basic Task Trigger Action Finish	When do you want the task to start? Daily Weekly Monthly One time When the computer starts When I log on When a specific event is logged	
		< Back Next > Cancel		< Back Ne	xt > Cancel
Create Basic Task Wizard		×	Create Basic Task Wizard		×
O Action			Daily	×	
Create a Basic Task Trigger Daily Action Finish	What action do you want the task to perform?  Start a program Send an e-mail (deprecated) Display a message (deprecated)	< Back Next> Cancel	Create a Basic Task Trigger Osity Action Finish	Start: 9/21/2023 0- 357/02 PM : Synchronize across tin Recur every: 1 days	re zones
Create Basic Task Wizard		×	Create Basic Task Wizard		×
Start a Program	•		Summary		
Create a Basic Task Trigger Daily Action Start a Program Finish	Program/script: Browse & locate your program/script here Add arguments (optional): Start in (optional):	Browse	Create a Basic Task Trigger Daily Action Start a Program Finish	Name: textusk Description: Guide	
		< Back Next > Cancel	$\supset$	Trigger:       Daily: At 357 PM every day         Action:       Start a program; "Browse & locate your program/script he         Open the Properties dialog for this task when I click Finish         When you click Finish, the new task will be created and added to your         < gack	re" Windows schedule. inish Cancel

# **AWS Setup Guide**

Note: - if you have AWS console already configured then go directly to step 5.

Step 1: Visit the AWS Website - Navigate to the official AWS website: [AWS Website] (https://aws.amazon.com/).

Step 2: Click the "Create an AWS Account" button.



**Step 3:** Follow the guided registration process, which includes providing personal and payment information. Upon completion, you will have successfully created your AWS account.

**Step 4:** After successfully creating your AWS account, log in to the AWS Management Console.

Step 5: In the AWS Management Console, locate and select the "S3" service.

aws	Services	Q s3	×	ک	Ş	0	۲	Stockholm 🔻	testclient2 @ 8018-3615-6296 V
	С		Search results for 's3' Try searching with longer queries for more relevant results			layo	out	+ Add widget	s
		Features (22)	Services	See all 7 results ►	<b>^</b>	AW	S	:	
		Blogs (1,291) Documentation (23,322)	당 S3 ☆ Scalable Storage in the Cloud			:arte unda	ed with amental:	AWS 🛃	2
		Knowledge Articles (20) Tutorials (13)	Top features Buckets Access points Storage Lens dashboards Batch Operations			n to g	get the i	most out of AWS.	-

Step 6: Click the "Create Bucket" button.



Step 7: Follow the steps in the bucket creation wizard, ensuring to provide a unique and meaningful bucket name.

Step 8: Configure any desired settings as needed during the setup process.

Amazon S3 > Buckets					
▼ Account snapshot Last updated: Sep 20, 2023 b	y Storage Lens. Metrics are generated every 24 h	iours. Learn more 🔀		View Storage Lens das	.hboard
Total storage 1.6 KB	Object count 8		Average object size 206.9 B	You can enable advanced metrics in the "default-account-dashboard" configura	e Ition.
Buckets (3) Info Buckets are containers for data st	ored in S3. Learn more 🔀		С Сору /	ARN Empty Delete Create	bucket
Buckets (3) Info Buckets are containers for data st Q. Find buckets by name Name	ored in S3. Learn more 🖸	gion	C D Copy / Access	ARN Empty Delete Create	bucket > © ⊽
Buckets (3) Info Buckets are containers for data st Q. Find buckets by name Name O bucketcreationdemo	ored in S3. Learn more 🚺	gion Stockholm) eu-north-1	C D Copy /     Copy /     Access  Bucket and objects not public	Empty         Delete         Create           < 1	bucket > ⊚ ▼
Buckets (3) info Buckets are containers for data st Q. Find buckets by name Name bucketcreationdemod	ored in S3. Learn more 🕻	gion (Stockholm) eu-north-1	Image: Comparison of the compar	ARN Empty Delete Create < 1 Creation date September 21, 2023, 15:47:11 (UTC+05:30)	2 <b>bucket</b> > ③ ▼ 1

#### Create an IAM User with S3 Full Access:

Step 1: In the AWS Management Console, find and select the "Identity and Access Management (IAM)" service.

aws	Services	Q IAM	I	×			D	¢	0	۲	N. Virginia 🔻	-	•
	C			Search results for 'IAM' Try searching with longer queries for more relevant results		L	ayout		+ Add	widget	s		١
		Features (20)		Services	See all 10 results ►	A	ws			:			
		Blogs (1,638) Documentation (48,3	87)	IAM ☆ Manage access to AWS resources		ta	ndame	vith A	WS 🖸	/aluable f/c			

**Step 2:** Within the IAM console, create a new IAM user, specifying the user's details. Choose "programmatic access" when prompted.

Jser details	
ser name	l₃
taskuser	
If you're providing console access to a person, it's a best practice	to manage their access in IAM Identity Center.

**Step 3:** When configuring permissions for the user, grant them "S3 Full Access" permissions, ensuring they have the necessary privileges.

user to an exi	ISSIONS sting group or create a new one. Using gr	roups is a best-practice way to mana	age user's permissio	ons by job functions. Lear	n more 🔼
Permission	s options				
Add user Add user group. We user perm	to group to an existing group, or create a new recommend using groups to manage issions by job function.	Copy permissions Copy all group memberships, atta policies, and inline policies from a	ched managed n existing user.	• Attach policies dii Attach a managed p best practice, we rec a group instead. The appropriate group.	rectly olicy directly to a user. As a ommend attaching policies to n, add the user to the
Permission hoose one or m	<b>s policies</b> (1/1126) ore policies to attach to your new user.	Filter by Type		C	Create policy 🖸
Permission hoose one or m Q amazons:	s policies (1/1126) ore policies to attach to your new user.	Filter by Type		5 matches	Create policy [2]
Permission hoose one or m Q amazons: Policy	s policies (1/1126) ore policies to attach to your new user.	Filter by Type	• • • • • • • • • • • • • • • • • • •	5 matches	Create policy [2] < 1 >
Permission hoose one or m Q amazons: Policy	s policies (1/1126) ore policies to attach to your new user.	Filter by Type       X     All types       Image: AWS managed	2	5 matches 7   Attached entities 2	Create policy ☑ < 1 > ③
Permission hoose one or m a amazons: Policy b the the the the the the the the the the	s policies (1/1126) ore policies to attach to your new user.	Filter by Type       X     All types       All types     AWS managed       AWS managed     AWS managed	2 💌	5 matches 7   Attached entities 2 0	Č Create policy [2] < 1 > ⊗
Permission hoose one or m amazons: Policy C + + +	s policies (1/1126) ore policies to attach to your new user. s mame [2] AmazonS3FullAccess AmazonS3ObjectLambdaExecution AmazonS3ObjectLambdaExecution	Filter by Type       X     All types       Image: AWS managed     AWS managed       AWS managed     AWS managed	▼ 2	5 matches 2 Attached entities 2 0 0 0	Create policy [2] < 1 >
Permission hoose one or m Q amazons: Policy 2 + 1 + 1 + 1 +	s policies (1/1126) ore policies to attach to your new user.	Filter by Type       All types       AWS managed       AWS managed       AWS managed       AWS managed       AWS managed       AWS managed	2 🔻	5 matches 7   Attached entities 2 0 0 0 0	Create policy [2] < 1 > ③

**Step 4:** After successfully creating the IAM user, make note of the "Access Key ID" and "Secret Access Key" assigned to this user. These credentials must be kept secure, as they will be required for configuring the AWS Command Line Interface (CLI).

Services Q Search		[Alt+S]	Ð	¢	0	٢	Global 🔻	line from
Access key created This is the only time that the secret	access key can be viewed or downloaded. You cannot re	cover it later. However, you can create a new access key any time.						
IAM > Users > taskuser > Cu	reate access kev							
Step 1 Access key best practices & alternatives	Retrieve access keys Info							
Step 2 - optional Set description tag	Access key If you lose or forget your secret access key, you can	not retrieve it. Instead, create a new access key and make the old key inactive.						
Step 3	Access key	Secret access key						
Retrieve access keys	AKIA3VMJIYWEM6HPV2PB	oRwMU9Ec3FcgpcubgGpRnyP1qb9mDbHiUYXWk2Zz Hide						
	You have successfully This is the only time you window, if the passwo	enabled the user's new password. ou can view this password. After you close this rd is lost, you must create a new one.						
	Console sign-in URL D https://801836156296.sig	nin.aws.amazon.com/console						
	User name							
	🗇 taskuser	N						
	Console password	L3						
	🗇 W=c@GP2* Hide							
		Download .csv file	lose					

# **AWS Command Line Interface (CLI) Configuration**

#### Installing AWS CLI on Windows:

**Step 1:** Visit the official AWS CLI download page for Windows by navigating to [AWS CLI for Windows] (https://aws.amazon.com/cli/).



**Step 2:** Choose the appropriate MSI installer based on your system's architecture (64-bit or 32-bit) and click the download link.

**Step 3:** Locate the downloaded MSI installer file, such as "awscli-x86\_64.msi," and double-click it to initiate the installation process.

Step 4: The installer wizard will open. Click "Next" to proceed.

**Step 5:** Carefully read the AWS CLI License Agreement. If you agree to the terms, select the "I accept the terms in the License Agreement" checkbox and click "Next."

**Step 6:** Decide whether to use the default installation directory or specify a custom one. Click "Next" to continue.

Step 7: Determine the folder where AWS CLI shortcuts will be placed in the Start menu. Click "Next."

**Step 8:** You can opt to create desktop and Start menu shortcuts for the AWS CLI. Make your selections and click "Next."

Step 9: Review your chosen settings. If they are correct, click "Install" to initiate the installation process.

Step 10: The installer will copy the necessary files and install the AWS CLI on your Windows system.

Step 11: Once the installation is finished, click "Finish" to exit the installer.

#### **Configuring AWS CLI on Windows:**

**Step 1:** Launch a Command Prompt window on your windows computer by pressing `Win + R`, typing "cmd," and pressing Enter.

**Step 2:** In the Command Prompt, enter the following command:

"aws configure"



**Step 3:** You will be prompted to provide the following information:

- Access Key ID: Enter the AWS Access Key ID obtained during the IAM user setup.
- Secret Access Key: Input the AWS Secret Access Key corresponding to the Access Key ID.

Optionally, you may configure the following settings based on your preferences. These settings are optional and can be left blank:

- Default region: Specify your preferred AWS region (e.g., us-east-1).
- Preferred output format: Select your desired output format (e.g., Json)

**Step 4:** To verify the AWS CLI configuration, run the following command:

"aws configure list"

This command will display the configuration settings you entered.

C:\Users\	>aws configure list		
Name	Value	Туре	Location
profile	<not set=""></not>	None	None
access_key	*******************JLWS	shared-credentials	-file
secret_key	***************	shared-credentials	-file
region	<not set=""></not>	None	None

Step 5: Confirm that the AWS CLI is correctly configured and able to communicate with AWS services by listing the contents of your S3 buckets:

#### "aws s3 ls"

If your S3 bucket names are listed, your AWS CLI configuration is successful.



### **Run the Scheduled Task**

Make sure that the scheduled task you created in Schedule Backups with Task Scheduler section runs as planned. This task will automatically execute your MongoDB backup script at the scheduled intervals.

For Testing Purposes you can find the created Task in the Task Scheduler Library and then can RUN it in the Actions Panel and check whether the backup is created on s3 or not.

(2) Task Scheduler				- o ×
File Action View Help				
🗢 🔿 🙍 🖬 🖬				
Task Scheduler (Local)	Name Status Triggers	Next Run Time Last Run Time	Last Run Result	Actions
	Wirmikep, Cr. Ready At 1225 AM every day     Wirmikep, Cr. Ready At 625 AM every day     OneDrive Re Ready At 935 AM every day     OneDrive Re Ready At 931 PM on 9/18/2023 - After triggered, repeat every 1.000000 indefinitely.     OneDrive Sta Ready At 400 PM on 5/1/1992 - After triggered, repeat every 1000000 indefinitely.     OneDrive Sta Ready At 403 PM every day - After triggered, repeat every 040000 indefinitely.     Output Heal A Ready At 403 PM every day - After triggered, repeat every 040000 indefinitely.     Output Heal A Ready At 403 PM every day - After triggered, repeat every 040000 indefinitely.	9/22/023 12:524 AM 9/22/023 12:524 AM 9/22/023 13:33:29 A 9/21/2023 9:1947 PM 9/21/2023 9:1947 PM 9/21/2023 11:4307 PM 9/22/2023 12:44:300 PM 9/21/2023 12:43:01 P	M         The operation cc           M         The operation cc           M         The operation cc           M         (0x8004EE04)           M         The operation cc           M         The operation cc           M         The operation cc	Create Task.     Import Task.     Import Task.     Import Task.
	Resume Quic _ Ready At 1243 PM every day - After triggered, repeat every 020000 for a duration of 1 day.     Bisbackyn Ready At 1251 PM every day     Ready At 357 PM every day     Bisbackyn Ready At 357 PM every day     Bisbackyn Ready At 357 PM every day	9/21/2023 4/4300 PM 9/21/2023 2:56:57 PN 9/22/2023 2:12:59 PM 9/21/2023 3:02:56 PN 9/22/2023 3:57:02 PM 11/30/1999 12:00:00 9/21/2023 3:57:02 PM 9/21/2023 3:52:29 PM	The operation cc     The operator or     The task has not     The operation cc	Enable All Tasks History     New Folder      View
	User, Exec	9/21/2023 5:07:15 PM 9/21/2023 10:33:29 A	M The operation cc	<ul> <li>Refresh</li> <li>Help</li> </ul>
	General Triggers Actions Conditions Settings History (disabled) Name: testtask			Selected Item
	Location: \ Author: PHOENIX\lenovo Description: Cuida			End Disable
	Descriptions Guide			Properties     Delete
				Help
	Security options When running the task, use the following user account: lenovo			
	Run only when user is logged on     Run whether user is logged on or not     Do not store password. The task will only have access to local resources			
	Run with highest privileges     Hidden Configure for: Windows Vista <sup>10</sup> , Windows Server <sup>101</sup> 2008			

# TECHNIQUE - 2

# AMAZON EC2 (UBUNTU VERSION) USING CRON

# **AWS Setup Guide**

Step 1: Visit the AWS Website - Navigate to the official AWS website: (https://aws.amazon.com/).

Step 2: Click the "Create an AWS Account" button.



**Step 3:** Follow the guided registration process, which includes providing personal and payment information. Upon completion, you will have successfully created your AWS account.

Step 4: After successfully creating your AWS account, log in to the AWS Management Console.

#### **Create Bucket using S3:**

Step 1: In the AWS Management Console, locate and select the "S3" service.



Step 2: Click the "Create Bucket" button.



Step 3: Follow the steps in the bucket creation wizard, ensuring to provide a unique and meaningful bucket name.

**Step 4:** Configure any desired settings as needed during the setup process.

,			
▼ Account snapshot Last updated: Sep 20, 2023 by 9	itorage Lens. Metrics are generated every 24 hours. Learn more 🔀		View Storage Lens dashboard
Total storage 1.6 KB	<u>Object count</u> 8	Average object size 206.9 B	You can enable advanced metrics in the "default-account-dashboard" configuration.
Buckets are containers for data stor	ed in S3. Learn more 🔀	В сору или	Empty Delete Create bucket
Buckets are containers for data stor	ed in S3. Learn more 🖍	▼ Access	Empty         Delete         Create bucket           < 1 >         ⊘           ▼         Creation date         ▼
Buckets are containers for data stor Q. Find buckets by name Name bucketcreationdemo	ed in S3. Learn more 🖸 AWS Region Europe (Stockholm) eu-north-1	Access      Access      Bucket and objects not public	Empty         Delete         Create bucket           <
Buckets are containers for data stor Q. Find buckets by name D. bucketcreationdemo D. bucketcreationdemo	ed in S3. Learn more 🖍 AWS Region Europe (Stockholm) eu-north-1	Access      Bucket and objects not public	Empty         Delete         Create bucket           < 1 > ☺             ▼         Creation date         ▼           September 21, 2023, 15:47:11 (UTC+05:30)

#### Create an IAM User with S3 Full Access:

**Step 1:** In the AWS Management Console, find and select the "Identity and Access Management (IAM)" service.

aws	Services	QIAM I	×		Ð	¢	0	0	N. Virginia 🔻	<b>Merilie</b>	•
	С		Search results for 'IAM' Try searching with longer queries for more relevant results		layout		<mark>⊢ Add</mark>	widgets			١
		Features (20)	Services	See all 10 results	aws			:			
		Blogs (1,638) Documentation (48,387)	IAM ☆ Manage access to AWS resources		carted v	vith AV	VS 🛃	aluable			

**Step 2:** Within the IAM console, create a new IAM user, specifying the user's details. Choose "programmatic access" when prompted.

User name   taskuser   The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ (hyphen)   Provide user access to the AWS Management Console - optional   If you're providing console access to a person, it's a best practice C to manage their access in IAM Identity Center.   (3) If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. Learn more C	Jser details	
taskuser         he user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ (hyphen)         Provide user access to the AWS Management Console - optional         If you're providing console access to a person, it's a best practice 2 to manage their access in IAM Identity Center.         (i) If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. Learn more 2	Jser name	La
he user name can have up to 64 characters. Valid characters: A-Z, a-Z, 0-9, and + = , . @ (hyphen)         Provide user access to the AWS Management Console - optional         If you're providing console access to a person, it's a best practice ∠ to manage their access in IAM Identity Center.         ③ If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. Learn more.	taskuser	
Carcel	Provide user access to the AWS Management Console -	optional
	<ul> <li>If you're providing console access to a person, it's a best practice</li> <li>If you are creating programmatic access through acc them after you create this IAM user Learn more [2]</li> </ul>	to manage their access in IAM Identity Center.

**Step 3:** When configuring permissions for the user, grant them "S3 Full Access" permissions, ensuring they have the necessary privileges.

•ermi	ssions options	
A A	dd user to group dd user to an existing group, or create a new oup. We recommend using groups to manage er permissions by job function.	○ Copy permissions Copy all group memberships, attached managed policies, and inline policies from an existing user. ♦ Attach policies directly Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.
ermi	ssions policies (1/1126)	
hoose o	ne or more policies to attach to your new user.	Filter by Type
hoose o Q an	ne or more policies to attach to your new user.	Filter by Type       X     All types       5 matches     < 1 > ③
Q an	ne or more policies to attach to your new user.	Filter by Type       X     All types       Type     V       Attached entities
Q am	Policy name  AmazonS3 AmazonS3FullAccess	Filter by Type       X     All types       S     stached entities       AWS managed     2
Q am	azons3 Policy name [2]  AmazonS3 Policy name [2]  AmazonS3FullAccess  AmazonS3CDjectLambdaExecution	Filter by Type X All types ▼ 5 matches < 1 > ③ AWS managed 2 AWS managed 0
Q am	azons3 Policy name [2]  AmazonS3FullAccess  AmazonS3ObjectLambdaExecution  AmazonS3OutpostsFullAccess	Filter by Type       5 matches       1 > (2)         All types       5 matches       1 > (2)         All types       7       Attached entities       7         AWS managed       2       1       1         AWS managed       0       1       1         AWS managed       0       1       1
Q an	azons3 Policy name [2]  AmazonS3EullAccess  AmazonS3ObjectLambdaExecution  AmazonS3ObjectLambdaExecution  AmazonS3OutpostsFullAccess  AmazonS3OutpostsReadOnlyAccess  AmazonS3OutpostsReadOnlyAccess	Filter by Type       ▼       5 matches       < 1 > ②         ▲       Type       ▼       Attached entities       ▼         AWS managed       2             AWS managed       0

**Step 4:** After successfully creating the IAM user, make note of the "Access Key ID" and "Secret Access Key" assigned to this user. These credentials must be kept secure, as they will be required for configuring the AWS Command Line Interface (CLI).

VS	Services	Q Se	arch	[Alt+S]		Þ.	¢	0	۲	Global 🔻	- second -
0	Access key cre This is the onl	eated ly time th	at the secret	access key can be viewed or downloaded. You cannot recover it later. However, you	u can create a new access key any time.						١
	Step 1		<u>skuser</u> > Cr	eate access key							
	Access key be alternatives		ces &	Retrieve access keys Info							
	Step 2 - optiono	al on tag		Access key If you lose or forget your secret access key, you cannot retrieve it. Instead, create a	a new access key and make the old key inactive.						
				Access key Secret access key							
	Retrieve acce	ess keys		AKIA3VMJIYWEM6HPV2PB	cubgGpRnyP1qb9mDbHiUYXWk2Zz						
				You have successfully enabled the user This is the only time you can view this pa window, if the password is lost, you must	<b>'s new password.</b> assword. After you close this t create a new one.						
				Console sign-in URL							
				https://801836156296.signin.aws.amazon.co	om/console						
				User name							
				🗇 taskuser							
				Console password	$\triangleright$						
				☐ W=c@GP2* Hide							
					Download .csv file	ose					

#### Create an EC2 Instance:

**Step 1:** Go to EC2 in services section.

Q EC2	×	
Services (13)	Search results for 'EC2' Try searching with longer queries for more relevant results	
Features (54) Resources <b>New</b> Blogs (2,034) Documentation (33,459)	Services EC2 * Virtual Servers in the Cloud	See all 13 results

**Step 2:** Click on Launch instance in the Launch instance section.

New EC2 Experience Tell us what you exist	Resources			1	EC2	2 Global view 🖄 🕘 🔇		Account attributes	
EC2 Dashboard	You are using the following Amazon EC2 resources in the		S East (N. Virginia) Region:			Default VPC 🖄			
Events	Instances (running)	0	Auto Scaling Gro	ups 0		Dedicated Hosts	0	vpc-04d22e618c1cabca2	
istances	Elastic IPs	0	Instances	1		Key pairs	0	Data protection and security New	
istances	Load balancers	o	Placement group	x 0	,	Security groups	4	Zones	
aunch Templates	Snapshots	0	Volumes	0	,			Default credit specification	
pot Requests avings Plans eserved Instances redicated Hosts	Launch instance To get started, launch an Amazor virtual server in the cloud.	n EC2 instan	ce, which is a	Service he AW5 Heal	eal	th Dashboard 🖉 📿		Explore AWS X	
apacity Reservations nages Mis	Launch instance  Wigrate a server			Region US East (N. V	Virginia)			Up to 40% better performance; 20% lower cost Move your compute workloads to Graviton-based instances for better price performance compared to	
MI Catalog	Note: Your instances will lau	nch in the	US East (N.	Zones				10 Things You Can Do Today to Reduce AWS Costs	

**Step 3:** Write the name of Instance.

Name           testserver         Add additional tags	Name and tags Info	
testserver Add additional tags	Name	
	testserver	Add additional tags

**Step 4:** Choose the operating system as Ubuntu.

Quick Start						
Amazon Linux	macOS	Ubuntu 🥼	Windows	Red Hat	SUSE Li	Q
aws	Nac	ubuntu®	Microsoft	📥 Red Hat	SUSI	Browse more AMIs Including AMIs from AWS, Marketplace and the Community

▼ Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name - required
Select  Create new key pair

Step 6: Name the key pair and choose. pem as a file format and click on create key pair.

Key pair name Key pairs allow you to connect to your instance sect	ırely.	
testkey		
The name can include upto 255 ASCII characters. It	can't include leading or trailing spaces.	
RSA     RSA encrypted private and public key     pair	ED25519     ED25519 encrypted private and pulkey pair	olic
<ul> <li>Private key file format</li> <li>.pem</li> <li>For use with OpenSSH</li> </ul>		
<ul> <li>Private key file format</li> <li>.pem For use with OpenSSH</li> <li>.ppk For use with PuTTY</li> </ul>		
Private key file format ● .pem For use with OpenSSH ○ .ppk For use with PuTTY ▲ When prompted, store the private keyour computer. You will need it later more [2]	y in a secure and accessible location or to connect to your instance. Learn	1

**Step 7:** Click on launch instance, then go to view all instance.

**Step 8:** After the instance state comes to running, choose your create instance and click on connect.

Ins	stances (1/2)	Info		C	Connect	Instance state <b>v</b>	Actions 🔻 🛛 La	aunch instances <b>v</b>
Q	Find instance by	v attribute or tag (case-sensitive)						< 1 > 💿
	Name	▼ Instance ID	Instance state $\nabla$ I	nstance type	▼ Status check	Alarm status	Availability Zone	▼ Public IPv4 DNS
0	1010	LINE REPORTED	<ul> <li>() hereisseneitikels</li> </ul>	i eta a		Solars 4	10.000	
✓	testserver	i-05151e055a077574e		2.micro	-	No alarms 🕂	us-east-1a	ec2-54-224-97-1

#### **Step 9:** Choose how you want to connect with the instance, Here I am using EC2 Instance Connect.

EC2 Instance Connect Session Manager SSH cli	ent EC2 serial console
Instance ID	
🗗 i-05151e055a077574e (testserver)	
Connection Type	
<ul> <li>Connect using EC2 Instance Connect</li> <li>Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.</li> </ul>	Connect using EC2 Instance Connect Endpoint Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.
Enter the user name defined in the AMI used to launch the instance. If Jbuntu.	you didn't define a custom user name, use the default user name,
ubuntu	
(i) Note: In most cases, the default user name, ubuntu, is check if the AMI owner has changed the default AMI	s correct. However, read your AMI usage instructions to user name.
	Cancel Connect

# **Configuring EC2 instance**



#### Step 1: Update and upgrade your system:

Use the following commands:

- sudo apt update
- sudo apt upgrade

**Step 2:** Add the MongoDB repository:

• sudo add-apt-repository "deb http://archive.ubuntu.com/ubuntu focal main"

Step 3: Add the MongoDB GPG key and update again:

- wget -qO https://www.mongodb.org/static/pgp/server-5.0.asc | sudo apt-key add echo "deb [ arch=amd64, arm64] https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-5.0.list
- sudo apt update

Step 4: Install MongoDB:

• sudo apt-get install -y mongodb-org

Step 5: Start and enable MongoDB service:

- sudo systemctl start mongod
- sudo systemctl enable mongod

Step 6: Install AWS CLI:

• sudo apt-get install -y awscli

#### **Step 7:** Configure AWS CLI:

• aws configure

Follow the prompts to enter your AWS access key, secret key, default region, and output format.

Step 8: Create a backup script:

- cd /home/ubuntu
- nano backup\_mongodb.sh
- Copy and paste the script you are provided along with other documents.

Step 9: Make the script executable:

chmod +x backup\_mongodb.sh

Step 10: Schedule backups using cron:

• crontab -e

Add the following line to schedule daily backups at 2 AM:

- 0 2 \* \* \* /home/ubuntu/backup\_mongodb.sh
- Save and exit the editor.

Step 11: Test the backup script manually:



• ./backup\_mongodb.sh

Step 12: Go to S3 Bucket and check the created backup.

Objects Properties Permissions Pietrics	Management Access Points		
Objects (1)			
Objects (1) Objects are the fundamental entities stored in Amazon S3. You can use A	mazon S3 inventory. 🗹 to get a list of all obje	ects in your bucket. For others to a	ccess your objects, you'll need to explicitly gran
them permissions. Learn more 🗹			
C Copy S3 URI Copy URL	ownload Open 🖸 Delet	te Actions <b>v</b>	Create folder 🕢 Upload
Q Find objects by prefix			< 1 > <
□ Name ▲ Type	▼ Last modified	▼ Size	▼ Storage class
C Calder			

### Conclusion

In conclusion, this comprehensive guide has simplified the process of setting up and using MongoSafeNet for technical & non-technical users. It highlights the importance of regular backups for data security and recovery. By following these detailed steps, you can effectively manage your MongoDB databases and automate backups with confidence.

In the ever-evolving landscape of data management and cloud computing, the MongoSafenet project stands as a testament to innovation and efficiency. With a primary focus on automating MongoDB backups and seamlessly integrating with Amazon Web Services (AWS) S3, this project offers a comprehensive solution to address the challenges of data backup and cloud storage.

As we conclude our documentation guide on MongoSafenet, it is essential to reflect on the key takeaways and the significance of this project:

1. Streamlined MongoDB Backup: MongoSafenet simplifies the process of MongoDB backup by automating it through the Windows Task Scheduler. This not only reduces the risk of data loss but also ensures that backups are executed consistently and reliably.

2. AWS Integration: Leveraging the power of AWS S3, MongoSafenet provides a secure and scalable cloud storage solution for MongoDB backups. Organizations can now benefit from the durability, accessibility, and cost-effectiveness of AWS cloud storage.

3. Security: The project emphasizes security by creating a dedicated IAM user with precise permissions, ensuring that only authorized entities can access and manage the AWS S3 bucket. Data integrity and confidentiality are paramount.

4. Operational Efficiency: By automating MongoDB backup and cloud storage, MongoSafenet enables organizations to save valuable time and resources. IT teams can focus on higher-value tasks while having confidence in their data backup strategy.

5. Technology Stack: MongoSafenet harnesses a powerful technology stack, including MongoDB, MongoDB Compass, Windows Task Scheduler, AWS CLI, AWS S3, and IAM, to create a seamless and robust solution.

6. Scalability and Future-Proofing: As organizations grow, their data management needs evolve. The cloudbased approach of MongoSafenet ensures scalability, adaptability, and readiness for future data challenges.

7. Data Resilience: MongoDB backups stored in AWS S3 benefit from the inherent data resilience of Amazon's infrastructure. In the event of data loss or system failures, backups remain accessible and recoverable.

MongoSafenet represents a forward-thinking solution that empowers organizations to harness the full potential of MongoDB while ensuring the security and accessibility of their data through AWS S3. By automating backups and embracing cloud storage, organizations can mitigate risks, optimize operations, and confidently navigate the complexities of modern data management.

As you embark on your journey to implement MongoSafenet, this documentation guide serves as a comprehensive resource to guide you through the installation, configuration, and deployment process. We hope that MongoSafenet becomes a valuable addition to your data management toolkit, safeguarding your MongoDB data and enabling your organization to thrive in a data-driven world.