# Impact Analysis of MongoDB Atlas Certificate Authority Change on API Authentication Process

## Subject:

No Impact on MongoDB Atlas API Authentication Due to Certificate Authority Change

## Purpose

This document analyzes the impact of MongoDB Atlas transitioning its SSL/TLS certificates to those issued by Google Trust Services (GTS) Root R1 and GTS Root R2 on the API authentication process. The conclusion is that this change does not impact API-based authentication or our existing processes.

## Background

- MongoDB Atlas uses SSL/TLS certificates to secure communication between clients and Atlas clusters.  
- MongoDB has announced a transition to certificates issued by GTS Root R1 and GTS Root R2.  
- Our organization utilizes the MongoDB Atlas Administration API to pull monitoring metrics for capacity planning, invoked via PowerShell scripts running on Windows servers.

## Authentication Process Overview

1. API Authentication Mechanism:

- Authentication with the MongoDB Atlas Administration API is performed using an API key.  
 - API keys are independent of SSL/TLS certificates and rely on token-based authentication mechanisms provided by MongoDB Atlas.

2. SSL/TLS Role in API Communication:

- SSL/TLS is used to encrypt communication between the client (PowerShell script) and the MongoDB Atlas server.  
 - The client validates the server's identity using certificates issued by a trusted Certificate Authority (CA).

3. Impact of CA Transition:

- The transition to GTS Root R1 and GTS Root R2 affects only the server certificate validation during SSL/TLS handshake.  
 - This change does not alter the API key-based authentication process.

## Impact Analysis

1. API Key Authentication:

- API key authentication is unaffected because it is independent of the SSL/TLS certificates.  
 - API tokens are issued and validated directly by MongoDB Atlas, without reliance on the certificate authority.

2. SSL/TLS Connection:

- The client must trust the new root certificates (GTS Root R1 and R2) to establish an encrypted connection.  
 - The Windows server's root certificate store already includes GTS Root R1 and GTS Root R2, or it can be updated to include them as needed.

3. PowerShell Script:

- The PowerShell script that invokes API calls does not require changes, as it continues to use API keys for authentication.  
 - No modifications to the API request headers or payloads are necessary.

## Conclusion

The transition of MongoDB Atlas certificates to GTS Root R1 and GTS Root R2 has no impact on our API authentication process for the following reasons:

1. API authentication relies on API keys, which remain unaffected.

2. SSL/TLS certificates are only used for encrypted communication and server validation, which the Windows server already supports or can support with root certificate updates.

As a result, no changes to the PowerShell script, API key configuration, or other related processes are required.