AZI: Python Scripting

The following API calls are available for the Azure Injector Module and can be executed within any of the available Ignition scopes.

- createConfig
- readConfig
- updateConfig
- deleteConfig

APIs

- **system.cirruslink.azure.createConfig(type, props) void**
    - Parameters
        - type (str)
            - The type of configuration to create with valid options:
                - "Cert Files"
                - "IoT Hubs"
                - "IoT Edges"
                - "IoT Centrals"
                - "Event Hubs"
                - "Agents"
                - "Sets"
        - Map props
            - Dictionary of properties making up the configuration with the following keys and datatypes:
                - Cert Files
                    - Name (str)
                    - FileName (str)
                    - FileContents (str)
                    - Description (str)
                - IoT Hubs
                    - Id (long)
                    - Name (str)
                    - Enabled (bool)
                    - Protocol (str) "MQTT"
                    - AzureSetId (long)(must be included)
                    - CertAuthEnabled (bool)
                    - ConnectionString (str)
                    - MqttHostname (str)
                    - DeviceId (str)
                    - CaCertFileId (long)
                    - ClientCertFileId (long)
                    - ClientPrivateKeyFileId (long)
                    - ClientKeyPassword (str)
                    - HistoryEnabled (bool)
                    - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
                    - MessageCapacity (int)(deprecated 4.0.19)
                    - HistoryMaxAge (int)(added 4.0.19)
                    - FlushPeriod (long)
                    - KeepAlive (int)
                    - MaxSize (int)
                    - Expiration (long)
                    - ContentType (str) "NONE" or "APPLICATION_JSON"
                    - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
                    - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
                    - CustomTopicExtension (str)
                - IoT Edges
                    - Id (long)
                    - Name (str)
                    - Enabled (bool)
                    - Protocol (str) "MQTT"
                    - AzureSetId (long)(must be included)
                    - MqttServerUrl (str)
                    - CertAuthEnabled (bool)
                    - ConnectionString (str)
                    - CaCertFileId (long)
                    - ClientCertFileId (long)
                    - ClientPrivateKeyFileId (long)
                    - ClientKeyPassword (str)
                    - HostnameVerification (bool)
                    - MqttHostname (str)
                    - DeviceId (str)
                    - ModuleIdOption (str) "NONE", "ENVIRONMENT_VARIABLE" or "IGNITION_CONFIG"
                    - ModuleId (str)
                    - HistoryEnabled (bool)
                    - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)

                - MessageCapacity (int)(deprecated 4.0.19)
                - HistoryMaxAge (int)(added 4.0.19)
                - FlushPeriod (long)
                - KeepAlive (int)
                - MaxSize (int)
                - Expiration (long)
                - ContentType (str) "NONE" or "APPLICATION_JSON"
                - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
                - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
                - CustomTopicExtension (str)
            - IoT Centrals
                - Id (Long)
                - Name (str)
                - Enabled (bool)
                - ScopeId (str)
                - EnrollmentGroupSymmetricKey (str)
                - GlobalEndpoint (str)
                - ProvisionedDeviceId (str)
                - ModelId (str)
                - AureSetId (long)(must be included)
                - HistoryEnabled (bool)
                - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
                - MessageCapacity (int)(deprecated 4.0.19)
                - HistoryMaxAge (int)(added 4.0.19)
                - FlushPeriod (long)
                - MaximumSize (int)
                - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPCOH" or "STRING_AZURE_COMPAT"
            - Event Hubs
                - Id (long)
                - Name (str)
                - Enabled (bool)
                - AzureSetId(long)(must be included)
                - ConnectionString (str)
                - HistoryEnabled (bool)
                - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
                - MessageCapacity (int)(deprecated 4.0.19)
                - HistoryMaxAge (int)(added 4.0.19)
                - FlushPeriod (long)
                - MaxSize (int)
                - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
            - Agents
                - Id (long)
                - Name (str) (added 4.0.17)
                - Enabled (bool) (added 4.0.17)
                - TagProvider (str)
                - TagPath (str)
                - PushTrigger (str) "EVENT_DRIVEN" or "PERIODIC"
                - TagPacingPeriod (long)
                - ConvertUdts (bool)
                - PublishUdtDefinitions (bool)
                - OptimizeUdts (bool)
                - AzureSetId (long)(must be included)
                - GroupId (str)
                - EdgeNodeId (str)
                - DeviceId (str)
                - FilteredProperties (str)
            - Sets
                - Id (long)
                - Name (str)
                - Description (str)
                - PushPolicy (str) "PUSH_TO_ALL" or "PUSH_TO_ANY"
    - Return Value
        - A map representing the newly created configuration after it has been written to the database. (added 4.0.16)
- **system.cirruslink.azure.readConfig(type) List**
    - Parameters
        - type (str)
            - The type of configuration to read with valid options:
                - "General"
                - "Cert Files"
                - "IoT Hubs"
                - "IoT Edges"
                - "IoT Centrals"
                - "Event Hubs"
                - "Agents"
                - "Sets"
    - Return Value
        - A List of Dictionaries of properties making up the configurations with the following keys and datatypes:

- General
    - Id (long)
    - Enabled (bool)
- Cert Files
    - Name (str)
    - FileName (str)
    - FileContents (str)
    - Description (str)
- IoT Hubs
    - Id (long)
    - Name (str)
    - Enabled (str)
    - Protocol (str) "MQTT"
    - AzureSetId (long)
    - CertAuthEnabled (bool)
    - ConnectionString (str)
    - MqttHostname (str)
    - DeviceId (str)
    - CaCertFileId (long)
    - ClientCertFileId (long)
    - ClientPrivateKeyFileId (long)
    - ClientKeyPassword (str)
    - HistoryEnabled (bool)
    - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
    - MessageCapacity (int)(deprecated 4.0.19)
    - HistoryMaxAge (int)(added 4.0.19)
    - FlushPeriod (long)
    - KeepAlive (int)
    - MaxSize (int)
    - Expiration (long)
    - ContentType (str) "NONE" or "APPLICATION_JSON"
    - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
    - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
    - CustomTopicExtension (str)
- IoT Edges
    - Id (long)
    - Name (str)
    - Enabled (str)
    - Protocol (str) "MQTT"
    - AzureSetId (long)
    - MqttServerUrl (str)
    - CertAuthEnabled (bool)
    - ConnectionString (str)
    - CaCertFileId (long)
    - ClientCertFileId (long)
    - ClientPrivateKeyFileId (long)
    - ClientKeyPassword (str)
    - HostnameVerification (bool)
    - MqttHostname (str)
    - DeviceId (str)
    - ModuleIdOption (str) "NONE", "ENVIRONMENT_VARIABLE" or "IGNITION_CONFIG"
    - ModuleId (str)
    - HistoryEnabled (bool)
    - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
    - MessageCapacity (int)(deprecated 4.0.19)
    - HistoryMaxAge (int)(added 4.0.19)
    - FlushPeriod (long)
    - KeepAlive (int)
    - MaxSize (int)
    - Expiration (long)
    - ContentType (str) "NONE" or "APPLICATION_JSON"
    - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
    - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
    - CustomTopicExtension (str)
- IoT Centrals
    - Id (long)
    - Name (str)
    - Enabled (bool)
    - ScopeId (str)
    - EnrollmentGroupSymmetricKey (str)
    - GlobalEndpoint (str)
    - ProvisionedDeviceId (str)
    - ModelId (str)
    - AzureSetId (str)
    - HistoryEnabled (bool)
    - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
    - MessageCapacity (int)(deprecated 4.0.19)
    - HistoryMaxAge (int)(added 4.0.19)
    - FlushPeriod (long)

        - MaximumSize (int)
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCK" or "STRING_AZURE_COMPAT"
    - Event Hubs
        - Id (long)
        - Name (str)
        - Enabled (str)
        - ConnectionString (str)
        - HistoryEnabled (bool)
        - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
        - MessageCapacity (int)(deprecated 4.0.19)
        - HistoryMaxAge (int)(added 4.0.19)
        - FlushPeriod (long)
        - MaxSize (int)
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
    - Agents
        - Id (long)
        - Name (str) (added 4.0.17)
        - Enabled (bool) (added 4.0.17)
        - TagProvider (str)
        - TagPath (str)
        - PushTrigger (str) "EVENT_DRIVEN" or "PERIODIC"
        - TagPacingPeriod (long)
        - ConvertUdts (bool)
        - PublishUdtDefinitions (bool)
        - OptimizeUdts (bool)
        - AzureSetId (long)
        - GroupId (str)
        - EdgeNodeId (str)
        - DeviceId (str)
        - FilteredProperties (str)
    - Sets
        - Id (long)
        - Name (str)
        - Description (str)
        - PushPolicy (str) "PUSH_TO_ALL" or "PUSH_TO_ANY"

- **system.cirruslink.azure.updateConfig(type, id, collisionPolicy, props) void**
    - Parameters
        - Type (str)
            - The type of configuration to update with valid options:
                - "General"
                - "Cert Files"
                - "IoT Hubs"
                - "IoT Edges"
                - "IoT Centrals"
                - "Event Hubs"
                - "Agents"
                - "Sets"
        - Id (long)
            - The ID of the record to update
        - collisionPolicy(str)
            - "MergeOverwrite" or "Overwrite"
                - "MergeOverwrite" will replace the existing properties in the record ID with only those included in the call
                - "Overwrite" will replace all properties in the record ID with those in the call
        - Map props
            - Dictionary of properties making up the configuration with the following keys and datatypes:
                - General
                    - Id (long)
                    - Enabled (bool)
                - Cert Files
                    - Name (str)
                    - FileName (str)
                    - FileContents (str)
                    - Description (str)
                - IoT Hubs
                    - Id (long)
                    - Name (str)
                    - Enabled (str)
                    - Protocol (str) "MQTT"
                    - AzureSetId (long)
                    - CertAuthEnabled (bool)
                    - ConnectionString (str)
                    - MqttHostname (str)
                    - DeviceId (str)
                    - CaCertFileId (long)
                    - ClientCertFileId (long)
                    - ClientPrivateKeyFileId (long)
                    - ClientKeyPassword (str)

        - HistoryEnabled (bool)
        - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
        - MessageCapacity (int)(deprecated 4.0.19)
        - HistoryMaxAge (int) (added 4.0.19)
        - FlushPeriod (long)
        - KeepAlive (int)
        - MaxSize (int)
        - Expiration (long)
        - ContentType (str) "NONE" or "APPLICATION_JSON"
        - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
        - CustomTopicExtension (str)
    - IoT Edges
        - Id (long)
        - Name (str)
        - Enabled (str)
        - Protocol (str) "MQTT"
        - AzureSetId (long)
        - MqttServerUrl (str)
        - CertAuthEnabled (bool)
        - ConnectionString (str)
        - CaCertFileId (long)
        - ClientCertFileId (long)
        - ClientPrivateKeyFileId (long)
        - ClientKeyPassword (str)
        - HostnameVerification (bool)
        - MqttHostname (str)
        - DeviceId (str)
        - ModuleIdOption (str) "NONE", "ENVIRONMENT_VARIABLE" or "IGNITION_CONFIG"
        - ModuleId (str)
        - HistoryEnabled (bool)
        - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
        - MessageCapacity (int)(deprecated 4.0.19)
        - HistoryMaxAge (int)(added 4.0.19)
        - FlushPeriod (long)
        - KeepAlive (int)
        - MaxSize (int)
        - Expiration (long)
        - ContentType (str) "NONE" or "APPLICATION_JSON"
        - ContentEncoding (str) "NONE", "UTF_8", "UTF_16", or "UTF_32"
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
        - CustomTopicExtension (str)
    - IoT Centrals
        - Id (long)
        - Name (str)
        - Enabled (bool)
        - ScopeId (str)
        - EnrollmentGroupSymmetricKey (str)
        - GlobalEndpoint (str)
        - ModelId (str)
        - AzureSetId (long)
        - HistoryEnabled (bool)
        - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
        - MessageCapacity (int)(depreacted 4.0.19)
        - HistoryMaxAge (int)(added 4.0.19)
        - FlushPeriod (long)
        - MaximumSize (int)
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
    - Event Hubs
        - Id (long)
        - Name (str)
        - Enabled (str)
        - ConnectionString (str)
        - HistoryEnabled (bool)
        - HistoryStoreType (str) "In_Memory" or "Disk_Backed" (added 4.0.17)
        - MessageCapacity (int)(deprecated 4.0.19)
        - HistoryMaxAge (int)(added 4.0.19)
        - FlushPeriod (long)
        - MaxSize (int)
        - AzureDateTimeFormat (str) "LONG_MS_SINCE_EPOCH" or "STRING_AZURE_COMPAT"
    - Agents
        - Id (long)
        - Name (str) (added 4.0.17)
        - Enabled (bool) (added 4.0.17)
        - TagProvider (str)
        - TagPath (str)
        - PushTrigger (str) "EVENT_DRIVEN" or "PERIODIC"
        - TagPacingPeriod (long)
        - ConvertUdts (bool)

                - PublishUdtDefinitions (bool)
                - OptimizeUdts (bool)
                - AzureSetId (long)
                - GroupId (str)
                - EdgeNodeId (str)
                - DeviceId (str)
                - FilteredProperties (str)
            - Sets
                - Id (long)
                - Name (str)
                - Description (str)
                - PushPolicy (str) "PUSH_TO_ALL" or "PUSH_TO_ANY"
    - Return Value
        - A map representing the updated configuration after it has been written to the database. (added 4.0.16)
- **system.cirruslink.azure.deleteConfig(type, id) void**
    - Parameters
        - Type (str)
            - The type of configuration to delete with valid options:
                - "Cert Files"
                - "IoT Hubs"
                - "IoT Edges"
                - "IoT Centrals"
                - "Event Hubs"
                - "Agents"
                - "Sets"
        - Id (long)
            - The ID of the record to delete
    - Return Value
        - True if the record was successfully deleted otherwise False (added 4.0.16)

Sample Script

> Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a particular need.

```
# Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any
particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a
particular need
# Update Certificates
# Get Id for current certificate
savedCerts = system.cirruslink.azure.readConfig("Cert Files")
for config in savedCerts:
  if config["Name"] == "My current cert name":
    certId = config["Id"]

# Read New Cert File
deviceCaCertFilePath = "/path/to/your/certs/iot-edge-device-ca-CA.cert.pem"
deviceCaCert = open(deviceCaCertFilePath, 'r').read()

# Update existing cert config using MergeOverwrite
certProps = {}
certProps["FileContents"] = deviceCaCert
system.cirruslink.azure.updateConfig(“Cert Files”, certId, “MergeOverwrite”, certProps)
```