
MySQL Backup,Clone and Restore workflow through API's Documentation

Release 1.0

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CHAPTER 1

Pre-Requisites from Snapcenter

1. Add Linux host in Snapcenter UI
2. Install Snapcenter MySQL custom plugin on this host
3. Create the MySQL database resource in the MySQL Resource page
4. Provide the database name, storage details for MySQL Resource

CHAPTER 2

Authentication

All Snapcenter API's require an authentication token to be executed successfully. An authentication token can be generated via API.

- API Request URL

```
https://<<SnapCenter-Server-IP>>/api/3.0/auth/login?  
↪TokenNeverExpires=true
```

- Mandatory API Parameters:-

1. TokenNeverExpires = True
2. User Operation Context

```
{  
  "UserOperationContext": {  
    "User": {  
      "Name": "<<Domain>>\\<<Username>>",  
      "Passphrase": "<<SnapcenterPassword>>",  
      "Rolename": "SnapCenterAdmin"  
    }  
  }  
}
```

- Expected Response

```
{  
  "Job": {  
    "Name": null,  
    "Id": 0,  
    "StartTime": null,  
    "EndTime": null,  
    "IsCancellable": false,  
    "IsRestartable": false,  
    "IsCompleted": false,  
    "IsVisible": true,  
  }  
}
```

```
        "IsScheduled": false,
        "PercentageCompleted": 0,
        "Description": null,
        "Status": 0,
        "Owner": null,
        "Error": null,
        "Priority": 0,
        "Tasks": [],
        "ParentJobID": 0,
        "EventId": 0,
        "JobTypeId": null,
        "ApisJobKey": null,
        "ObjectId": 0,
        "PluginCode": 0,
        "PluginName": null
    },
    "User": {
        "Token": "66PEpittWC/Y/
↪46P49Nn2cimpgxj10HMqTc2kRkdjgDOLNawlgS1kHgjlQYXsuUjuybW0t9o7PbkpQH88ri6cDJkksLtf4x6GF9jtHU
↪HHHw==",
        "Name": "administrator",
        "TokenHashed": null,
        "Type": "",
        "TokenTime": "2017-08-08T02:14:14.060481-07:00",
        "Id": "1",
        "FullName": "LAB\\administrator",
        "Host": null,
        "Author": null,
        "UserName": "",
        "Domain": "LAB",
        "Passphrase": "",
        "Description": "",
        "Deleted": false,
        "TokenNeverExpires": false,
        "Auth": {
            "Id": 0,
            "RunAsName": null,
            "AuthMode": 0,
            "UserName": null,
            "Passpharse": null,
            "OwnerId": null,
            "HostName": null,
            "InstanceName": null,
            "CheckforAdministratorPrivilage": false,
            "TargetURL": null,
            "IsSudoEnabled": false
        },
        "IsAdmin": true,
        "IsClone": false,
        "TenantAdmin": null,
        "CloneLevel": 0,
        "IsNewUser": null,
        "Hosts": null,
        "UserGroupObjectType": 1,
        "StorageName": null,
        "RoleName": null,
        "Key": 0,
        "RoleId": 0,
```



```
        "NsmObjectID": 0,
        "GroupIds": [],
        "GroupNames": null
    },
    "Result": {
        "_message": "",
        "_errorCode": 0,
        "ErrorRecords": []
    },
    "TotalCount": 0,
    "DisplayCount": 0,
    "Context": null
}
```

Parse the token from the above response E.g:

```
6PEpittWC/Y/
↪46P49Nn2cimpgxj10HMqTc2kRkdjgDOLNawlgS1kHgjlQYXsuUjuybW0t9o7PbkpQH88ri6cDJkksLtf4x6GF9jtHU88rG
↪HHHw==
```

Note: The Authentication token is requires all future API calls.

Add resource(database) to SnapCenter

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/plugins/{plugin}/resources
```

- **Mandatory API Parameters**

1. Token //
2. plugin //MySQL
3. pluginresource

```
{
  "ResourceName": "string",
  "ResourceType": "string",
  "HostName": "string",
  "RunAsNames": "string",
  "MountPaths": [
    {
      "MountPath": "string"
    }
  ],
  "FootPrint": [
    {
      "SVMName": "string",
      "VolAndLunsMapping": [
        {
          "VolumeName": {
            "Name": "string"
          }
        }
      ]
    }
  ],
  "PluginParams": {
    "Data": [
```

```
        {
          "Key": "MASTER_SLAVE",
          "Value": "N"
        }
      ],
    },
  }
```

Get the Resource key for the MySQL DB Resource

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/hosts/<<Linux-HostName>>/plugins/MySQL/  
↪resources?ResourceType=Database&ResourceName=<<Resource-Name>>
```

- **Mandatory API Parameters**

1. Token //
2. Name //Hostname of the Linux Node
3. Instancetype //Database

- Expected API Response

```
{  
  "Job": {  
    "Name": null,  
    "Id": 799,  
    "StartTime": null,  
    "EndTime": null,  
    "IsCancellable": false,  
    "IsRestartable": false,  
    "IsCompleted": false,  
    "IsVisible": true,  
    "IsScheduled": false,  
    "PercentageCompleted": 0,  
    "Description": null,  
    "Status": 0,  
    "Owner": null,  
    "Error": null,  
    "Priority": 0,  
    "Tasks": [],  
    "ParentJobID": 0,  
    "EventId": 0,  
    "JobTypeId": null,  
  }  
}
```

```

        "ApisJobKey": null,
        "ObjectId": 0,
        "PluginCode": 0,
        "PluginName": null
    },
    "Resources": [
        {
            "PluginCode": 7,
            "OperationResults": [
                {
                    "Target": {
                        "$type": "SMCoreContracts.SmSCPluginResource, ↵
↵SMCoreContracts",
                        "PluginName": "MySQL",
                        "Name": "appendadb",
                        "Uid": "appendadb",
                        "Type": "Database",
                        "ParentUid": "",
                        "Id": "app-linux2.lab.com\\MySQL\\appendadb",
                        "SmAppFiles": null,
                        "Host": "app-linux2.lab.com",
                        "SmAppFileStorageGroups": [
                            {
                                "Files": [],
                                "Name": "",
                                "StorageFootPrint": {
                                    "HostResource": null,
                                    "Name": "",
                                    "StorageSystemResources": [
                                        {
                                            "$type": "SMCoreContracts.
↵SDStorageSystemDirectory, SMCoreContracts",
                                            "StorageSystemId": {
                                                "UserName": null,
                                                "Aliases": [],
                                                "Port": null,
                                                "SmIPAddresses": [],
                                                "TransportType": null,
                                                "Name": "10.192.39.71",
                                                "Mode": null,
                                                "OntapiMajorVersion": ↵
↵null,
                                                "OntapiMinorVersion": ↵
↵null,
                                                "Version": null,
                                                "StorageSystemOSType": ↵
↵null,
                                                "Passphrase": null,
                                                "Id": 0,
                                                "Timeout": null,
                                                "Uuid": null,
                                                "OperationContext": null,
                                                "PreferredIpAddress": ↵
↵null,
                                                "Domain": null,
                                                "VServerInterfaceList": ↵
↵[],
                                                "OperationContextIsGroup
↵": false,

```

```

↪mysql_vol",
↪",
↪39.71:/vol/mysql_vol",
↪",
↪71:/vol/mysql_vol",
↪vol",
↪null,

↪"CheckforAdministratorPrivilage": false,

↪null,

    "StorageKey": null,
    "Site": null,
    "GroupName": null,
    "PlatformType": null,
    "LicenseKeyType": 0
  },
  "ResourceType": 16,
  "Name": "10.192.39.71:/vol/

  "Volume": {
    "ResourceType": 15,
    "Name": "mysql_vol",
    "Vserver": "10.192.39.71

    "ResourceName": "10.192.

    "Type": "SDStorageVolume

    "FullPath": "10.192.39.

    "Ranges": null,
    "Id": null,
    "JunctionPath": "/mysql_

    "Host": null,
    "JunctionParentName": ↪

    "UserName": "",
    "SizeTotal": null,
    "Passphrase": "",
    "SizeUsed": null,
    "Deleted": false,
    "SnapMirrorSource": null,
    "Auth": {
      "Id": 0,
      "RunAsName": null,
      "AuthMode": 0,
      "UserName": null,
      "Passphrase": null,
      "OwnerId": null,
      "HostName": null,
      "InstanceName": null,

      "TargetURL": null,
      "IsSudoEnabled": false
    },
    "SnapMirrorDest": null,
    "IsClone": false,
    "SnapVaultPrimary": null,
    "CloneLevel": 0,
    "SnapVaultSecondary": ↪

    "Hosts": null,
    "FlexCloneEnabled": null,
    "StorageName": null,
    "IsFlexClone": null,
    "Key": 0,

```

```
↪null,
                                "VolumeSecurityStyle":_
                                "NsmObjectID": 0,
                                "AggregateName": null,
                                "AggregateUuid": null,
                                "FlexCloneLevel": null,
                                "IsLeaf": null,
                                "VolumeState": null,
                                "AggregateAvailableSpace

↪": null,
                                "ExportPolicy": null,
                                "VolumeUuid": null,
                                "OwningVserverName":_

↪null,
                                "VolumeType": null,
                                "IsProtected": false,
                                "StorageVmKey": null,
                                "VolumeKey": null,
                                "VolumeInstanceUuid":_

↪null,
                                "Size": null,
                                "IsRootVolume": null,
                                "IsSelectable": null,
                                "StorageKey": null,
                                "ProtectionStatus": null
                                },
                                "ResourceName": "10.192.39.71:/

↪mysql_vol",
                                "Type": "SDStorageDir",
                                "LogicalPath": null,
                                "Ranges": null,
                                "Id": null,
                                "PhysicalPath": null,
                                "Host": null,
                                "RelativePhysicalPath": null,
                                "UserName": "",
                                "JunctionPath": "/mysql_vol",
                                "Passphrase": "",
                                "NestJunctionPath": null,
                                "Deleted": false,
                                "NestVolumes": null,
                                "Auth": {
                                    "Id": 0,
                                    "RunAsName": null,
                                    "AuthMode": 0,
                                    "UserName": null,
                                    "Passpharse": null,
                                    "OwnerId": null,
                                    "HostName": null,
                                    "InstanceName": null,

↪"CheckforAdministratorPrivilage": false,
                                "TargetURL": null,
                                "IsSudoEnabled": false
                                },
                                "NestJunctionParentVolume":_

↪null,
                                "IsClone": false,
```



```

        "LeafVolume": null,
        "CloneLevel": 0,
        "Files": null,
        "Hosts": null,
        "StorageName": null,
        "Key": 0,
        "NsmObjectID": 0
    }
],
"Type": "",
"VirtualResources": [],
"Id": null,
"Host": null,
"UserName": "",
"Passphrase": "",
"Deleted": false,
"Auth": {
    "Id": 0,
    "RunAsName": null,
    "AuthMode": 0,
    "UserName": null,
    "Passphrase": null,
    "OwnerId": null,
    "HostName": null,
    "InstanceName": null,
    "CheckforAdministratorPrivilage
↪": false,

    "TargetURL": null,
    "IsSudoEnabled": false
},
"IsClone": false,
"CloneLevel": 0,
"Hosts": null,
"StorageName": null,
"Key": 0,
"NsmObjectID": 0
},
"Type": "",
"Id": null,
"Host": null,
"UserName": "",
"Passphrase": "",
"Deleted": false,
"Auth": {
    "Id": 0,
    "RunAsName": null,
    "AuthMode": 0,
    "UserName": null,
    "Passphrase": null,
    "OwnerId": null,
    "HostName": null,
    "InstanceName": null,
    "CheckforAdministratorPrivilage":↵
↪false,

    "TargetURL": null,
    "IsSudoEnabled": false
},
"IsClone": false,

```

```
        "CloneLevel": 0,
        "Hosts": null,
        "StorageName": null,
        "Key": 0,
        "NsmObjectID": 0
    }
],
"UserName": "",
"PluginParams": {
    "Data": [
        {
            "Type": null,
            "Value": "10.192.39.29",
            "Key": "HOST",
            "Values": []
        },
        {
            "Type": null,
            "Value": "3306",
            "Key": "PORT",
            "Values": []
        },
        {
            "Type": null,
            "Value": "N",
            "Key": "MASTER_SLAVE",
            "Values": []
        }
    ]
},
"Passphrase": "",
"MountPaths": null,
"Deleted": false,
"pluginConfiguration": null,
"Auth": {
    "Id": 5,
    "RunAsName": "apprenda_mysql",
    "AuthMode": 0,
    "UserName": "root",
    "Passphrase":
    ↪ "cm9vdPyJOrROz+9Ic4f+KZ6isBKQGhA0I03DssiauxbTAwJx6kYZSBNFZ2tfkOqr8rBwPvanEkj4EoVH0oUkg3RGi
    ↪SY=",
    "OwnerId": null,
    "HostName": null,
    "InstanceName": null,
    "CheckforAdministratorPrivilage": false,
    "TargetURL": null,
    "IsSudoEnabled": false
},
"IsClone": false,
"CloneLevel": 0,
"Hosts": null,
"StorageName": null,
* "Key": 3,
"NsmObjectID": 0
},
"Result": {
    "_message": "",
```

```
        "_errorCode": 0,  
        "ErrorRecords": []  
      },  
    },  
    ],  
    "Result": {  
      "_message": "",  
      "_errorCode": 0,  
      "ErrorRecords": []  
    },  
    "ConsistencyGroups": [],  
    "TotalCount": 0,  
    "ApplicationConsistencyGroup": null,  
    "DisplayCount": 0,  
    "FilesystemStorageFootprints": null,  
    "Context": null  
  }  
}
```

Parse the response for a key of Resource Group, In this example the key is * 3

Create a MySQL policy for OnDemand Backup or Use the pre-created policy

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/hosts/<<Linux-HostName>>/plugins/MySQL/
↳resources?ResourceType=Database&ResourceName=<<Resource-Name>>
```

- **Mandatory API Parameters**

1. Token <<>> // Your Auth Token
2. plugin: MySQL
3. CreatePolicyRequest

```
{
  "Policy": {
    "$type": "SMCoreContracts.SmBackupPolicy, SMCoreContracts",
    "name": "<<OnDemand-Policy Name>>",
    "AppPolicies": [{"$type": "SMCoreContracts.SmSCAppPolicy, SMCoreContracts",
    "Retentions": [{
      "$type": "SMCoreContracts.SmRetention, SMCoreContracts",
      "BackupType": "DATA",
      "RetentionCount": 7,
      "RetentionDays": 14,
      "SchedulerType": "None",
      "VerificationEnabled": false
    }]}],
```

```
    "Schedules": [{
        "SchedulerType":
↪ "None",
        "PolicyType": "Backup",
        "ApplyRetention": true,
        "RetentionCount": 7,
        "RetentionDays": 14,
        "ApplySnapMirrorUpdate": false,
        "ApplySnapvaultUpdate": false,
        "MirrorVaultUpdateRetryCount": 0,
        "ScriptTimeout": 60
    }
}
```

- Expected API Response

```
Status 200
```

- There is a pre-created OnDemand backup policy named “mysql_ondemand” for this integreition.

Note: This policy name will be required further in the Backup workflow.

Protect the Resource

- API Request URL

```
https://<<SnapCenter-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<<Resource-Group-Key>>/protect
```

- **Mandatory API Parameters** 1)Token 2) Plugin 3) Key //Resource Key 4)SmCreateProtectionGroupRequest

```
{
  "ProtectionGroup": {
    "Configuration": {
      "$type": "SMCoreContracts.
↪SmBackupConfiguration, SMCoreContracts",
      "Name": "rg_internal",
      "PluginConfiguration": {
        "$type": "SMCoreContracts.
↪SmSCBackupConfiguration, SMCoreContracts",
        "FileSystemConsistentSnapshot
↪": false,
        "ConfigurationType": "ProtectionGroup"
      },
      "Policies": [
        {
          "Name": "<<OnDemand-
↪Policy Name>>",
          "ProtectionGroupType": "Backup"
        }
      ]
    }
  }
}
```

- Expected Response

```
Response code: 201 > Resource Protected Sucessfully
```


Perform onDemand Backup of MySQL Database

- API Request URL

```
https://<<SnapCenter-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<
↪<Resource-Group-Key>>/backup
```

- **Mandatory API Parameters**

1. Token
2. Plugin //MySQL
3. Key //Resource Key
4. PolicyName //<<OnDemand-Policy Name>>

- POST API Body

```
{  "name": "mysql_ondemand" }
```

- Expected Response

```
Response code: 202 > Resource Protected Sucessfully
```

- Sample CURL request

```
curl -X POST \
  https://10.192.39.22:8146/api/3.0/plugins/MySQL/resources/1/backup \
  -H 'content-type: application/json' \
  -H 'token: AwpBZ9pM2LoI2YltxODW3zULAS99aWghq+rw5THb8TQjw5ef/
↪NLjMPk2JZdxy5A7Q0qZ0UDgQXnPPj51K3NJVce5eIpm8lnrfgCBnid6zla0Rvc0a/
↪iZscg76lZQuBvt63GrVNlRguD+Hr6cMDn5bRntkCZEyH113Gf0dfZ9MjxsMQqWCDI38hqjNai+cyf2MfkHBoTPZTxv
↪' \
  -d '{ "name": "mysql_ondemand" }'
```

- Response Headers

```
{
  "pragma": "no-cache",
  "strict-transport-security": "max-age=31536000",
  "server": "Microsoft-IIS/8.5",
  "x-aspnet-version": "4.0.30319",
  "joburi": "https://<<SC-Server-IP>>/api/jobs/730",
  "x-powered-by": "ASP.NET",
  "x-frame-options": "SAMEORIGIN",
  "content-type": "text/plain; charset=utf-8",
  "access-control-allow-origin": "none",
  "cache-control": "no-cache",
  "access-control-allow-credentials": "false",
  "content-length": "16",
  "date": "Tue, 01 Aug 2017 12:05:55 GMT",
  "expires": "-1"
}
```

Note: From the response header “”joburi”: “<<SC-Server-IP>>/api/jobs/<<730>>”

e.g: 730 will be the OnDemand Backup job id for this backup job

Get the MySQL database backup details

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/backups?JobId=<<BACKUP-JOB-ID>>
```

- **Mandatory API Parameters**

1. Token

- Expected Response Code

```
Response code: 202 > Request Successful
```

- Expected Response

```
{
  "Job": {
    "Name": null,
    "Id": 0,
    "StartTime": null,
    "EndTime": null,
    "IsCancellable": false,
    "IsRestartable": false,
    "IsCompleted": false,
    "IsVisible": true,
    "IsScheduled": false,
    "PercentageCompleted": 0,
    "Description": null,
    "Status": 0,
    "Owner": null,
    "Error": null,
    "Priority": 0,
    "Tasks": [],
    "ParentJobID": 0,
    "EventId": 0,
    "JobTypeId": null,
    "ApisJobKey": null,
  }
}
```

```
        "ObjectId": 0,
        "PluginCode": 0,
        "PluginName": null
    },
    "Backups": [
        {
            "BackupName": "app-linux2_lab_com_MySQL_apprenda_db_app-linux2_
↪08-01-2017_07.09.11.4866",
            "Name": "",
            "BackupId": "611",
            "Type": "",
            "BackupType": "SCC_BACKUP",
            "Id": null,
            "BackupTime": "2017-08-01T07:07:38.079",
            "Host": null,
            "BackupComponents": [],
            "UserName": "",
            "JobId": 748,
            "Passphrase": "",
            "MetaObject": [
                {
                    "Type": null,
                    "Value": "1",
                    "Key": "HasMultipleResources",
                    "Values": null
                }
            ],
            "Deleted": false,
            "ProtectionGroupName": null,
            "Auth": {
                "Id": 0,
                "RunAsName": null,
                "AuthMode": 0,
                "UserName": null,
                "Passphrase": null,
                "OwnerId": null,
                "HostName": null,
                "InstanceName": null,
                "CheckForAdministratorPrivilage": false,
                "TargetURL": null,
                "IsSudoEnabled": false
            },
            "PolicyName": null,
            "IsClone": false,
            "Starttime": "2017-08-01T07:09:42.2401161-07:00",
            "CloneLevel": 0,
            "Endtime": "2017-08-01T07:09:42.2401161-07:00",
            "Hosts": null,
            "VerifyResultSummary": 0,
            "StorageName": null,
            "MountedPath": null,
            "Key": 0,
            "IsMounted": null,
            "NsmObjectID": 0,
            "MountedHostName": null,
            "CatalogBackupStatus": 0,
            "ScheduleType": 0
        }
    ]
}
```

```
  },
  "Result": {
    "_message": "",
    "_errorCode": 0,
    "ErrorRecords": []
  },
  "TotalCount": 0,
  "DisplayCount": 0,
  "Context": null
}
```

Note: From the response parse the backup name e.g : “BackupName”: “app-linux2_lab_com_MySQL_apprenda_db_app-linux2_08-01-2017_07.09.11.4866”.

This backup name is used as unique identifier to create a clone.

2. To find the latest backup name, Parse all the backups and sort them using the unique timestamps.
-

Clone the MySQL Database from the backup

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<<JOB-ID>>/clone
```

- Mandatory input for the API

```
1) Token
2) Plugin
3) Key
4) A MySQL startup script on host (/var/lib/start-msql.sh) ::

    >cat /var/lib/start-mysql.sh

        service mysqld stop;
        /usr/sbin/mysqld --pid-file=/var/run/mysqld/
↪mysqld2.pid --socket=/var/lib/mysql2/mysql.sock --user=mysql --datadir=/var/lib/
↪mysql2 &

5) CreateCloneRequest  ::

    {
      "CloneConfiguration":
      {
        "$type": "SMCoreContracts.SmCloneConfiguration, ↪
↪SMCoreContracts",
        "Suffix": "_clone1",
        "CloneConfigurationApplication":
        {
          "$type": "SMCoreContracts.
↪SmSCCloneConfiguration, SMCoreContracts",
```

```
↪vol_Clone /var/lib/mysql2"],
                                "MountCmd":["mount 10.192.39.72:%mysql_
↪mysql.sh"]
                                "PostCloneCreateCmd": ["/var/lib/start-
                                "Host": "app-linux1.lab.com"
                                }
                                },
                                "Backups": [
                                {
                                "PrimaryBackup":
                                {
                                "BackupName": "app-linux2_lab_com_MySQL_
↪apprenda_db_app-linux2_08-01-2017_07.09.11.4866"
                                }
                                }
                                ],
                                }

.. note :: 1) /var/lib/start-msql.sh script should be present on linux hosts.

::

>cat start-mysql.sh
```

- Expected Response Code if Clone Creation is successful

Response code: 200

Get All the Backup Details for DB from DB name (resource name)

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/backups?Resource=<<DBName>>
```

Note: For a clone it would be https://10.192.39.22:8146/api/3.0/backups?Resource=<<DBName_clone1>>

- Mandatory input for the API

```
1) Token
```

- Expected Response Code

```
200
```

- Expected Response

```
{
  "Job": {
    "Name": null,
    "Id": 0,
    "StartTime": null,
    "EndTime": null,
    "IsCancellable": false,
    "IsRestartable": false,
    "IsCompleted": false,
    "IsVisible": true,
    "IsScheduled": false,
    "PercentageCompleted": 0,
    "Description": null,
    "Status": 0,
    "Owner": null,
    "Error": null,
  }
}
```

```
        "Priority": 0,
        "Tasks": [],
        "ParentJobID": 0,
        "EventId": 0,
        "JobTypeId": null,
        "ApisJobKey": null,
        "ObjectId": 0,
        "PluginCode": 0,
        "PluginName": null
    },
    "Backups": [
        {
            "BackupName": "app-linux2_lab_com_MySQL_akshay_app-
↪linux2_10-30-2017_08.11.3755",
            "Name": "",
            "BackupId": "59",
            "Type": "",
            "BackupType": "SCC_BACKUP",
            "Id": null,
            "BackupTime": "2017-10-30T08:08:42.873",
            "Host": null,
            "BackupComponents": [],
            "UserName": "",
            "JobId": 623,
            "Passphrase": "",
            "MetaObject": [
                {
                    "Type": null,
                    "Value": "1",
                    "Key": "HasMultipleResources",
                    "Values": null
                }
            ],
            "Deleted": false,
            "ProtectionGroupName": null,
            "Auth": {
                "Id": 0,
                "RunAsName": null,
                "AuthMode": 0,
                "UserName": null,
                "Passphrase": null,
                "OwnerId": null,
                "HostName": null,
                "InstanceName": null,
                "CheckforAdministratorPrivilage": false,
                "TargetURL": null,
                "IsSudoEnabled": false
            },
            "PolicyName": null,
            "IsClone": false,
            "Starttime": "2017-10-31T01:06:23.19517-07:00",
            "CloneLevel": 0,
            "Endtime": "2017-10-31T01:06:23.19517-07:00",
            "Hosts": null,
            "VerifyResultSummary": 0,
            "StorageName": null,
            "MountedPath": null,
            "Key": 0,
```

```
        "IsMounted": null,  
        "NsmObjectID": 0,  
        "MountedHostName": null,  
        "CatalogBackupStatus": 0,  
        "ScheduleType": 0  
    },  
    ],  
    "Result": {  
        "_message": "",  
        "_errorCode": 0,  
        "ErrorRecords": []  
    },  
    "TotalCount": 0,  
    "DisplayCount": 0,  
    "Context": null  
}
```

Note: The latest backup will be found at the bottom in the JSON list.

Copy the Resource settings to clone via PUT request

- API Request URL

```

https://<<SC-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<
↪<Clone Resource Key>>

* Mandatory input for the API ::

    1) Token
    2) Plugin
    3) Key //Clone-Resource-Key
    4)

    pluginresource ::

{
    "RunAsNames":
    "FootPrint": [
        {
            "SVMName

↪"app-linux1",

↪": "10.192.39.71",

↪"VolAndLunsMapping": [

↪"VolumeName": {
    "Name": "<<clone_volume_name>>"
}
↪}

```

```

    },
    ],
    "PluginParams":
    {
        "Data": [
            {
                ↪{
                ↪
                ↪"Key": "PORT",
                ↪"Value": "3306"
                ↪
                ↪"Key": "MASTER_SLAVE",
                ↪"Value": "N"
                ↪
                ↪"Key": "HOST",
                ↪"Value": "<<clone-host-name>>"
                ↪
                ↪"Key": "CLONE_UID",
                ↪"Value": "<<OurUniqueID for Clone>>"
                ↪
            }
        ]
    }
}

* Expected Response Code ::

    200

.. note :: All these properties, e.g: (HOST, PORT, VolumeName,RunAsName etc are_
↪available in the above GET backup details API (https://<<SC-Server-IP>>/api/3.0/backups?Resource=<<DBName>>) call.

```

Get the Key for the Clone MySQL Database

This process is exactly same for getting the key for original db key.

- API Request URL

```
'https://<<SC-Server-IP>>/api/3.0/hosts/<<Linux-Hostname>>/plugins/MySQL/  
↪resources?ResourceType=Database&ResourceName=<<Clone-Resource-Name>>
```

- Mandatory input for the API

```
1) Token      //  
2) Name       //Hostname of the Linux Node  
3) Instancetype //Database
```

- Expected Response Code if Clone Creation is successful

```
Response code: 200
```

Note: Parse the “key” field from the above response. This key will be used to perform any operations on clone.

Protect the Clone

This process is exactly same for getting the key for original db key.

- API Request URL

```
https://<<SnapCenter-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<  
↪<Resource-Group-Key>>/protect
```

- **Mandatory API Parameters** 1)Token 2) Plugin 3) Key //Resource Key 4)SmCreateProtection-GroupRequest

```
{  
  "ProtectionGroup":  
    {  
      "Configuration":  
        {  
          "$type": "SMCoreContracts.  
↪SmBackupConfiguration, SMCoreContracts",  
          "Name": "rg_internal",  
          "PluginConfiguration":  
            {  
              "$type":  
↪"SMCoreContracts.SmSCBackupConfiguration, SMCoreContracts",  
              "FileSystemConsistentSnapshot": false,  
              },  
              "ConfigurationType":  
↪"ProtectionGroup"  
            },  
          "Policies": [  
            {  
              "Name": "<  
↪<OnDemand-Policy Name>>",  
            },  
          ],  
          "ProtectionGroupType": "Backup"  
        }  
      }  
    }
```

```
}  
}
```

CHAPTER 14

Backup the clone

- API Request URL

```
https://<<SnapCenter-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<  
↪<Resource-Group-Key>>/backup
```

- Mandatory API Parameters

1. Token
2. Plugin //MySQL
3. Key //Resource Key
4. PolicyName //<<OnDemand-Policy Name>>

- POST API Body

```
{  "name": "mysql_ondemand" }
```

- Expected Response

```
Response code: 202 > Resource Protected Sucessfully
```

- Sample CURL request

```
curl -X POST \  
https://10.192.39.22:8146/api/3.0/plugins/MySQL/resources/1/backup \  
-H 'content-type: application/json' \  
-H 'token: AwpBZ9pM2LoI2YLtxODW3zULAS99aWghq+rw5THb8TQjw5ef/  
↪NLjMPk2JZdxy5A7Q0qZ0UDgQXnPPj51K3NJVce5eIpm8lnrfgCBnid6zla0Rvc0a/  
↪iZscg76lZQuBvt63GrVNlRguD+Hr6cMDn5bRNtkCZEyH113Gf0dfZ9MjxsMQqWCDI38hqjNai+cyf2MfkHBoTPZTxv  
↪' \  
-d '{ "name": "mysql_ondemand" }'
```

- Response Headers

```
{
  "pragma": "no-cache",
  "strict-transport-security": "max-age=31536000",
  "server": "Microsoft-IIS/8.5",
  "x-aspnet-version": "4.0.30319",
  "joburi": "https://<<SC-Server-IP>>/api/jobs/730",
  "x-powered-by": "ASP.NET",
  "x-frame-options": "SAMEORIGIN",
  "content-type": "text/plain; charset=utf-8",
  "access-control-allow-origin": "none",
  "cache-control": "no-cache",
  "access-control-allow-credentials": "false",
  "content-length": "16",
  "date": "Tue, 01 Aug 2017 12:05:55 GMT",
  "expires": "-1"
}
```

Note: From the response header “”joburi”: “<<SC-Server-IP>>/api/jobs/<<730>>”

e.g: 730 will be the OnDemand Backup job id for this backup job

Get the Clone database backup details

- API Request URL

```
https://<<SC-Server-IP>>/api/3.0/backups/?JobId=<<BACKUP-JOB-ID>>
```

- **Mandatory API Parameters**

1. Token

- Expected Response Code

```
Response code: 202 > Request Successful
```

- Expected Response

```
{
  "Job": {
    "Name": null,
    "Id": 0,
    "StartTime": null,
    "EndTime": null,
    "IsCancellable": false,
    "IsRestartable": false,
    "IsCompleted": false,
    "IsVisible": true,
    "IsScheduled": false,
    "PercentageCompleted": 0,
    "Description": null,
    "Status": 0,
    "Owner": null,
    "Error": null,
    "Priority": 0,
    "Tasks": [],
    "ParentJobID": 0,
    "EventId": 0,
    "JobTypeId": null,
    "ApisJobKey": null,
  }
}
```

```
        "ObjectId": 0,
        "PluginCode": 0,
        "PluginName": null
    },
    "Backups": [
        {
            "BackupName": "app-linux2_lab_com_MySQL_apprenda_db_app-linux2_
↪08-01-2017_07.09.11.4866",
            "Name": "",
            "BackupId": "611",
            "Type": "",
            "BackupType": "SCC_BACKUP",
            "Id": null,
            "BackupTime": "2017-08-01T07:07:38.079",
            "Host": null,
            "BackupComponents": [],
            "UserName": "",
            "JobId": 748,
            "Passphrase": "",
            "MetaObject": [
                {
                    "Type": null,
                    "Value": "1",
                    "Key": "HasMultipleResources",
                    "Values": null
                }
            ],
            "Deleted": false,
            "ProtectionGroupName": null,
            "Auth": {
                "Id": 0,
                "RunAsName": null,
                "AuthMode": 0,
                "UserName": null,
                "Passphrase": null,
                "OwnerId": null,
                "HostName": null,
                "InstanceName": null,
                "CheckForAdministratorPrivilage": false,
                "TargetURL": null,
                "IsSudoEnabled": false
            },
            "PolicyName": null,
            "IsClone": false,
            "Starttime": "2017-08-01T07:09:42.2401161-07:00",
            "CloneLevel": 0,
            "Endtime": "2017-08-01T07:09:42.2401161-07:00",
            "Hosts": null,
            "VerifyResultSummary": 0,
            "StorageName": null,
            "MountedPath": null,
            "Key": 0,
            "IsMounted": null,
            "NsmObjectID": 0,
            "MountedHostName": null,
            "CatalogBackupStatus": 0,
            "ScheduleType": 0
        }
    ]
}
```

```
  },
  "Result": {
    "_message": "",
    "_errorCode": 0,
    "ErrorRecords": []
  },
  "TotalCount": 0,
  "DisplayCount": 0,
  "Context": null
}
```

Note: From the response parse the backup name e.g : “BackupName”: “app-linux2_lab_com_MySQL_apprenda_db_app-linux2_08-01-2017_07.09.11.4866”.

This backup name is used as unique identifier to create a clone.

2. To find the latest backup name, Parse all the backups and sort them using the unique timestamps.
-

CHAPTER 16

Restore the Clone database

- API POST Request URL

```
https://<<SC-Server-IP>>/api/3.0/plugins/<<MySQL>>/resources/<<Clone-Resource-Key>  
↪>/restore
```

- **Mandatory API Parameters**

1. Token

- **Mandatory API Body**

```
{  
  "BackupInfo": {  
    "PrimaryBackup": {  
      "BackupName": <<Clone-BackupName Here>>  
    }  
  },  
  "RestoreLastBackup": 0,  
  "Configuration": {  
    "$type": "SMCoreContracts.SmSCRestoreConfiguration, SMCoreContracts"  
  },  
  "PluginCode": "SCC"  
}
```

- **Expected Response Code**

```
Response code: 202 > Request Successful
```