

# Configuration and Optimization

## – Azure Synapse Service

Eshant Garg

Data Engineer, Architect, Advisor

[eshant.garg@gmail.com](mailto:eshant.garg@gmail.com)



Azure  
Synapse  
Analytics

# Introduction

Configuration settings

Common tasks – Big data analytics

Backup and Restore DW

Price optimization

Managing Workload

Monitoring

Support and Troubleshooting

Delete all resources



**Azure  
Synapse  
Analytics**



# Examining Configuration options for an SQL pool in Azure Synapse Analytics

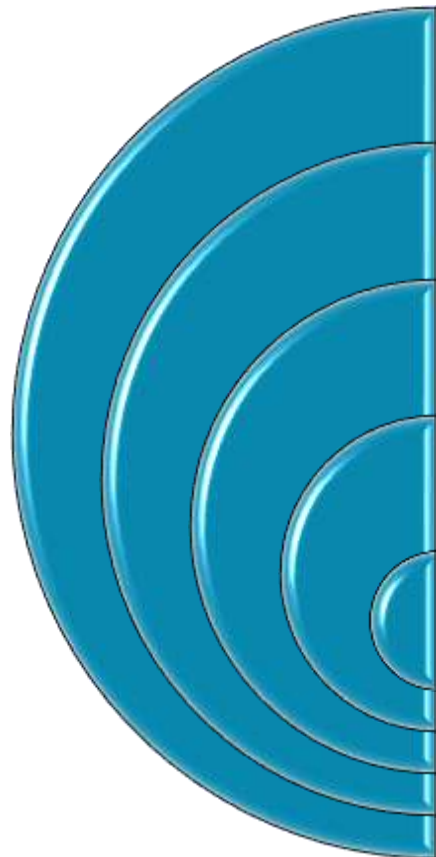
- Overview of Data Warehouse interface
- How to Scale
- How to view Activities
- Apply Tags and Locks
- Various other settings



# Performing Common Tasks with Azure Synapse Analytics in the Portal


- Streaming Analytics
- Load Data
- Use the Query Editor
- Build Reports
- Perform Analytics

# Backup



Snapshots offer a point of time that can be used to recover or copy data
Consists of many files from distributed system located in Azure storage
Captures incremental changes
Automatic restore points taken several times per day and cannot be deleted
User defined snapshots can be taken anytime

# Restore



Restore to a point of time
Deleted at 7 day mark or when there are 42 restore points
Will not be available with paused Data warehouse
Available after Data warehouse is dropped for 7 days
Can keep original or restored DB
Charged at Premium Storage rates rounded to the nearest TB
Geo-redundant

# Price Optimization





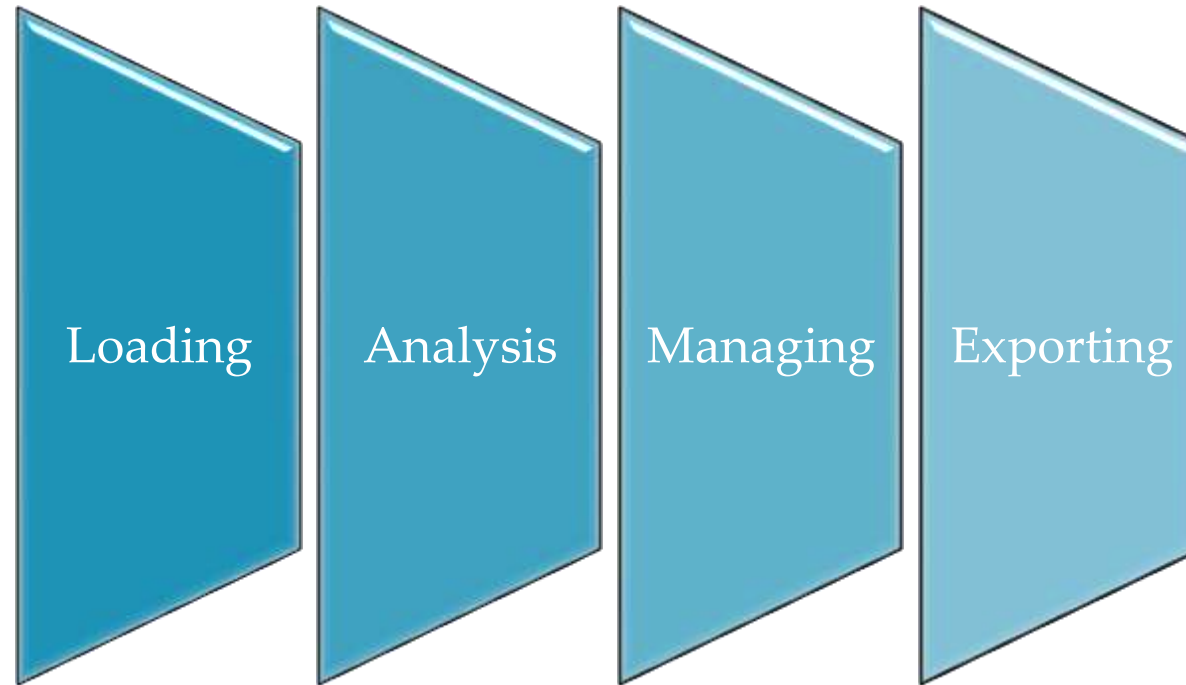
# Managing workloads

Workload Management ensures that enough resources exist for data warehousing activities like loading, transforming or querying data.

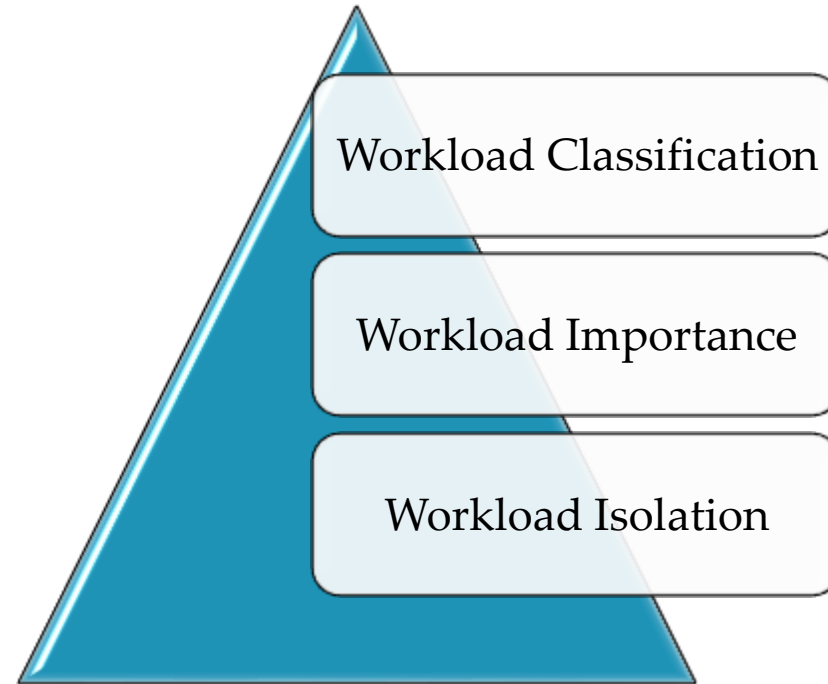
A successful workload management scheme effectively manages resources, ensures highly efficient resource utilization, and maximizes return on investment (ROI).



# Data warehouse workloads



# Data warehouse workloads



# Workload Classification



Assign users to a role that has a corresponding resource class

CREATE WORKLOAD CLASSIFIER

A classification that is based on a database user will take precedence over a role membership

# Workload Importance

- Workload importance influences the order in which a request gets access to resources.
- 5 level of importance – Low, below\_normal, normal, above\_normal and high
- A request with higher importance will be run before a request with lower importance
- Can prevent lock contention

# Workload Isolation

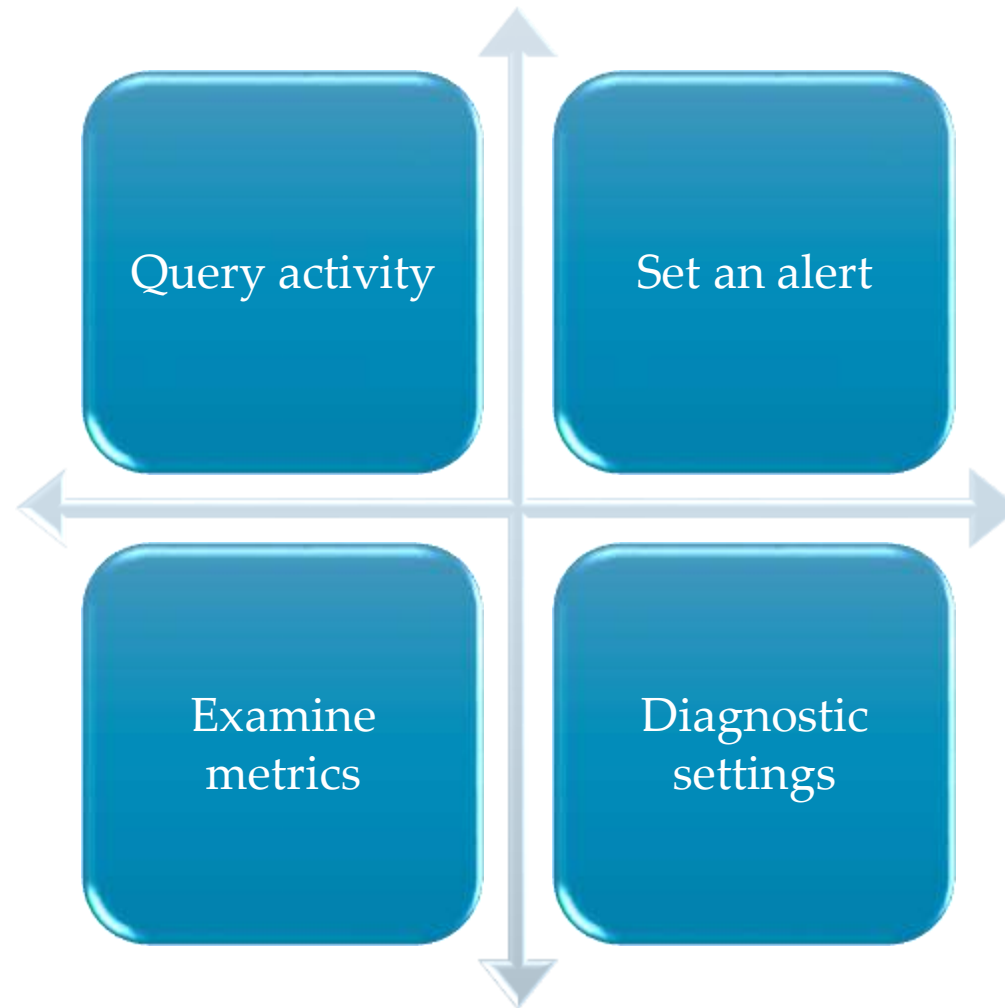


Workload isolation reserves resources for a workload group and use workload groups to define isolation

Guarantees implicit level of concurrency with the `MIN_PERCENTAGE_RESOURCE` parameter


Define a maximum level of concurrency with `CAP_PERCENTAGE_RESOURCE` parameter

# Monitoring




# Resource health


rija

 Refresh

Resource health watches your resource and tells you if it's running as expected. [Learn more](#)

---

 Unavailable

Last updated: 12/6/2016, 10:12:26 AM 

This virtual machine has been shut down  
[Report](#) incorrect health status


---

What actions can you take?

1. To start this virtual machine, open the [resource blade](#) and click Start
2. If you are experiencing problems you believe are caused by Azure, [contact support](#)


## Resource health


rija

 Refresh

Resource health watches your resource and tells you if it's running as expected. [Learn more](#)

---

 Unknown

Last updated: 12/6/2016, 10:12:26 AM 

We are currently unable to determine the health of this virtual machine

[Report](#) incorrect health status

---


### What actions can you take?

1. Check back here for status updates
2. If you're having problems, use the [Troubleshoot tool](#) to get recommended solutions
3. Review your virtual machine's [console screenshot](#) to correct boot problems
4. [Redeploy this virtual machine](#) to a different host
5. If you are experiencing problems you believe are caused by Azure, [contact support](#)




## Resource health


deturb

 Refresh

Resource health watches your resource and tells you if it's running as expected. [Learn more](#)

---



 Degraded

Last updated: 2/15/2018 3:53:44 PM 

This Storage Account is degraded.  
[Report](#) incorrect health status

---

What actions can you take?

1. Ensure that storage service implementation follow [Azure Storage retry guidelines](#) 
1. Follow [Partition Naming Convention](#)  to optimize load-balancing system
2. To get help recovering your storage accounts, [contact support](#)

# Summary

Configuration settings

Common tasks – Big data analytics

Backup and Restore DW

Workload management

Monitoring

Support and Troubleshooting

Delete all resources



**Azure  
Synapse  
Analytics**