



SCP Study Aid

Database Performance Analyzer (DPA)

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How to use this study aid

This study aid includes topics that you will find on the SCP DPA exam. Use the available SolarWinds documentation to search and learn more about each category.

[DPA Installation and Upgrade Guide](#)

[DPA Getting Started Guide](#)

[DPA Administrator Guide](#)

The intention of the topics in this aid are to supplement your years of experience and hands-on training with SolarWinds' products.

This aid is **not** all-inclusive and should only be used as a starting place for your SCP studies.

If you have a SolarWinds product under active maintenance, you have access to virtual and on-demand training.

To access SolarWinds Academy classes:

1. Log on to your Customer Portal account at <https://customerportal.solarwinds.com>
2. Click Education & Training > Virtual Classrooms
3. Browse the available classes and select an option:
 - Click Register Now for a live class
 - Click the On-Demand link to access a recorded course video

The SolarWinds Academy adds available classes to the [Virtual Classroom calendar](#) every month.

Note – The SolarWinds Academy classes are additional study resources and are not explicitly designed for the SCP exam.

For additional study resources, visit [THWACK](#).

1.0 Installation

1.1 Given a scenario, explain the hardware, software, and port requirements for DPA.

- Platforms
 - Windows
 - Linux or Unix
 - Azure Marketplace
 - Amazon Web Services
 - Credentials for the database instance hosting a repository
 - SYSADMIN
 - database administrator (DBA)
 - repository administrator
 - Repository databases
 - SQL Server
 - Oracle
 - MySQL
 - Azure SQL
 - Server requirements
 - JRE
 - CPIs
 - RAM
 - Disk space
 - Operating system
 - Operating system architecture
 - Character sets
 - AWS server
 - Azure server
 - Ports
 - 8123
 - 8124
 - 8127
 - 80
 - 443
 - Browsers
-

1.2 Given a scenario, compare the different license types and user options for implementing and managing licenses.

- Subscription licensing
 - Category 1 license
 - All database types
 - Oracle
 - Sybase
 - DB2
 - Category 2 license
 - Oracle
 - SQL Server
 - MySQL
 - Sybase
 - DB2
 - Azure SQL Database license
 - Azure SQL Database
 - Editions
 - Standard
 - Enterprise
 - Community
 - Floating licenses
 - VM Option licenses
 - Licensing for clustered environments
 - Activate licenses
 - Allocate/deallocate licenses
-

1.3 Given a scenario, explain the different types of database instances you can register and monitor.

- Oracle
 - SQL server
 - Sybase
 - DB2
 - MySQL
 - Amazon RDS for Oracle
 - Amazon RDS for SQL server
 - Amazon RDS for MySQL or Aurora
 - Oracle multitenant container database (CDB)
 - Azure SQL
-

Sample questions

1. The All privilege option is required to use the MySQL repository database.
A. True
B. False
2. What is the minimum required AWS instance type for the DPA server AMI?
A. t2.small
B. t2.medium
C. t3.large
D. t3a. medium

2.0 Administration

2.1 Given a scenario, configure user accounts and assign roles and privileges.

- Administrator role
 - Read Only on All Instances role
 - Domain accounts
 - Active Directory group
 - Integrate with AD
 - Custom Privileges role
 - View data
 - Manage reports
 - View alerts
 - Manage alerts
 - Manage monitoring
 - Create a user
 - Create a group
 - Unique username
 - Unique password
 - Predefined roles
 - Limit access
-

2.2 Given a scenario, implement DPA to use AD or LDAP and the explain available user authentication options.

- Directory service types
 - Domain administrator
 - Domain name
 - Multiple domains
 - Active Directory username
 - LDAP username
 - SSL port
 - Global catalog ports
 - 3268
 - 3269
 - User authentication
 - Single sign-on (SSO)
 - Common Access Card (CAC)
 - Non-standard port
 - Directory service
 - Distinguished Name (DN)
 - User Principal Name (UPN)
 - Connection test
-

2.3 Given a scenario, explain the function of SQL statements and how to name, exclude, and include them in DPA charts and analysis.

- DPA trend chart
 - SQL hash values
 - Chart legends
 - Reports
 - Query Detail page
 - SQL Properties dialog
 - Tuning advisors
 - Database performance
 - Database ID
 - Options for excluding SQL statements:
 - Exclude a specific SQL statement from DPA charts and analysis
 - Prevent DPA from storing data about a specific SQL statement
 - Exclude SQL statements from collection based on criteria in the WHERE clause
 - SQL Properties dialog box
 - DPA trend charts
 - DPA tuning advisors
 - query advisors
 - DPA quick poll query
 - Anomaly detection
 - DB query tool
 - Excluded SQL Statements dialog box
-

Sample questions

1. When configuring AD or LDAP, if your domain users authenticate from a domain other than the domain selected during initial set-up, you must connect to a global catalog port.

Which global catalog ports can you use? Select all that apply.

- A. 389
- B. 636
- C. 3268
- D. 3269

2. You do not want to tune your database backups SQL statement. How can you prevent the statement from producing tuning advisors?
 - A. Exclude the SQL statement from DPA
 - B. Disable the Tuning column for that statement
 - C. Silence the daily table tuning advisor for that statement
 - D. Move the SQL statement to a different database

3.0 Architecture

3.1 Given a scenario, explain the set-up and functions of DPA architecture.

- DPA server
 - Monitored database instances
 - Multiple instances
 - Repository database
 - Data storage
 - Web interface
 - Java Database Connectivity (JDBC)
 - Virtual environment
 - vCenter server
 - ESX
 - ESXi host
 - LAN
 - Performance data
 - Cloud monitoring
 - Overhead
 - Remote connection
 - Agentless
 - Wait-based analytics
-

3.2 Given a scenario, identify the resource metrics and explain how to view or change them.

- Resources
 - CPU
 - Disk
 - Memory
 - Baselines
 - Slow database
 - Database instance
 - Historical data
 - METRICS_BASELINE_TYPICAL_HOUR_CALCULATION
 - Baselines per metric
 - Resources tab
 - Change a time range
 - Show or hide baselines
 - Display metric information
 - View or change metric thresholds
 - Query wait times
 - Tuning
 - Reconfiguration
 - Calculating baselines
 - Query performance
 - Query Details page
 - Statistics
 - Blocking
 - Plan
 - Resource metrics charts
 - Thresholds:
 - Warning
 - Critical
 - Custom thresholds
-

Sample questions

1. How does DPA connect to Oracle databases?
 - A. ODBC driver
 - B. Thin driver
 - C. Pure Java driver
 - D. JDBC driver
2. In a virtual environment, what does DPA remotely connect to? Select all that apply.
 - A. vCenter Server
 - B. Virtual machines
 - C. ESX
 - D. ESXi host

4.0 Troubleshooting

4.1 Given a scenario, identify common performance issues and explain how to troubleshoot the issues.

- DPA query
 - Query performance analysis
 - Queries against tables
 - Blocked sessions
 - Warnings
 - Predicate
 - Lookup
 - Spool
 - Parallel
 - Long wait times (anomalies)
 - Anomaly detection chart
 - Annotations
 - SQL statements
 - Table tuning advisors
 - Update statistics
 - Churn
 - Index problems
 - Unused
 - Too many
 - Overlapping
 - Questionable structure
 - Evaluate indexes
 - Resolve fragmentation
 - Inefficient queries
 - Performance statistics
 - Indexing trade-offs
 - Idle blocker
 - Deadlock
 - Find Last Activity dialog
 - Victim Impact
 - Wait time meter
-

4.2 Given a scenario, identify where and how to access log information and explain common issues.

- Log Viewer
 - Log files for Support
 - Compressed file
 - Filter by:
 - Date range
 - Text string
 - Message level
 - Log files stored
 - Text editor
 - Firewall
 - Default ports
 - 8123
 - 8124
 - 8127
 - Oracle pluggable database (PDB)
 - Container database (CDB)
 - Connection error
 - Invalid login error
 - C##
 - Moved repository
-

Sample questions

1. What can you use to identify the root blockers, find out which SQL statements are blocked, and determine which blocking sessions are responsible for the longest overall waits.
 - A. Trends charts
 - B. Blocking tab
 - C. Deadlocks tab
 - D. Anomaly detection
2. If monitoring stops for more than 30 days, the anomaly detection algorithm will make predictions based on the stale learning data collected before the 30-day gap.
 - A. True
 - B. False

5.0 Alerts

5.1 Given a scenario, create, view, and edit alerts.

- Filter by:
 - Status
 - Date Range
 - Database Instance
 - Alert name
 - Search strings
 - Status:
 - High
 - Medium
 - Low
 - Info
 - Broken
 - Thresholds
 - Wait time statistics
 - Resource metrics
 - Report types:
 - Wait Time
 - Resources
 - Administrative
 - Custom
 - Samples
 - Notifications
 - Records
 - History
 - Anomaly
 - Health
 - Parameters
 - User-specified queries
 - Repository
 - Triggers
 - Alert Categories:
 - Wait time
 - Resources
 - Administrative
 - Custom
 - Execution interval
 - Default settings
 - Test alert
 - SNMP contact
 - Values
 - Single numeric value
 - One or more name/numeric value pairs (SQL statements only)
 - Single Boolean value
 - Single alert status
-

5.2 Given a scenario, explain the concepts and functions of how DPA alerts work with SNMP, SQL, and MIBs and how to apply them.

- SNMPv2c traps
 - SNMP-enabled Network Management
 - DPA MIB file
 - SNMP contact
 - MIB file:
 - Private Enterprise Number
 - One Trap Definition
 - Four string objects bound to each trap
 - MIB file location:
<DPA_install_dir>/iwc/CONFIO-MIB.mib
 - Disable contact
 - Database Instances
 - Trap Receiver Host
 - Trap Receiver Port
 - Community string
 - Test SNMP trap
 - SQL queries
 - Average execution response time
 - Historical Charts for SQL list
 - SQL statement
 - Error levels:
 - 0 = no change
 - 1 = node change
 - 2 = initial update
 - Average wait time
 - Wait threshold
 - Hash value
 - SQL Statement box
 - SQL Server cluster
 - Execute Against
 - Units
 - Clustered environment
 - Unique name
 - Email notification
 - :Node|Error Level
 - Configure Alert Levels
 - DPA Repository database
 - Average Wait Time per Execution chart
-

5.3 Given a scenario, explain how to manage DPA alerts.

- Alert blackout
 - Existing Blackout Periods
 - Original targets
 - Group name
 - Group description
 - Default notification policy
 - Alert group
 - Instances changes
 - Delete contacts
 - Existing contacts
 - Polling periods
 - Notification
 - Define the contacts
 - Contact groups
 - Schedule reports
 - Contact Management
 - Default policy
 - Normal status
-

Sample questions

1. What does the DPA Management Information Base (MIB) file define? Select all that apply.
 - A. Private Enterprise Number
 - B. One Trap Definition (NOTIFICATION-TYPE)
 - C. Four string objects bound to each trap: database name, alert name, alert level, and response instructions
 - D. IP Address
 - E. Domain name
2. You can create custom email templates for DPA alert notifications.
 - A. True
 - B. False

6.0 Reports

6.1 Given a scenario, know how to create DPA reports and understand the different reporting options

- Standard reports
 - Wait time statistics
 - Customize reports
 - Available reports:
 - Average Wait
 - Top <element>
 - Typical Day of <element> Wait
 - SQL statement
 - Report Type
 - Report Options
 - Elements
 - SQL Search:
 - Name and Hash
 - SQL Test
 - SQL ID
 - Data Range
 - SQL wildcard characters
 - Dates to Display
 - View SQL Properties
 - Search String
-

6.2 Given a scenario, know how to read and manage reports.

- Report data
 - Chart data
 - Storage period and granularity
 - Data collection period
 - Repository data
 - Existing reports
 - Reports section
 - View SQL Properties
 - Report schedules
 - Internal SMTP server
 - Schedule email reports
 - Highest waits
 - Delivery time
 - Send Test Email
-

Sample questions

1. How can you provide DPA database trends to people who do not have direct access to DPA?
 - A. Create a Report Schedule
 - B. Create a Report Group
 - C. Create an Instance Group
 - D. Create an Alert Group
2. Which search strings can you use to locate a SQL search option? Select all that apply.
 - A. Name and Hash
 - B. SQL text
 - C. SQL ID
 - D. SQL server instance name
 - E. SQL server monitor

7.0 Scalability

7.1 Given a scenario, explain how to link separate SolarWinds DPA servers together.

- | | | |
|-----------------------------|--------------------------|---------------------------|
| • Central Server mode | • Test connection | • User authentication |
| • Registered remote servers | • Server Name | • system.properties file |
| • Repository database | • Host name | • Central Server Settings |
| • Central DPA Server | • Plain text (JSON) file | • Thread pool settings |
| • Registered Servers | • Active Directory (AD) | • Web service calls |
| • Remote DPA server | • LDAP group | • Remote instances |
| • Provider host | • DPA user account | • Client factory cache |
| • Provider port | • Read-only permissions | • Per-user basis |
| | • Remote repositories | • host:port combination |
-

Sample questions

1. What is the default Java heap setting for monitoring database instances?
 - A. 10
 - B. 20
 - C. 30
 - D. 50
2. Your repository and DPA product share a server. How can you determine if increased repository loads and DPA processing are causing your server to slow? Select all that apply.
 - A. The number of repository connections equals the maximum pool setting
 - B. The DPA UI is unresponsive at times
 - C. The DPA logs contain "Task rejected" errors
 - D. Dropped connections of monitored instances

8.0 REST API

8.1 Given a scenario, use the REST API to securely connect DPA server and issue commands

- Managing tokens
 - Access token
 - Refresh token
-

Sample questions

1. You can call the DPA API with any programming language that can send HTTP requests.
 - A. True
 - B. False
2. Before you can use scripts to make API calls, you must _____.
 - A. Create a refresh token
 - B. Configure the base_url variable for the DPA Host
 - C. Allocate all licenses
 - D. Register your database

9.0 Integration

9.1 Explain how to integrate DPA with the Orion Platform using the DPA Integration Module (DPAIM)

- Requirements for the DPA Integration Module
 - Ports
 - Browser Requirements
 - Alerting and Reporting
 - AppStack and PerfStack
 - Troubleshooting DPAIM issues
-

Sample questions

1. You can only integrate multiple instances of DPA with NPM and SAM.
A. True
B. False
2. You can make changes to a database instance monitored by DPA from the Orion Platform server.
A. True
B. False

Sample Question Answer Key

1.0 Installation	1. A 2. B
2.0 Administration	1. C, D 2. A
3.0 Architecture	1. D 2. A, C, D
4.0 Troubleshooting	1. B 2. B
5.0 Alerts	1. A, B, C 2. A
6.0 Reports	1. A 2. A, B, C
7.0 Scalability	1. B 2. A, B, C
8.0 REST API	1. A 2. A
9.0 Integration	1. B 2. B