## Instruction Schedule – Based on Part - Time Cohort

• 60 minutes: welcome and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walk through challenge solutions and wrap up

## Instruction Schedule – Based on Full - Time Cohort

### Morning session:

• 60 minutes: welcome and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walk through challenge solutions and wrap up

Break – 30 mins

### Afternoon session:

• 60 minutes: recap and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walk through challenge solutions and wrap up

## AWS Instructor Guide Introduction

AWS Data Analytics Specialty Certification Prep will help students gain the knowledge and skills they need to effectively respond to examples and scenarios to successfully complete the certification exam. They will review the fundamentals of serverless cloud-based platform, AWS and its many services. This workshop will walk students through sample exam questions that cover analytic services, connecting to data sources, manipulating data, importing and exporting files, the power of visuals, and data security. The ability to effectively communicate, interact with, and interpret findings will be pulled together using a much-desired tool to showcase their hard work. This workshop will prepare students to take the next step to show their skills and talents to stakeholders, impressing them with this certification.

**NOTE: if you are on the Free Tier plan, be cautious on the data notes that AWS gives you and your storage. Because it is a Free Tier plan, you are allowed a certain amount of storage and features. Anything that goes beyond the plan you will be charged. Be sure to read all messages before moving forward in the console.**

# Module 1 – Instructor guide

### Databases

### Module Learning Outcomes

In this module students will,

1. Define what the Data Analytics Specialty Certification is.
2. Identify how the exam will assess your knowledge.
3. Demonstrate how to prepare for the exam.

### Module Overview Description

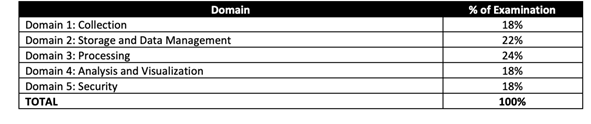
Welcome to the Introduction to AWS Certified Data Analytics Specialty, the first module of AWS Certified Data Analytics Specialty Certification Prep. This module will familiarize students with the Data Analytics Exam and technology preparation, and also offers a general overview. The module wraps up with a Challenge activity to review what they have learned by answering foundational questions.

### Lesson 1: Data Analytics Specialty Exam

* Build students knowledge and guide them through the following areas:
  + Identify the resources (webpages and articles) that will support your success on the Data Analytics Specialty Exam.
  + Identify what the AWS Certified Data Specialist will do for you as a data analyst.
  + Breakdown the exam details in terms of the amount and type of questions, time requirement, and cost.
  + Identify how you view testing centers, information, and policies for the exam.

### Lesson 2: How to Prepare

* Walk students through examples of the following and terminology:
  + Identify the exam domains and percentage weight of each domain.
  + Breakdown the objectives of each domain.



### Lesson 3: Collection Kinesis

* Build students’ knowledge and guide them through the following areas:

### Describe what Kinesis does and how it works.

### Describe the three areas of Kinesis that work to process real-time data.

### Explain the two types of use case scenarios for streaming data applications that you will want to know.

### Describe the value of analyzing real-time data.

### Summarize the sample question and solution offered in this module for the [*AWS Certified Data Analytics – Specialty (DAS-C01) Sample Exam Questions*](https://d1.awsstatic.com/training-and-certification/docs-data-analytics-specialty/AWS-Certified-Data-Analytics-Specialty_Sample-Questions_v.1.1_FINAL.pdf).

### Lesson 4: Collection and Storage Data Lakes

### Build the student’s knowledge and guide them through the following areas:

* + Define data lakes.
  + Describe lake formation and its benefits.
  + Describe how data lakes are integrated with the following services:
    - AWS Glue
    - Amazon Athena
    - Amazon Redshift
    - Amazon QuickSight
  + Discuss examples of S3 storage security to be used in components at the platform level.

# Module 2 – Instructor guide

### Domain 2: Storage and Management

### Module Learning Outcomes

In this module students will,

1. Determine the operational characteristics of a storage solution for analytics.

2. Determine data access and retrieval patterns.

3. Identify an appropriate data layout, schema, structure, and format.

4. Define a data lifecycle based on usage patterns and business requirements.

### Module Overview Description

### Welcome to the Storage and Management module of AWS Certified Data Analytics Specialty Certification Prep. This module will familiarize students with the storage and management section of the exam. Students will review storage services, key concepts, case studies, and use cases. The module wraps up with a Challenge activity to review what they have learned by answering foundational questions.

### Lesson 1: S3

* Walk students through the following:
  + Define S3.
  + Describe the storage classes that offer access levels to client data.
  + Identify the S3 advantage areas that you need to study for the exam.
  + Explain what versioning S3 buckets does and describe how to turn versioning on.
  + Describe S3 analytics.
  + Describe S3 data archiving.
  + Describe S3 static website hosting.
  + Discuss S3 permissions and access points.
  + Breakdown how to add permissions using an S3 bucket policy.
  + Identify the most common uses for S3.
  + Describe a few sample scenarios using S3 that will help you prepare for the exam.

### Lesson 2: Glacier

* Walk students through examples of the following:
  + Define S3 Glacier.
  + Describe the three options for how you can retrieve your data after it has been archived in bulk.
  + Identify useful facts to keep in mind when retrieving data.
  + Explain how S3 and Glacier are different.
  + Identify what you should think about when reading through scenarios on the exam.
  + Discuss what you learned from the exam scenario offered in this lesson.

### Lesson 3: DynamoDB

* Build students’ knowledge and guide them through the following areas:

### Define DynamoDB.

### Explain how DynamoDB works.

### Explain how the exam tests your knowledge in DynamoDB.

### Describe some common use cases of DynamoDB.

### Identify the usage patterns that DynamoDB is designed for.

### Discuss what you learned from the example exam scenarios in this lesson.

### Lesson 4: ElastiCache

* Build the student’s knowledge and walk them through the following areas:
  + Describe when ElastiCache is used.
  + Explain a valued feature of ElastiCache.
  + Define Redis.
  + Identify what the exam will test you on regarding Redis.
  + Describe how to create a cluster using ElastiCache.
  + Discuss what you learned from the example exam scenario in this lesson.

# Module 3 – Instructor guide

### Domain 3: Processing and Security

### Module Learning Outcomes

In this module students will,

### Determine appropriate data processing solution requirements.

### Design a solution for transforming and preparing data for analysis.

### Automate and operationalize a data processing solution.

### Module Overview Description

### Welcome to the Processing module of AWS Certified Data Analytics Specialty Certification Prep. This module will familiarize students with the data processing section of the exam. Students will review processing services, key concepts, case studies, and use cases. The module wraps up with a Challenge activity to review what students have learned by answering foundational questions.

### Lesson 1: Security

* Walk students through the following terms:

### o Operational excellence

### o Security

### o Reliability

### o Performance Efficiency

### o Cost Optimization

* Describe the three main categories of cloud services provided.
  + Define and describe the virtual private cloud (VPC).
  + Define and describe an availability zone (AZ).
  + Define and describe AWS regions.
  + Define and describe access identity and access management (IAM).
  + Differentiate between IAM users and IAM roles.

### Lesson 2: Lambda

* Walk students through examples of the following:
  + Define Lambda and describe what it enables you to do.
  + Define the following Lambda terms:
    - Lambda extensions
    - Function blueprint
    - Database access
  + Describe scenarios of invoking lambda functions.
  + Identify the general use cases of AWS Lambda.
  + Describe EC2.
  + Describe Lambda containers.
  + Compare Lambda and EC2.
  + Identify how to decide if Lambda or EC2 is right for your project.
  + Identify what to think about when working through scenarios on the exam that involve Lambda.

### Lesson 3: Glue

* Build the student’s knowledge and walk them through the following areas:
  + Define AWS Glue.
  + Identify what AWS Glue is used to do.
  + Describe how data travels while using AWS Glue.
  + Define the following AWS Glue Key Terms
    - Data catalog
    - Database
    - Table
    - Crawler and classifier
    - Job
    - Trigger
    - Development endpoint
  + Identify the type of data that data crawlers analyze.
  + Identify the actions that crawler can take when it runs.
  + Identify the rules for Glue when creating a table name.
  + Describe the general workflow for how a crawler fills the data catalog.
  + Identify and describe the concepts listed in this lesson that you will want to know in preparation for the exam.

### Lesson 4: Data Pipeline

* Walk students through how to complete the table below that compares WHERE vs HAVING clauses:
  + Define AWS Data Pipeline.
  + Explain what AWS Pipeline can do for you.
  + Explain how to use AWS Pipeline.
  + Explain how the data pipeline concepts and processes can be used across many AWS services.

# Module 4 – Instructor guide

### Domain 4: Analysis and Visualization

### Module Learning Outcomes

In this module students will,

### Determine the operational characteristics of an analysis and visualization solution.

### Select the appropriate data analysis solution for a given scenario.

### Select the appropriate data visualization solution for a given scenario.

### Module Overview Description

### Welcome to the Analysis and Visualization module of AWS Certified Data Analytics Specialty Certification Prep. This module will familiarize students with the data analysis and visualization section of the exam. You will review processing services, key concepts, case studies, and use cases. The module wraps up with a Challenge activity to review what you learned by answering foundational questions.

### Lesson 1: Athena

* Walk students through the following:
  + Define Amazon Athena.
  + Describe what Amazon Athena can do for you.
  + Describe the following key concepts of Athena that you will want to review for the exam.
    - Partitioning
    - Queries
    - Security
  + Explain what you learned from the sample exam scenarios offered in this lesson.

### Lesson 2: Redshift

* Walk students through examples of the following:
  + Define Amazon Redshift.
  + Explain what Redshift can do for you.
  + Explain how to create a cluster.
  + Explain what you learned from the sample exam scenarios offered in this lesson.
  + Identify the key Redshift concepts that the exam will cover.

### Lesson 3: QuickSight

* Build student knowledge and guide them through the following areas:
  + Define QuickSight.
  + Explain what QuickSight can do for you.
  + Define SPICE data.
  + Breakdown the QuickSight workflow sequence.
  + Describe the visualizations that QuickSight offers.
  + Explain what you learned from the sample exam scenarios offered in this lesson.
  + Identify the key concepts of QuickSight that you will want to know for the exam.

### Lesson 4: Kinesis Data Analytics

* Build student knowledge and guide them through the following areas:
  + Define AWS Kinesis.
  + Explain what AWS Kinesis can do for you.
  + Explain what you learned from the sample exam scenarios offered in this lesson.
  + Identify what you need to keep in mind for the exam when it comes to case study type questions.

This workshop ends with an assessment interactive  [AWS certified data analytics specialty prep](https://content.bridgepointeducation.com/curriculum/file/20ce1fbc-3f67-414c-b7b3-fdd69ab25e61/1/AWS%20Certified%20Data%20Analytics%20Specialty%20Prep%20Interactive.zip/story.html) interactive. This interactive acts as the AWS and AWS certification assessment for the program. The purpose of this interactive is to test student knowledge across the AWS workshop and certification workshop. Once a student has completed the interactive, their responses will be scored and recorded.