AWS Ramp-Up Guide: Public Health

For Epidemiologists, Public Health Informaticians, and Bioinformaticians

This guide collects cloud-computing learning resources relevant to the needs of a public health organization - specifically for applied epidemiologists, public health informaticians, and bioinformaticians.   The **Epidemiologist** path is designed for public health staff who use information systems, survey tools, and other mechanisms to collect qualitative and quantitative data relevant to epidemiologic studies and public health surveillance. They analyze those data with a variety of open source and licensed solutions. The **Public Health Informatician** path focuses on staff who establish information systems to collect and store data, and transform those data into information for decision-making. The **Bioinformatician** path assumes that these data scientists of the laboratory are building data systems to manage genomic sequencing pipelines, building the pipelines themselves, and performing other analytics with laboratory, epidemiologic, and clinical data. To provide suggestions on Ramp-Up Guides, contact rampupguides@amazon.com.

Cloud Fundamentals		
Learning Resource	**Duration**	**Type**
AWS Cloud Practitioner Essentials…or…	6 hours	Digital Training
AWS Technical Essentials	4 hours	Digital Training

For Epidemiologists...

Analytics in the Cloud		
Learning Resource	**Duration**	**Type**
Data Analytics Fundamentals	3 hours 30 minutes	Digital Training
Getting Started with AWS Glue	1 hour	Digital Training
Getting Started with Amazon QuickSight	1 hour	Digital Training
AWS Foundations: Machine Learning Basics	30 minutes	Digital Training

Reduce burden in public health with artificial intelligence (AI)		
Learning Resource	**Duration**	**Type**
Twitch Series: AWS Power Hour Introduction to Machine Learning for Developers	1 hour	Digital Training
Twitch Series: AWS Power Hour Amazon Textract	1 hour	Digital Training
Twitch Series: AWS Power Hour Amazon Comprehend	1 hour	Digital Training
Twitch Series: AWS Power Hour Amazon Connect & Amazon Lex	1 hour	Digital Training
Introduction to Amazon Pinpoint	10 minutes	Digital Training

For Public Health Informaticians...

Modern data analytics for public health

Learning Resource	Duration	Type
Data Analytics Fundamentals	2.5 hours	Digital Training
Getting Started with AWS Glue	1 hour	Digital Training
AWS Foundations: How Amazon SageMaker Can Help	30 minutes	Digital Training
Getting Started with Amazon QuickSight	1 hour	Digital Training
Introduction to Amazon Simple Notification Service	10 minutes	Digital Training

Automation with artificial intelligence (AI) to reduce burden for public health

Learning Resource	Duration	Type
Twitch Series: AWS Power Hour Machine Learning	8 hours	Digital Training
Getting Started with Amazon Textract	1 hour	Digital Training
Getting started with Amazon Comprehend	1 hour 30 minutes	Digital Training
Introduction to Amazon Pinpoint	10 minutes	Digital Training

For Bioinformaticians...

Compute for public health bioinformatics

Learning Resource	Duration	Type
AWS Compute Services Overview	40 minutes	Digital Training
Introduction to AWS Batch	15 minutes	Digital Training
Amazon DynamoDB Service Primer	20 minutes	Digital Training

Networking and security

Learning Resource	Duration	Type
Introduction to Amazon CloudFront	10 minutes	Digital Training
Introduction to Amazon API Gateway	10 minutes	Digital Training
Machine Learning Security	2 hours	Digital Training

Data transfer and storage

Learning Resource	Duration	Type
AWS DataSync Primer	1 hour	Digital Training
Amazon Simple Storage Service (Amazon S3) Cost Optimization	1 hour	Digital Training

Data management and analysis

Learning Resource	Duration	Type
Data Analytics Fundamentals	3.5 hours	Digital Training
Getting Started with AWS Glue	1 hour	Digital Training
Introduction to Amazon Athena	10 minutes	Digital Training
AWS Foundations: How Amazon SageMaker Can Help	30 minutes	Digital Training
Getting Started with Amazon QuickSight	1 hour	Digital Training

For all Public Health Roles...

Additional resources

Learning Resource		Type
What is Cloud Computing?		Video
What is AWS?		Webpage
Modern Data Architecture		Webpage
What is a data lake?		Webpage
AWS Glossary		Webpage
Generate ML predictions directly in Amazon SageMaker Canvas		Video
Create your RStudio on Amazon SageMaker licensed or trial environment in 3 easy steps		Blog
Extract Health Data - Amazon Comprehend Medical - AWS Online Tech Talks		Tech Talk
Understanding and achieving a modern data architecture (re:Invent 2022)		Video
Enabling agility with data governance on AWS		Video
U.S. Census brings nationwide count to the AWS Cloud		Blog
Registry of Open Data on AWS		Webpage
AWS state and local government public health cloud resources		Webpage
Simplifying Permissions & Governance in your Data Lakes		Video

Geospatial ML with Amazon Sagemaker	Video
Implement RStudio on your AWS environment and access your data lake using AWS Lake Formation permissions	Blog
Automatically extracting email attachment data to reduce costs and save time for local public health departments	Blog
Extract Health Data - Amazon Comprehend Medical - AWS Online Tech Talks	Tech Talk
Easy Genomics Solution for Public Health Labs	Blog
Part 1: Introducing Amazon Omics—from sequence data to insights, securely and at scale	Blog
Part 2: Automated End-to-End Genomics Data Storage and Analysis using Amazon Omics	Blog
Amazon Omics Workshop End-to-End	Workshop

For a training plan customized for your requirements,
contact your AWS Account Manager or contact us **here**

We would love to hear from you.
Provide your feedback on this AWS Ramp-Up Guide **here**