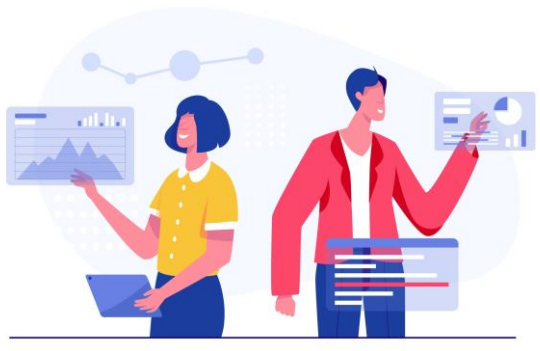
Art of Now: Training for Public Health



This pathway will help public health leaders become more familiar with key cloud concepts. It presents a recommended set of online resources that provide an orientation to the benefits of the cloud and data analytics, artificial intelligence (AI), and machine learning (ML) services available with Amazon Web Services (AWS). Individuals who complete this training pathway should understand the concepts behind a modern data architecture and which AWS services can accelerate their modernization journey.

Foundational material

Total time: 90 minutes

Become familiar with key cloud concepts, the benefits of the cloud, and core AWS services that you'll encounter in your cloud journey.

What is cloud computing?

5 min video

What is AWS?

3 min video

How are Health and Human Services orgs using AWS?

20 min video

Cloud essentials

60 min digital training

Additional resources

AWS Glossary: Search for unfamiliar terms here

Real-world story: U. S. Census brings nationwide count to the AWS Cloud

Real-world story: Utah migrates to the cloud to rapidly scale its data infrastructure

Modern data architectures

Total time: 125 minutes

Your modern data architecture should be flexible and scalable, able to rapidly adjust to new data types and analytic strategies. It will break down data siloes that have plagued public health for decades, while still maintaining data privacy and security. It should provide you with a self-serve environment, that empowers you and your colleagues to engage with data in the way that works best for each person. A modern data architecture means you get back into the business of public health science, with more automation of the processes that don't leverage your best skills.

Understanding modern data architectures

60 min video

What is a data lake?

10 min webpage

Data governance in a modern architecture

55 min video

Roles and responsibilities

5 min infographic

Additional resources

Real-world story: The Minnesota Department of Health breaks down data siloes

Real-world story: New York state rapidly ingests and uses clinical data during pandemic

Analytics in the AWS cloud

Total time: 120 minutes

In AWS, you can bring your favorite licensed analytic tools—open-source and licensed products—and work with your data in a secure, scalable environment. AWS also provides low- and no-code tools that don't require coding skills. These services allow you to work faster, scale your analytic capacity within your organization, and bring the data and information to the people who need it, when they need it. Plus, these services can be tied to the governance of your modern data architecture, which means you no longer have to slice the data multiple ways for different personas. You'll build dashboards once with assurance that your audience will only see the data they're allowed to see (like automatic access restrictions by geography or condition). You can work smarter, not harder.

Overview of ML

10 min video

AWS low / no-code analytic services	Function	Video training link
Amazon Glue DataBrew	Data preparation	10 min
Amazon QuickSight	Data visualization	60 min
Amazon SageMaker	Low/no-code ML Geospatial analyses	25 min 25 min

Additional resources

Blog: Create your RStudio environment in Amazon SageMaker in 3 easy steps

Explore the AWS Open Registry, that includes health, census, climate, and genomic data, plus sample SageMaker code so you can put it use today

Reduce burden in public health with AI

Total time: 240 minutes

Public health staff still do a lot of manual processing of paper and manual review of content in free-text fields. You also spend a lot of time maintaining rules-based data transformations to health-related standards. Communicating with the populations you serve requires timely information-sharing at scale. This section's sessions introduce you to AI services that you can apply in your agency to reduce burden, improve time to decision-making and data completeness, and get you back to the business of public health practice.

Understand where AI sits in the ML stack

60 min digital learning

AWS AI service	Function	Digital learning link
Amazon Textract	Take paper (virtual or hard copy) and automatically transform it into data	65 min
Amazon Comprehend	Natural language processing (NLP) of free text to make it usable content for analyses	25 min
Comprehend Medical	NLP that transforms to health standards	70 min
Amazon Connect and Lex	One-stop shop for contact centers and chatbots	70 min
Amazon Pinpoint	Text messaging mobile service	10 min

Additional resource

Real-world story: Maryland uses cloud-based contact center for contact tracing response

Ready to learn more?

AWS has many training opportunities to explore:

- Complete an online, on-demand set of trainings based on one of 3 public health personas.
- Immerse yourself and your colleagues in a 1-day session to see these services in action with a public health use case.
- If you're ready to use these services, schedule a multi-day training with one of our training experts to come up to speed quickly.

Contact us at AWSpublichealth@amazon.com to find the right fit for you and your team today!

The training and videos in this document are available at no cost. Digital trainings in AWS SkillBuilder may require you to sign in first.