

<i>"Customer"</i>	Public Health England
<i>"AWS"</i>	Amazon Web Services EMEA SARM, UK Branch
<i>Project Name</i>	Contact Tracing Service
<i>"Project Location"</i>	Remote/UK United Kingdom
<i>Customer's Engagement Contact Name and Email Address</i>	Raj Mehta, Head of Development, Digital Division, PHE. raj.mehta@phe.gov.uk
<i>Customer's Accounts Payable / Bill To / Name and Email Address</i>	Fiona Small Accounts Payable Ledger Controller – Query Resolution (PHE Suppliers A-I Excluding NHS & Couriers) fiona.small@phe.gov.uk or payables@phe.gov.uk
<i>Customer's Bill-To Mailing Address</i>	Public Health England, Wellington House, 133-155 Waterloo Rd, London SE1 8UG, United Kingdom
<i>Customer's Bill-To Phone Number</i>	[REDACTED]
<i>Customer's AWS Billing Account ID</i>	336584053891
<i>Customer's VAT/ Tax registration number</i>	GB 888 169184
<i>Currency</i>	British pounds (£)

This Statement of Work for AWS Professional Services (this "SOW") is entered into between AWS and Customer. This SOW is made a part of the AWS Customer Agreement (available at <http://aws.amazon.com/agreement>) or other written agreement, by and between Customer and either Amazon Web Services, Inc. or Amazon Web Services EMEA SARM or both, governing Customer's use of the Services (the "Agreement"). This SOW is effective as of the date the last party signs this SOW (the "SOW Effective Date"). Capitalized terms not defined in this SOW may be defined in the Agreement.



Scope of the AWS Professional Services

AWS will provide the consulting and advisory services described below, for up to the total number of days set forth in this SOW.

To assist Customer in delivering the PHE COVID -19 Tracing Application, AWS shall support Customer providing advice and consulting services on the following topics:

Phase I

AWS Infrastructure

1- Networking

- Virtual Private Cloud (VPC)
- Public Subnet (Availability Zone 1)
 - Public facing endpoint for end-users (internal/external)
 - Private network hosting the EC2 application instances
 - Private network hosting the PostgreSQL database server
 - ✓ Amazon Aurora (PostgreSQL managed database service)
 - ✓ Process to manage redundancy such as read-replicas or similar
- Elastic Load Balancer (ELB)
 - ✓ Guide on route inbound traffic to EC2 applications servers.
- Auto-Scaling
- Internet Gateway

2- Security

- Security Group (firewall)
- Access Controls
- Port Access (Https, SSH)
 - ✓ Firewalls
- Key Management
 - ✓ Key management service (KMS) for securely storing encryption keys

3- Compute

- EC2 instances
- Compute resource to host the web application. Setup availability zones.
 - ✓ Storage type

4- Storage

- S3/EBS

5- Database

- Amazon Aurora
 - ✓ PostgreSQL database service.

6- Monitoring

- CloudWatch



System Integrations capabilities

Notification

- Gov.uk.notify service- Access

Monitoring

Reporting

- Process of pushing data from AWS storage back to the on-premise Prometheus system.

CTAS Application

1- Deployment

- Support with current deployment configuration tool

2- Configuration

- Advise and guide on necessary changes to the application configuration settings to include the new environment such as database connection strings.

3- Application Dependencies

- Ruby libraries
 - ✓ Supporting application libraries onto the EC2 instances.
 - ✓ PostgreSQL Libraries

4- New App Development

- Data ingestion code
- Data extraction code

Phase II**Technical:**

Options to improve the application architecture and extend to include new functionality to include Testing and security.

Service Design:

Support with the following areas:

- Assessment of work completed to date around User Research, Service Design and Interaction Design
- Identification of gaps and suggested areas of improvement
- Advise and build out future milestones to enhance the service
- Create a prioritised product backlog for the Technical teams

Assumptions:

Day 1 roll out - population size of 140,000. Followed by a roll out across other areas with a predicted increase in demand by 25% for 4 weeks (full coverage).



Customer Responsibilities

AWS's ability to deliver the AWS Professional Services depends on Customer's reasonable and timely cooperation and the accuracy and completeness of any information from Customer. Customer will provide all necessary support to successfully deliver on the Scope of AWS Professional Services described above ("Project") and keep Project on schedule, within budget, and within scope, including:

1. Customer will provide support and approval from its business stakeholders, application owners, IT infrastructure team, and security as well as any necessary exceptions to standard processes to execute on the Project.
2. Active participation of Customer subject matter experts and full-time staffing of Customer employees, contractors, and third-parties necessary to successfully execute on the Project.
3. Customer will provide access to equipment, source code, data, and facilities necessary to successfully execute on the Project.
4. Customer will make available on a timely basis such Customer staff who will support AWS in the execution of the tasks described in this SOW.
5. Customer will be responsible for the implementation and operation of the solutions.

Schedule of Rates

AWS will invoice Customer in hourly increments for AWS Professional Services delivered on a "time and materials" basis. The rates for consultants are expressed below as daily rates (assuming an 8-hour day). Each consultant will work on a full-time basis. The aggregate charges for work performed under this SOW will not exceed the estimated total below, without the prior written authorization of the parties.

The currency for Schedule of Rates and Expenses is: British pounds (£)

<i>Consultant Level/Role</i>	<i>Daily Rate</i>	<i>Number of Days</i>	<i>Costs</i>
Billable Engagement:			
Delivery Management	██████	24	██████
Lead Architect	██████	24	██████
Product / Service Design Lead	██████	24	██████
Developer	██████	24	██████
Developer	██████	24	██████
Tester	██████	24	██████
WebOps Consultant	██████	24	██████
Cyber Security consultant	██████	8	██████



User Researcher	██████████	24	██████████
Interaction Designer	██████████	24	██████████
AWS Cloud Consultant	██████████	10	██████████
Total		234	██████████

Engagement Related Expenses

No Expenses will be billed to Customer under this SOW.

Additional Terms

1. AWS will provide the AWS Professional Services using skilled and experienced consultants and will perform such services in a professional manner. If AWS fails to do so then, as Customer's sole remedy, AWS will re-perform the relevant AWS Professional Services or refund the charges for such service; provided that Customer notifies AWS of the failure within one month of the date of performance.
2. If AWS uses subcontractors, AWS will (a) impose appropriate contractual obligations upon its subcontractors, and (b) be responsible if the acts or omissions of its subcontractors cause AWS to breach any of its obligations under this SOW. The use of subcontractors will not release AWS from any of its obligations under this SOW.
3. Customer's billing details are as set out in the table at the front of the SOW or as notified in writing from time to time by Customer. In cases where AWS is required to charge any indirect taxes, AWS will issue an invoice complying with the relevant tax invoicing regulations applicable at that time. Customer consents to receiving invoices via email or such other method determined by AWS and compliant with the relevant tax invoicing regulations. The parties may mutually agree via email to increase the number of consultant days and expenses one time under this SOW.
4. This SOW automatically terminates 12 months after the SOW Effective Date. Customer may terminate this SOW for any reason by providing AWS with at least two weeks' written notice (the "Notice Period"), provided that Customer will pay for all fees and charges for the AWS Professional Services already performed, in-progress, and scheduled to occur during the Notice Period, as well as any and all expenses incurred during the Notice Period.
5. **Privacy.** AWS and its Affiliates will handle any personal data relating to the personnel of Customer (the "Personnel") that is provided to AWS or its Affiliates for the purposes of this SOW in accordance with the handling practices described in the AWS Privacy Notice (available at <http://aws.amazon.com/privacy/>). Customer will make the AWS Privacy Notice available to any Personnel whose personal data it provides to AWS or its Affiliates.
6. Limitations of Liability; Governing Law; Venue.

Limitations of Liability. Notwithstanding any other provision in the Agreement or this SOW, neither party disclaims or limits liability for death or personal injury to the extent



that it is caused by a party's negligence or negligence of its employees, agents or subcontractors, fraud, or fraudulent misrepresentation.

Governing Law; Venue. The laws of England, without reference to conflict of law rules, govern this SOW and any dispute of any sort that might arise between the parties. Any dispute relating in any way to this SOW will only be adjudicated in an English court. Each party consents to exclusive jurisdiction and venue in these courts. Notwithstanding the foregoing, any party may seek injunctive relief in any state, federal, or national court of competent jurisdiction for any actual or alleged infringement of such party's, its Affiliates' or any third party's intellectual property or other proprietary rights. The United Nations Convention for the International Sale of Goods does not apply to this SOW.

7. Customer will create and maintain backup copies of all systems and sensitive or otherwise valuable content before, during and after delivery of the AWS Professional Services. Customer is responsible for any content loss in connection with its failure to back up its content.
8. Customer will provide AWS with all product licenses necessary for carrying out the AWS Professional Services described in this SOW, other than licenses provided pursuant to the Agreement.
9. Content on the server images is migrated in the form that it resides on the server image, and AWS has no obligation to apply further protections, encryption settings or measures to such content, which would be entirely Customer's responsibility.
10. Customer will not disclose or provide AWS access to "personal data" or "personally identifiable information" (each as defined in applicable data privacy laws).
11. This SOW may be executed in two or more counterparts, each of which will be deemed an original and all of which taken together will be deemed to constitute one and the same document. The parties may sign and deliver this SOW by facsimile or electronic transmission.

(SIGNATURES ON NEXT PAGE)



Acceptance and authorization

IN WITNESS WHEREOF, the parties below have executed this SOW as of the SOW Effective Date.

AWS:

**Amazon Web Services EMEA SARM, UK
Branch**

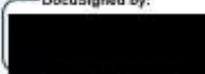
DocuSigned by:

Signature
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Full name
Authorized Signatory
Title
May 12, 2020
Date

CUSTOMER:

Public Health England

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Signature

Full name

Title
May 12, 2020
Date

