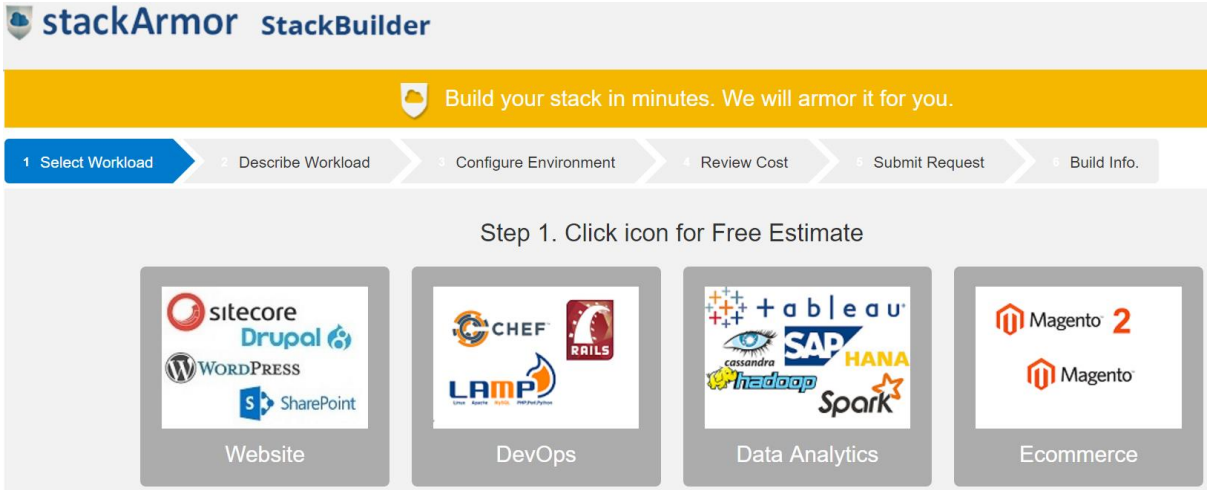
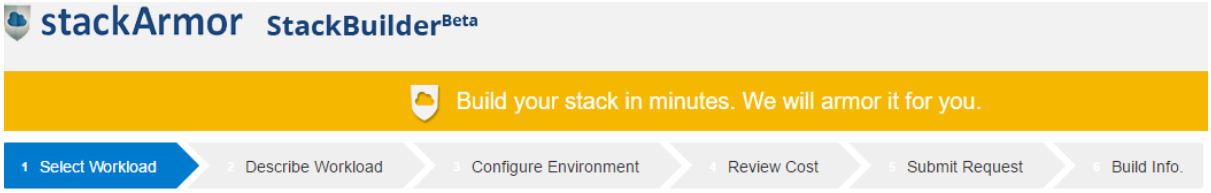


SECURED HOSTING OF A PCI DSS COMPLIANT WEB APPLICATION ON AWS

White Paper

stackArmor AWS Solutions Team

stackArmor



Contents

Abstract

Protecting card owner information has become very important for e-commerce companies as they have become frequent targets for hackers. In order to safeguard the interests of the card owners, four industry majors, VISA, MasterCard, Discover and American Express, joined hands to create a set of policies and procedures to protect the debit, credit and cash card transactions and to safeguard the personal information of the cardholders. These policies and procedures are collectively known as the Payment Card Industry Data Security Standard (PCI DSS). In simple terms these standards alert companies that they are wholly responsible for the credit card information of their customers. The PCI directs companies to use the information diligently and to store only that information that is required for their business. This white paper provides an overview of architectural features in the AWS cloud that ensure the hosting of e-commerce web applications that are PCI DSS compliant.

What is PCI DSS?

The PCI DSS consists of a set of 12 directives that set industry standards for all companies who directly or indirectly process credit card information.

Key objectives of PCI DSS

Some of the key objectives of the PCI DSS are:

- Build and maintain a safe and secured network
- Protect cardholder data
- Maintain a vulnerability management program
- Implement strong access control measures
- Regularly monitor and test networks for any malicious activity
- Maintain an information security policy

PCI DSS Requirements

PCI DSS has development a set of 12 requirements. Any system or application that intends to use the credit card information must ensure strict compliance to these requirements. The scope of PCI DSS requirements include:

- Install and maintain a firewall configuration to protect cardholder data
- Do not use vendor-supplied defaults for system passwords and other security parameters
- Protect stored cardholder data
- Encrypt transmission of cardholder data across open, public networks
- Protect all systems against malware and regularly update anti-virus software or programs
- Develop and maintain secure systems and applications
- Restrict access to cardholder data by business need to know
- Identify and authenticate access to system components
- Restrict physical access to cardholder data
- Track and monitor all access to network resources and cardholder data
- Regularly test security systems and processes
- Maintain a policy that addresses information security for all personnel

stackArmor StackBuilder Beta

Build your stack in minutes. We will armor it for you.

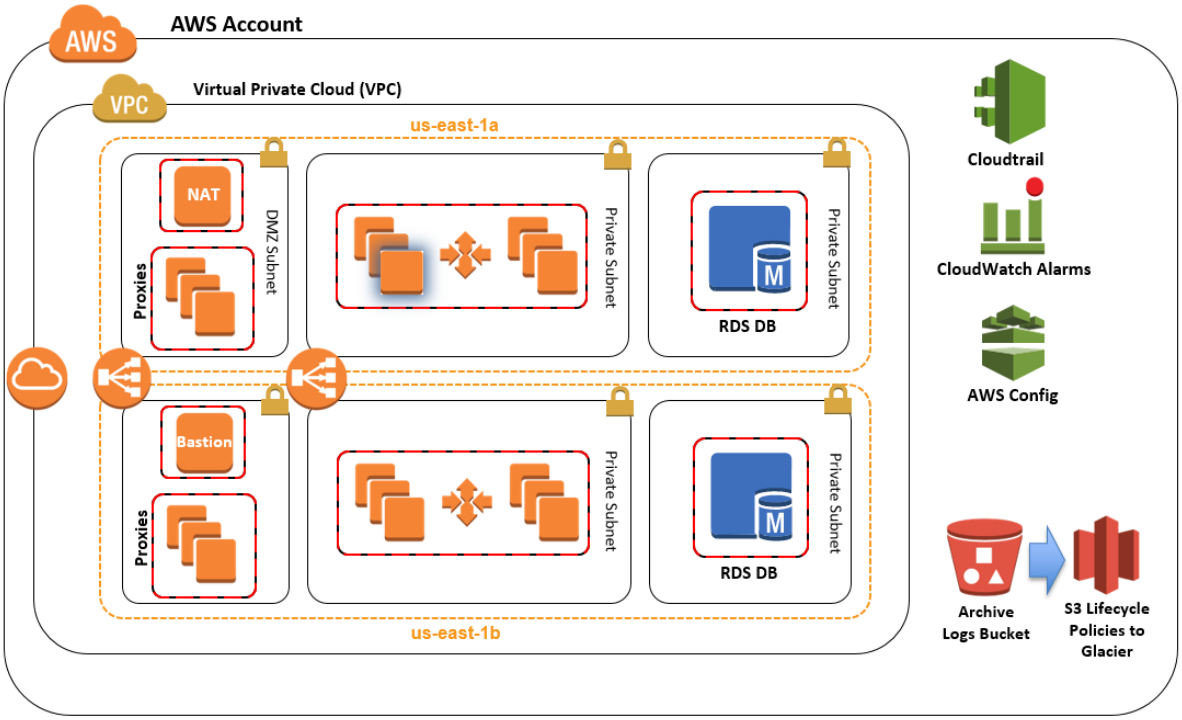
1 Select Workload | 2 Describe Workload | 3 Configure Environment | 4 Review Cost | 5 Submit Request | 6 Build Info.

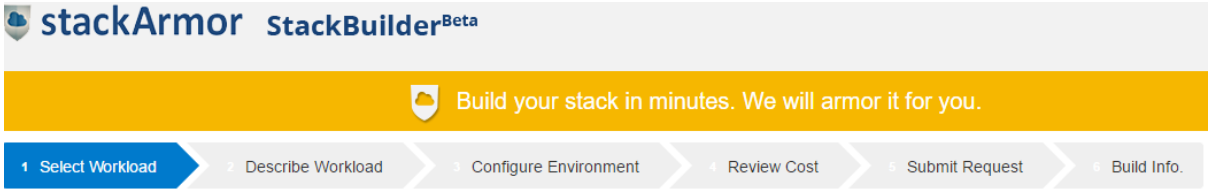
Secured hosting on AWS and PCI DSS Compliance

Amazon Web Services (AWS) provides a secure, elastic and compliant hosting environment with the requisite tools to ensure PCI-DSS compliance. The architectural blueprint for hosting applications and data in AWS includes:

1. Basic AWS identity and Access management configuration with custom IAM policies with associated groups, roles and instance policies.
2. Amazon Virtual Private Cloud multi A-Z architecture with separate subnets for different application tiers and private subnets for application and database.
3. Amazon simple storage service (Amazon S3) buckets for encrypted web content, logging and backup data.
4. Standard Amazon Virtual Private Cloud security groups for Amazon Elastic compute cloud instances and load balances used in the sample application stack
5. 3-tier Linux web application using Auto Scaling and Elastic Load balancing, which can be modified and /or boot strapped with customer applications
6. A secured bastion login host to facilitate command line secure shell access to Amazon EC2 instances for troubleshooting and systems administration activities.
7. Encrypted, Multi - AZ Amazon Relational Database service (Amazon RDS) MySQL database.
8. Logging, monitoring and alerts using AWS Cloud Trail, Amazon Cloud watch and AWS configuration rules.

The diagram below provides an overview of the architecture and solution elements for a PCI-DSS hosting environment on AWS.



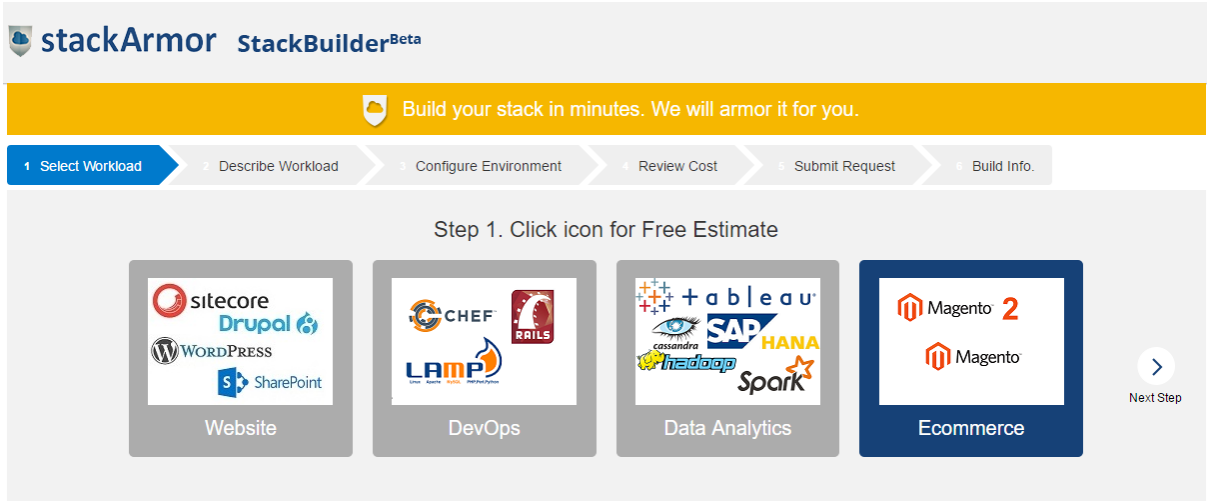


Jumpstart your PCI DSS compliant Web application in AWS

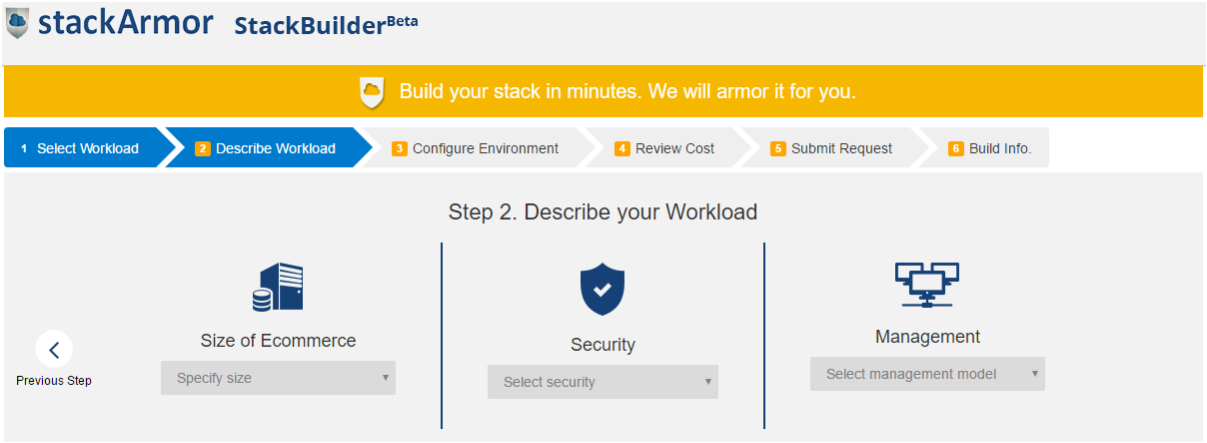
StackBuilder™ is an easy to use cloud app store front that allows users to quickly select and operate an AWS cloud hosted website, dev & test, data analytics or ecommerce service. The StackBuilder™ cloud app store allows users to quickly deploy and use their PCI DSS compliant e-commerce website hosted on AWS. StackBuilder's intelligent cloud deployment engine takes care of instance selection, AWS VPC configuration and software installation.

In order to get started with Magento e-commerce website on AWS application go to https://stackbuilder.stackarmor.com

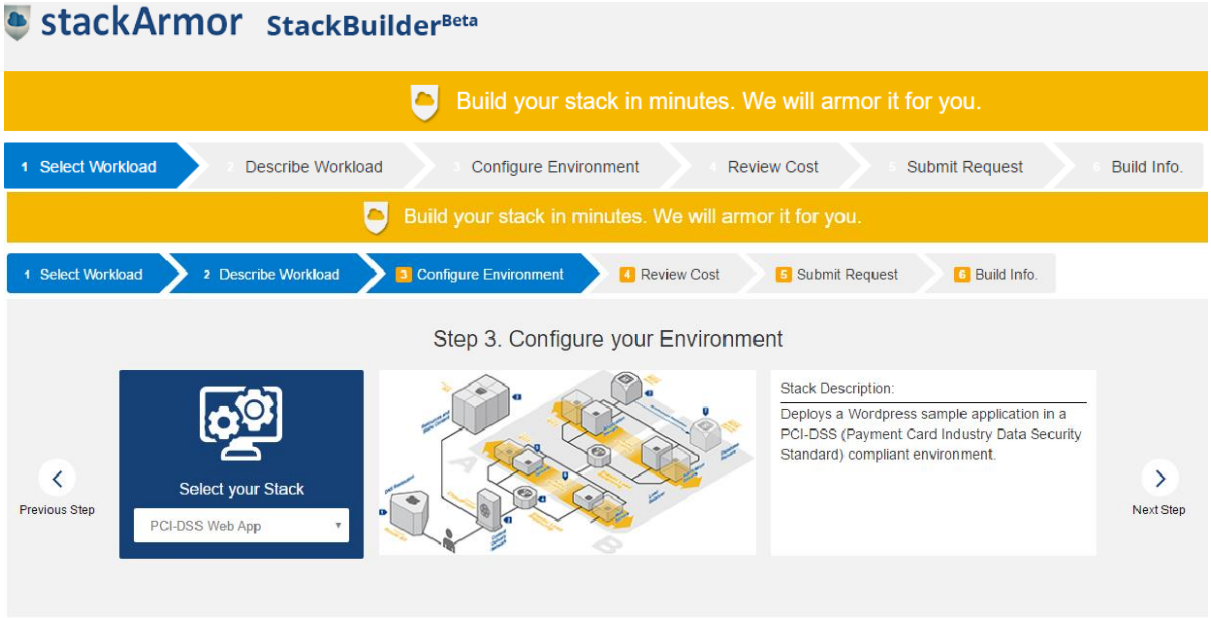
Step 1: Select E-commerce as the workload profile and click Next



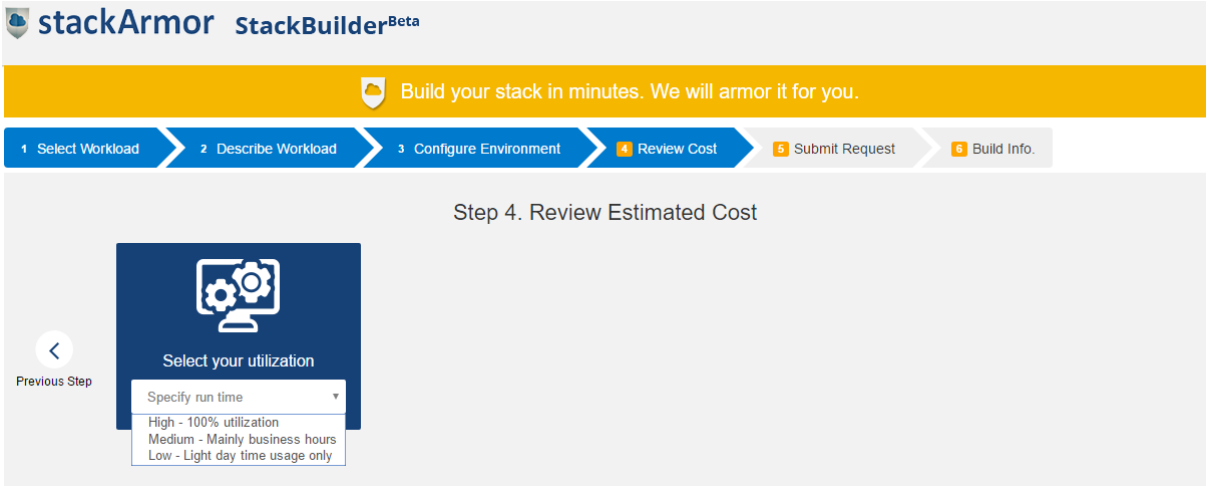
Step 2: Describe the workload environment in terms of size, security by industry and management model



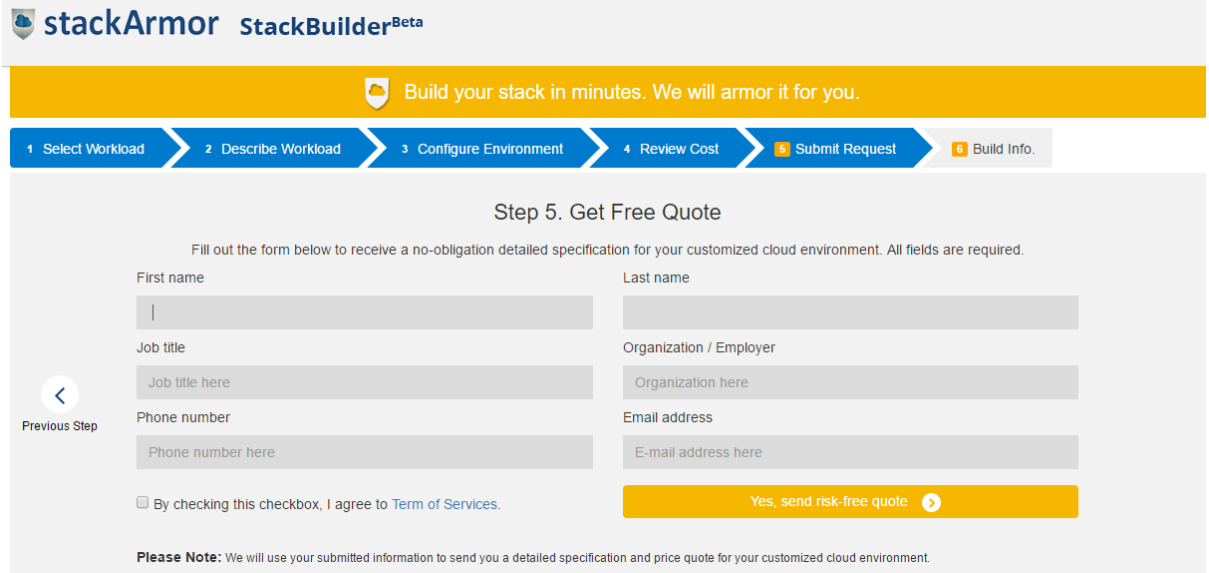
Step 3: Configure environment by selecting stack – PCI DSS Web App



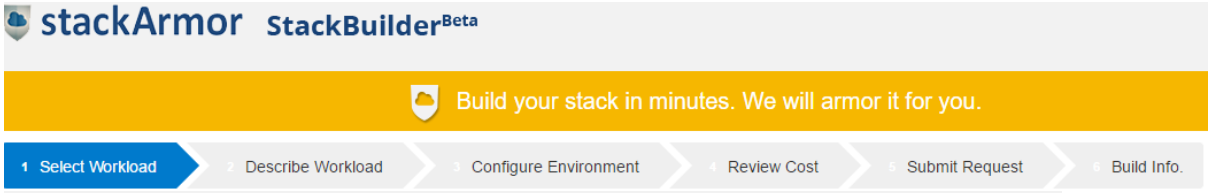
Step 4: Review Hosting Cost inclusive of software and maintenance fees

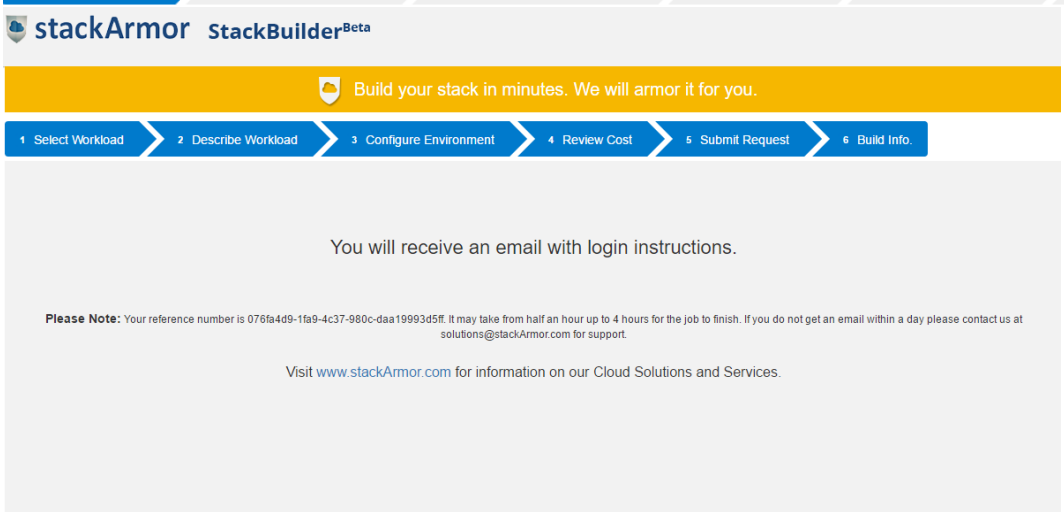


Step 5: Fill out form and submit request to provision environment. Once, the environment has been provisioned you will get an email with the access URL and a User Name & Password.

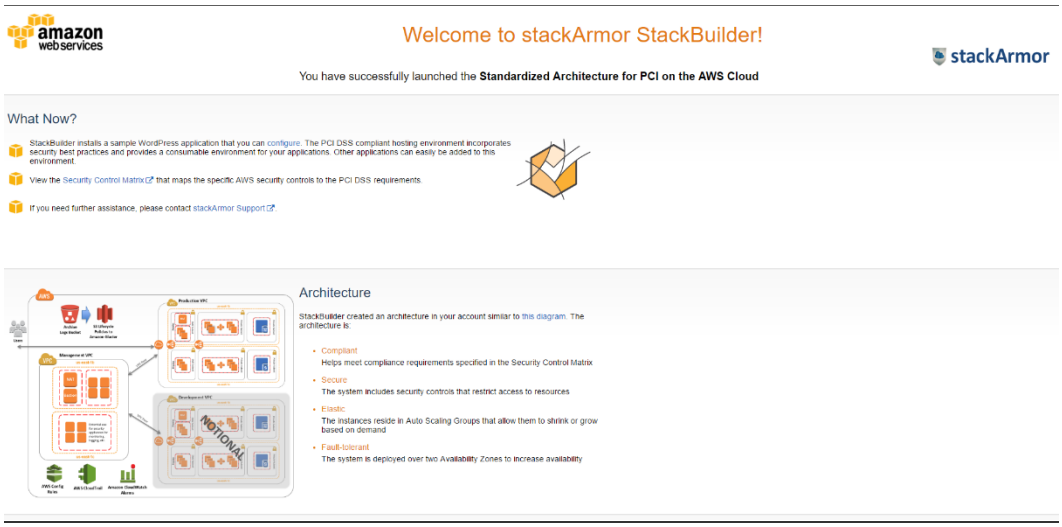


Step 6: Login into the e-commerce application





Step 7: You have now successfully launched the standardised architecture for PCI DSS

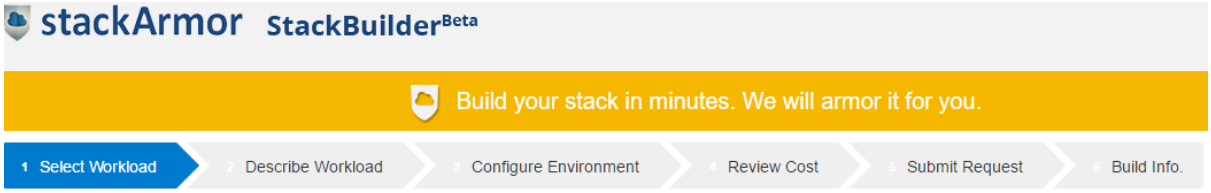


About stackArmor

stackArmor is a AWS Certified partner with experienced cybersecurity and AWS solution architects with an experience deploying compliant applications for Healthcare, Financial Services, Public Sector, Department of Defense and Commercial customers including Non-profits. We help customers in the following areas:

- AWS Cloud Architecture and Migration Services
- DevOps and Automation Architecture and Implementation Services
- AWS Managed Services and Cloud Operations
- AWS Value-Added Resale and Hosting Support Services
- Cybersecurity Compliance and Penetration Scanning Services

Additionally, we have an out-of-the-box solution - stackArmor StackBuilder™ is a “Turbo Tax” like wizard for helping application owners quickly configure a fully functional AWS environment. The wizard walks the user through a series of simple questions through a 5 step process. Upon submission



of the request, the user is presented with login credentials to a fully configured and operational environment ready to go.

StackBuilder™ has been designed and developed by cloud computing experts who have spent many years implementing secure cloud hosting environments for large security focused organizations such as the US Treasury, Defence, Healthcare, Commercial and Non-profit customers. StackBuilder™ automates the entire provisioning process using an advanced capacity planning and provisioning automation engine that makes it easy for users to leverage the power of the AWS cloud computing platform without having to get into the details of infrastructure estimation, provisioning and software media installation & configuration.

StackBuilder™ provides a rich and easy to use consumer-grade experience for non-technical users to jumpstart their projects by answering a series of simple questions. StackBuilder's intelligent provisioning and capacity estimation engine leverages the rich set of services provided by the AWS cloud platform including wide variety of EC2 instances, Virtual Private Cloud (VPC), Auto Scaling Groups, Clustering and Elastic Load Balancers (ELB) amongst others. The user of StackBuilder™ does not have to go through the various steps associated with configuring and setting up the AWS infrastructure as they are handled automatically. This allows the user to focus on his project without waiting for costly consultants or the need for cloud infrastructure expertise.

Please contact us at solutions@stackarmor.com or call at 888-964-1644.

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