Challenge 1 – Design and Orchestration

The outbreak is back with a vengeance. Society as we know it has fallen. Luckily, our billionaire friend has planned for this. His space tourism company has built a large base on the moon that is designed to support what is left of the human race, until the first colony on Mars is ready.

We must work quickly to evacuate what is left of the human race. Currently, there is only one space ship depot on earth, located in Cape Canaveral, Florida in the United States. Three more are being built as fast as possible, with additional to follow.

Each depot is capable of producing a launch ready ship in 72 hours. Larger ships are currently being designed. ANY malfunction of the manufacturing systems is catastrophic, and will cost precious human lives.

We need a completely orchestrated infrastructure that is highly reliable and easily deployable. We must ensure these sites are up and running as soon as possible.

We are expecting a design that includes the complete solution stack, from the infrastructure layer to the application layer.

The application that controls the depot has the following requirements: (Hint: These should be scalable)

- Client facing web layer
- Message queuing middle tier
- Database backend

In addition, please explain why you have decided to use your orchestration framework of choice.

Designs will be submitted in **PDF format, including diagrams, and all supporting documentation**. Your design should speak for itself, and your defense will support it with questions from the judges.