



## FAANG System Design Interview Structure

 সাধারণত সময়: 45–60 মিনিট

Interviewer তোমাকে কোনো random system দেবে না —  
সে দেখতে চায় তুমি কীভাবে ভাবো।

### Phase 1: Problem Understanding (5–7 min)

 এখানেই অনেক candidate fail করে।

তুমি কী করবে:

- Question clarify করবে
- Assumption confirm করবে

তুমি যেসব প্রশ্ন করবেই:

- User scale কত?
- Read vs write ratio?
- Latency requirement?
- Availability কতটা critical?

**Sample sentence (মুখস্থ রাখো):**

“Before designing, I’d like to clarify the requirements and constraints.”

 FAANG signal:

✓ তুমি blindly design শুরু করো না

✓ তুমি real-world engineer

### Phase 2: Functional & Non-Functional Requirements (5 min)

**Functional:**

- System কী কী করবে

Example:

- User message পাঠাতে পারবে
- Message read হবে

### Non-functional:

- Scale
- Latency
- Availability
- Consistency

Example:

“We need to support 10 million DAU with <200ms latency.”

📌 FAANG signal:

✓ তুমি priority বোঝো

✓ তুমি scale-aware

### ● Phase 3: High-Level Architecture (10 min)

এখানে diagram king 🏰

তুমি কী আঁকবে:

- Client
- Load Balancer
- API Gateway
- Services
- DB
- Cache

📌 বলবে:

“At a high level, the system consists of...”

✗ Low-level detail এখন না

📌 FAANG signal:

✓ Big picture thinking

#### ● Phase 4: Data Design (5–7 min)

তুমি explain করবে:

- Data model
- Tables / Collections
- Primary key
- Index

Example:

User(id, name)

Message(id, senderId, receiverId, timestamp)

📌 FAANG signal:

✓ Data-driven thinking

#### ● Phase 5: Deep Dive (10–15 min)

Interviewer এখানেই চাপ দেয় 🐼

**Topics:**

- Scaling strategy
- Caching
- Sharding
- Consistency
- Async processing

Example:

“To scale reads, we add Redis cache with read-through strategy.”

📌 FAANG signal:

✓ তুমি grow handle করতে পারো

### ● Phase 6: Bottlenecks & Failure Handling (5–7 min)

Interviewer জিজ্ঞেস করবে:

“What if this component goes down?”

তুমি বলবে:

- Replication
- Retry
- Circuit breaker
- Graceful degradation

📌 FAANG signal:

✓ Production experience mindset

### ● Phase 7: Trade-offs & Alternatives (5 min)

এটাই FAANG differentiator 💎

Example:

“We choose NoSQL here for scalability, but we lose strong consistency.”

📌 FAANG signal:

✓ Mature engineering judgement





### 🔄 Interview Flow (Short Version)

- 1 Clarify requirements
- 2 Define constraints
- 3 High-level design
- 4 Data model
- 5 Scale & optimize

6 Failure handling

7 Trade-offs

### **Common FAANG Mistakes**

-  Straight design শুরু
-  Assumption না বলা
-  Trade-off explain না করা
-  Diagram ছাড়া কথা

### **FAANG Golden Rule**

**“There is no perfect design, only well-justified decisions.”**

### **Interviewer খুশি হয় যখন তুমি বলো:**

- “At scale, this becomes a bottleneck...”
- “To optimize this, we can...”
- “The trade-off here is...”