

Data Architect interview questions

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What to expect

Data Architect interviews in Australia typically combine technical depth with stakeholder and governance scenarios, because the role sits between business strategy and engineering delivery.

- **Technical architecture:** Questions on data modelling, integration patterns, cloud platforms and performance tuning.
- **Governance and compliance:** Questions on Australian Privacy Principles, APRA CPS 234, data quality standards and metadata management.
- **Stakeholder and business alignment:** Questions on how you translate business needs into data architecture and manage competing priorities.
- **Scenario and problem-solving:** Hypothetical situations where you must balance delivery pressure, security and governance.
- **Behavioural:** Past examples of leading data projects, advising teams and handling migration challenges.

The process often starts with a recruiter screen, then a technical interview with a lead architect or engineering manager, followed by a panel that includes a business stakeholder or data governance lead. Some employers include a take-home design exercise or a whiteboard session on data integration or modelling.

1. Walk me through how you approach designing an enterprise data model for a new business domain.

Why they ask

Assesses methodical approach, understanding of modelling standards and ability to align with business requirements.

How to structure your answer

Walk-through of steps: discovery, conceptual model, logical model, physical model, validation with stakeholders, governance alignment.

Example answer

"First, I meet with business stakeholders to understand the domain, its key entities and how data flows between them. I document the business requirements and identify any regulatory constraints, such as privacy or reporting obligations. Then I create a conceptual model to show the main entities and relationships, review it with the business, and refine it into a logical model with attributes, keys and normalisation rules. Next, I work with engineers to translate that into a physical model for the chosen platform, whether that is Microsoft SQL Server, Snowflake or Databricks. Throughout, I check the model against data governance standards and existing enterprise models to avoid duplication. Finally, I validate the design with a sample of real data and get sign-off from the data governance lead before implementation."

2. Tell me about a time you had to align data architecture with a regulatory requirement, such as the Australian Privacy Principles or APRA CPS 234.

Why they ask

Tests practical governance experience and Australian regulatory awareness.

How to structure your answer

STAR: Situation, Task, Action, Result. Result should show improved compliance or reduced risk using counts or time, not percentages.

Example answer

"In a financial services project, we needed to ensure customer data flows complied with the Australian Privacy Principles and APRA CPS 234. The existing architecture had data spread across several systems with inconsistent access controls. My task was to design a solution that enforced privacy by design and provided audit trails. I mapped all data flows, identified where personal information was stored, and introduced a metadata layer using Collibra to tag sensitive data. I also worked with security to apply role-based access and encryption. As a result, the project passed its internal audit on the first attempt, and the data governance team could trace access to sensitive records across four systems within minutes rather than days."

3. A project team wants to bypass data governance standards to meet a deadline. How do you handle that?

Why they ask

Assesses ability to balance delivery pressure with governance and stakeholder management.

How to structure your answer

Judgement under pressure: acknowledge pressure, restate risks, propose pragmatic path, escalate if needed, document decision.

Example answer

"I would start by acknowledging the deadline pressure and asking what specific governance step is causing the delay. Often there is a pragmatic way to meet both needs, such as automating a manual approval or applying a temporary exception with a documented remediation plan. I would explain the risks of bypassing standards, including privacy breaches, poor data quality and audit findings. If the team still wants to proceed, I would escalate to the data governance lead and the project sponsor so the decision is made at the right level. Whatever the outcome, I would document the exception, the associated risks and the agreed timeline for compliance. My goal is to keep delivery moving without creating a hidden liability."

4. How do you evaluate whether a data integration or migration strategy will scale?

Why they ask

Tests technical depth in integration, performance and cloud.

How to structure your answer

Explain criteria: volume, velocity, variety, latency, cost, security, tooling, testing. Give examples from your experience.

Example answer

"I look at volume, velocity and variety of data, plus latency requirements. For a migration to Snowflake, I would assess current data volumes and projected growth, then test batch and streaming options. I check whether the chosen tools, such as Databricks for transformation, can handle the throughput without excessive cost. Security is part of scalability: access controls and encryption must work at scale. I also run a pilot with production-like data to measure performance and identify bottlenecks. Finally, I review the design with engineers and operations to confirm it can be monitored and maintained. If the strategy cannot scale, I would propose an alternative pattern, such as partitioning or a different ingestion method."

5. Describe a time you advised a project team on a data architecture decision that saved them from a costly mistake.

Why they ask

Assesses influence, business requirements analysis and technical judgement.

How to structure your answer

STAR: Situation, Task, Action, Result. Result can be measured in time saved or rework avoided.

Example answer

"A project team planned to build a separate data mart for a new reporting requirement, duplicating customer data that already existed in the enterprise warehouse. I reviewed their design and identified that the duplication would create inconsistent reporting and double the maintenance effort. My task was to show them a better path. I ran a workshop to map their requirements to existing data assets and demonstrated how a view or a governed data set could meet their needs. I also worked with the data governance team to add the necessary attributes to the enterprise model. As a result, the team avoided building and maintaining a redundant system, and reporting timelines improved because they used trusted data from the outset."

6. How do you manage stakeholders who have competing priorities for data access and quality?

Why they ask

Tests communication, negotiation and data governance skills.

How to structure your answer

Explain approach: understand needs, map to data governance, propose trade-offs, document agreements, follow up.

Example answer

"I start by meeting each stakeholder to understand what decision they need to make with the data and what quality level is acceptable. Often the conflict is about access speed versus control. I map their needs to the data governance framework and propose a tiered approach: for example, a governed data set for regulatory reporting and a faster, less controlled view for exploratory analysis, with clear labels. I document the trade-offs and get agreement on data quality thresholds and refresh schedules. If priorities still conflict, I escalate to a data governance committee or the chief data officer. Regular check-ins help ensure the agreement still works as business needs change. The aim is to be transparent about trade-offs rather than promise everything to everyone."