# Atlassian – Senior Data Engineer Interview Cheat Sheet

Python String Manipulation & JSON Parsing (Interview Range)

## 1. What Atlassian Expects (Senior Data Engineer)

• Clean, readable, production-quality Python
• Strong handling of semi-structured data (JSON, logs, events)
• Edge-case awareness and performance trade-offs
• Ability to reason about scale (millions/billions of records)
• Clear communication while coding

## 2. High-Frequency String Operations

strip(), split(), join(), replace()
startswith(), endswith()
find() vs index()
lower(), upper(), casefold()
count(), slicing (s[a:b:c])
Immutable → create new strings

## 3. Interview-Style Input Parsing

Read input as string → clean → parse
Handle extra spaces, empty lines, malformed input
Use try/except for safe parsing
Avoid regex unless clearly beneficial

## 4. JSON Parsing Essentials

json.loads() → parse API/event payloads
json.dumps() → serialize output
Prefer dict.get() over direct indexing
Validate keys before access
Understand list vs dict nesting

## 5. Nested JSON Access Patterns

data.get('a', {}).get('b', [])
Loop lists, not dicts by default
Guard against missing/null fields
Flatten JSON for analytics use cases

## 6. Common Transformations (Data Engineering)

Normalize keys (snake_case)
Filter events by type/status

Aggregate counts and metrics
Convert timestamps (ISO → epoch)
Deduplicate using sets or dict keys

## 7. Performance & Scale Considerations

O(n) single-pass parsing preferred
Avoid repeated string concatenation
Stream large JSON when possible
Memory vs speed trade-offs
Design logic to scale to billions of rows (Spark later)

## 8. Typical Atlassian Interview Questions

Parse logs/events and compute metrics
Clean malformed strings from input
Flatten nested JSON payloads
Group and aggregate event data
Explain how this scales in Spark/Databricks

## 9. Senior-Level Interview Tips

Explain assumptions before coding
Name variables clearly
Mention scalability even for Python-only tasks
Discuss production implications
Test edge cases verbally