

Why Toad?

Introduction

Toad for Oracle is a world-class enterprise query-develop-tune-administration tool for the Oracle database platform. This document attempts to differentiate Toad from the *average* Oracle IDE or query tool so that the reader can make an informed decision to invest in the Toad product family.

Following is a list of features and concepts that most commercial and even freeware offerings strive to deliver. Each feature will demonstrate clearly how Toad rises above the competition. If you can live with only the lowest-common-denominator features, then Toad may not be an easy sell. If, however, you need a tool to rescue from hairy situations, tune your systems, and automate those painful daily tasks, then Toad should be a clear winner.

Connectivity

Tools offer connectivity to the database in one of 3 ways:

1. ODBC
2. JDBC
3. OCI/SQL*NET/Oracle native

ODBC and JDBC tools are often less efficient and less powerful than your Oracle native connectivity tools. It should be noted that Toad uses the native connectivity (and thus requires an oracle client to be installed) and supports Oracle v7, v8, v8i, v9i, v9iR2, v10R1, v10gR2, & v11gR1. If you have an older v7 or v8 database lying around, make SURE that the tool you are evaluating offers full connectivity and support for those databases.

Number of Connections

In addition, you will want to make sure your tool can connect to more than one instance of a database. A single instance of Toad can connect to as many databases you need, allowing for scripts to be executed against one or many databases, comparing objects across servers, and much more.

Passwords

Most tools will allow the end-user to save their password for their connections. Toad allows a database administrator or IT engineer to allow or deny this practice for their organization inside the Toad application. In addition, any saved password is encrypted using the government approved AES32 level of encryption.

IDE Features

Most query tools provide a scratch-pad editor for developing SQL and PL/SQL in the form of ad-hoc queries, anonymous blocks, SQL*Plus scripts, and stored procedures. Following is a list of features that would be on most 'must have' check-lists:

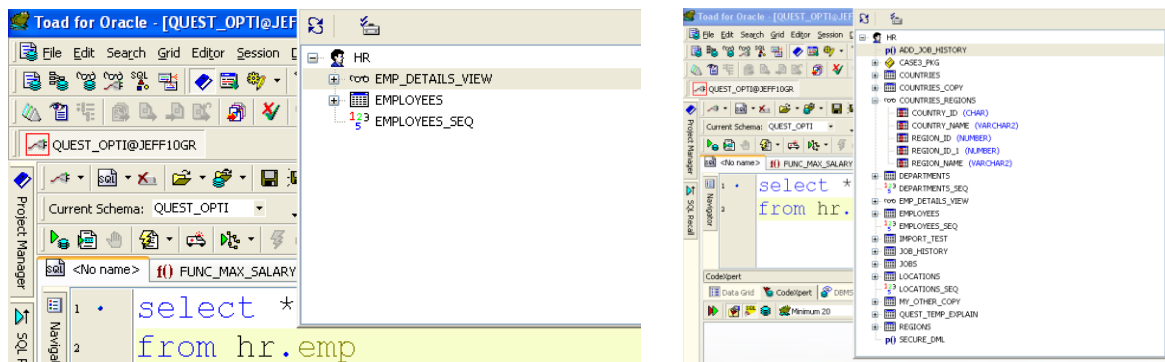
- write and execute queries
- save said queries
- generate execution plans
- compile, execute, & debug PL/SQL
- share & re-use code
- format/beautify code.

SQL query writing

If you run a query statement, you expect to get the proper result set back, generally in the form of a grid that mimics a spreadsheet. From this grid, you should be able to get the data out in a format you need to continue working with the data. Every Oracle tool available today, with the exception of SQL*Plus, delivers on this workflow. So how does Toad go 'above and beyond'?

Code Insight

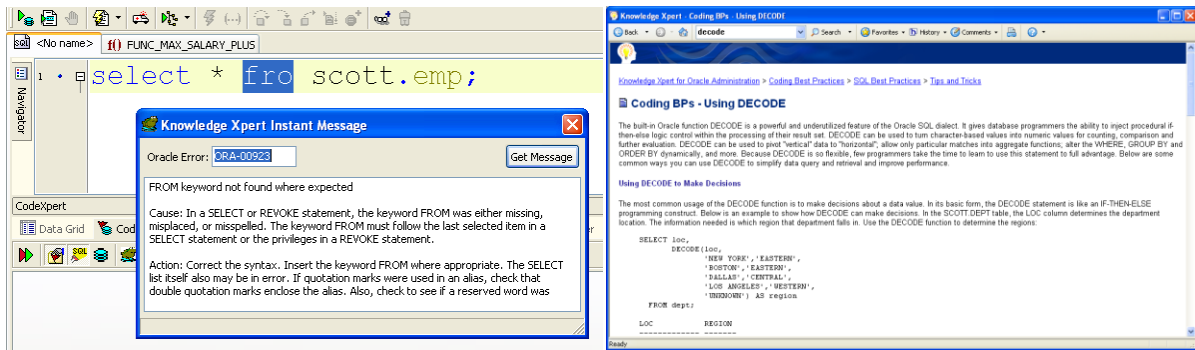
As you write your query, Toad will attempt to finish it off for you. Many tools have this, but they lack the completeness and depth that Toad offers. For example, Toad can investigate the contents of the entire database and invoke any/all objects in the database whereas most tools will limit you to tables, views, & synonyms. In addition, Toad allows the developer to begin typing the object name and then complete it on demand.



Toad also allows you to multi-select from these 'pick lists' for even faster development.

Error Handling

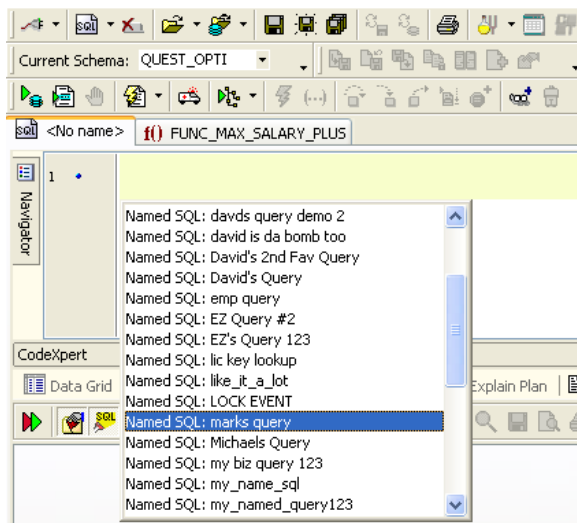
Most tools will show you any error message that you encounter while attempting to run a query or command. Toad on the other hand offers to give you the full Oracle error message documentation on demand. Toad has all of the error messages (not just the ORA's) from v7 to 11g. In addition, users can add custom notes for an error message to remind themselves of strategies they have used previously to address their problems. This is all available without an internet connection or relying on the results of random Google searches.



An entire library on SQL and PL/SQL available directly in the editor.

Saving Queries

Every editor will have a 'File > Save' option. And most tools offer to recall SQL queries you have written and executed previously. Toad allows you to easily cycle through your recent queries in the editor with a single keystroke, or call up your favorite query by name instead of trying to recognize some esoteric SQL syntax you wrote several weeks or months ago. In addition, Toad allows you to create projects and manage your critical queries directly from there. This allows you to invoke them by project/application or share them with your fellow teammates.



Executing Queries

A query tool should be able to run a query. However, Toad takes it up a notch in several different ways:

- Can execute multiple queries and bring back results in standard output and multiple data grids
- Can emulate SQL*Plus behavior and honor SQL*Plus commands such as LINESIZE, SPOOL, etc
- Can execute multiple SQL scripts against multiple databases simultaneously
- Can schedule a query to run at specific time and have the output automatically emailed to an end user
- Can auto-connect to SQL*Plus and execute queries there instead

Script Output

SQL> set linesize 200
SQL> select * from scott.emp

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	Allen	SALESMAN	7698	20-FEB-81	1600	301	30
7521	WARD	SALESMAN	7698	17-JUN-80	1250	501	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7664	MARTIN	SALESMAN	7698	10-SEP-81	1250	1401	30

1 sec Row 1 of 214 total rows QUEST_OPTI@JEFF10GR Modified

DEPTNO	DNAME	LOC
10	Accounting	NYC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS

Execute your one or more queries the way you WANT to.

Executing Stored Procedures

If your program returns a REF CURSOR or Collection, Toad can grab that information and display it for you. If it is a REF CURSOR, we can put it into a data grid. If it is a COLLECTION, we can build a DBMS_OUTPUT script to display your collection for you.

Execution Plans

Any query tool should be able to show an execution plan for a query you are trying to debug or tune. Toad takes it to the next level by:

- Making the plans easy to read
- Allowing you to customize the content of the plan
- Allowing you to see the objects used (indexes, views, tables, etc) so you can quickly determine if your tuning is taking effect
- See the ACTUAL plan being used when executing via the Session Browser and the V\$SQL_PLAN view
- See all queries/plans cached with execution/usage statistics in the SGA Trace window
- Get help reading plans with documented plan steps
- Easily compare plans side-by-side to see differences
- Generate alternative plans by automatically re-writing your SQL
- Enable AutoTrace or full blown Tracing for additional information in a single-click

Execution Plan

SQL> SELECT STATEMENT ALL_ROWS

1.000 35,902,337 57.46

2. 23,824

3. 15,463

4. NESTED-LOOPS

5. TABLE ACCESS BY INDEX ROWID CLUSTER SYS_USERS

6. INDEX UNIQUE SCAN SYS_USERS Search Column: 1

7. TABLE ACCESS CLUSTER SYS_TSF

8. TABLE ACCESS CLUSTER SYS_TSF Search Column: 1

9. INDEX UNIQUE SCAN SYS_TSF Search Column: 1

10. TABLE ACCESS CLUSTER SYS_TSF

11. TABLE ACCESS CLUSTER SYS_TSF Search Column: 1

12. INDEX UNIQUE SCAN SYS_TSF Search Column: 1

13. TABLE ACCESS CLUSTER SYS_TSF

14. VIEW VIEW SYS_TSF_VIEW

15. VIEW VIEW SYS_TSF_VIEW

16. UNION-ALL

17. UNION-ALL

18. UNION-ALL

19. UNION-ALL

20. UNION-ALL

21. UNION-ALL

22. UNION-ALL

23. UNION-ALL

24. UNION-ALL

25. UNION-ALL

26. UNION-ALL

27. UNION-ALL

28. UNION-ALL

29. UNION-ALL

30. UNION-ALL

31. UNION-ALL

32. UNION-ALL

33. UNION-ALL

34. UNION-ALL

35. UNION-ALL

36. UNION-ALL

37. UNION-ALL

38. UNION-ALL

39. UNION-ALL

40. UNION-ALL

41. UNION-ALL

42. UNION-ALL

43. UNION-ALL

44. UNION-ALL

45. UNION-ALL

46. UNION-ALL

47. UNION-ALL

48. UNION-ALL

49. UNION-ALL

50. UNION-ALL

51. UNION-ALL

52. UNION-ALL

53. UNION-ALL

54. UNION-ALL

55. UNION-ALL

56. UNION-ALL

57. UNION-ALL

58. UNION-ALL

59. UNION-ALL

60. UNION-ALL

61. UNION-ALL

62. UNION-ALL

63. UNION-ALL

64. UNION-ALL

65. UNION-ALL

66. UNION-ALL

67. UNION-ALL

68. UNION-ALL

69. UNION-ALL

70. UNION-ALL

71. UNION-ALL

72. UNION-ALL

73. UNION-ALL

74. UNION-ALL

75. UNION-ALL

76. UNION-ALL

77. UNION-ALL

78. UNION-ALL

79. UNION-ALL

80. UNION-ALL

81. UNION-ALL

82. UNION-ALL

83. UNION-ALL

84. UNION-ALL

85. UNION-ALL

86. UNION-ALL

87. UNION-ALL

88. UNION-ALL

89. UNION-ALL

90. UNION-ALL

91. UNION-ALL

92. UNION-ALL

93. UNION-ALL

94. UNION-ALL

95. UNION-ALL

96. UNION-ALL

97. UNION-ALL

98. UNION-ALL

99. UNION-ALL

100. UNION-ALL

101. UNION-ALL

102. UNION-ALL

103. UNION-ALL

104. UNION-ALL

105. UNION-ALL

106. UNION-ALL

107. UNION-ALL

108. UNION-ALL

109. UNION-ALL

110. UNION-ALL

111. UNION-ALL

112. UNION-ALL

113. UNION-ALL

114. UNION-ALL

115. UNION-ALL

116. UNION-ALL

117. UNION-ALL

118. UNION-ALL

119. UNION-ALL

120. UNION-ALL

121. UNION-ALL

122. UNION-ALL

123. UNION-ALL

124. UNION-ALL

125. UNION-ALL

126. UNION-ALL

127. UNION-ALL

128. UNION-ALL

129. UNION-ALL

130. UNION-ALL

131. UNION-ALL

132. UNION-ALL

133. UNION-ALL

134. UNION-ALL

135. UNION-ALL

136. UNION-ALL

137. UNION-ALL

138. UNION-ALL

139. UNION-ALL

140. UNION-ALL

141. UNION-ALL

142. UNION-ALL

143. UNION-ALL

144. UNION-ALL

145. UNION-ALL

146. UNION-ALL

147. UNION-ALL

148. UNION-ALL

149. UNION-ALL

150. UNION-ALL

151. UNION-ALL

152. UNION-ALL

153. UNION-ALL

154. UNION-ALL

155. UNION-ALL

156. UNION-ALL

157. UNION-ALL

158. UNION-ALL

159. UNION-ALL

160. UNION-ALL

161. UNION-ALL

162. UNION-ALL

163. UNION-ALL

164. UNION-ALL

165. UNION-ALL

166. UNION-ALL

167. UNION-ALL

168. UNION-ALL

169. UNION-ALL

170. UNION-ALL

171. UNION-ALL

172. UNION-ALL

173. UNION-ALL

174. UNION-ALL

175. UNION-ALL

176. UNION-ALL

177. UNION-ALL

178. UNION-ALL

179. UNION-ALL

180. UNION-ALL

181. UNION-ALL

182. UNION-ALL

183. UNION-ALL

184. UNION-ALL

185. UNION-ALL

186. UNION-ALL

187. UNION-ALL

188. UNION-ALL

189. UNION-ALL

190. UNION-ALL

191. UNION-ALL

192. UNION-ALL

193. UNION-ALL

194. UNION-ALL

195. UNION-ALL

196. UNION-ALL

197. UNION-ALL

198. UNION-ALL

199. UNION-ALL

200. UNION-ALL

201. UNION-ALL

202. UNION-ALL

203. UNION-ALL

204. UNION-ALL

205. UNION-ALL

206. UNION-ALL

207. UNION-ALL

208. UNION-ALL

209. UNION-ALL

210. UNION-ALL

211. UNION-ALL

212. UNION-ALL

213. UNION-ALL

214. UNION-ALL

215. UNION-ALL

216. UNION-ALL

217. UNION-ALL

218. UNION-ALL

219. UNION-ALL

220. UNION-ALL

221. UNION-ALL

222. UNION-ALL

223. UNION-ALL

224. UNION-ALL

225. UNION-ALL

226. UNION-ALL

227. UNION-ALL

228. UNION-ALL

229. UNION-ALL

230. UNION-ALL

231. UNION-ALL

232. UNION-ALL

233. UNION-ALL

234. UNION-ALL

235. UNION-ALL

236. UNION-ALL

237. UNION-ALL

238. UNION-ALL

239. UNION-ALL

240. UNION-ALL

241. UNION-ALL

242. UNION-ALL

243. UNION-ALL

244. UNION-ALL

245. UNION-ALL

246. UNION-ALL

247. UNION-ALL

248. UNION-ALL

249. UNION-ALL

250. UNION-ALL

251. UNION-ALL

252. UNION-ALL

253. UNION-ALL

254. UNION-ALL

255. UNION-ALL

256. UNION-ALL

257. UNION-ALL

258. UNION-ALL

259. UNION-ALL

260. UNION-ALL

261. UNION-ALL

262. UNION-ALL

263. UNION-ALL

264. UNION-ALL

265. UNION-ALL

266. UNION-ALL

267. UNION-ALL

268. UNION-ALL

269. UNION-ALL

270. UNION-ALL

271. UNION-ALL

272. UNION-ALL

273. UNION-ALL

274. UNION-ALL

275. UNION-ALL

276. UNION-ALL

277. UNION-ALL

278. UNION-ALL

279. UNION-ALL

280. UNION-ALL

281. UNION-ALL

282. UNION-ALL

283. UNION-ALL

284. UNION-ALL

285. UNION-ALL

286. UNION-ALL

287. UNION-ALL

288. UNION-ALL

289. UNION-ALL

290. UNION-ALL

291. UNION-ALL

292. UNION-ALL

293. UNION-ALL

294. UNION-ALL

295. UNION-ALL

296. UNION-ALL

297. UNION-ALL

298. UNION-ALL

299. UNION-ALL

300. UNION-ALL

301. UNION-ALL

302. UNION-ALL

303. UNION-ALL

304. UNION-ALL

305. UNION-ALL

306. UNION-ALL

307. UNION-ALL

308. UNION-ALL

309. UNION-ALL

310. UNION-ALL

311. UNION-ALL

312. UNION-ALL

313. UNION-ALL

314. UNION-ALL

315. UNION-ALL

316. UNION-ALL

317. UNION-ALL

318. UNION-ALL

319. UNION-ALL

320. UNION-ALL

321. UNION-ALL

322. UNION-ALL

323. UNION-ALL

324. UNION-ALL

325. UNION-ALL

326. UNION-ALL

327. UNION-ALL

328. UNION-ALL

329. UNION-ALL

330. UNION-ALL

331. UNION-ALL

332. UNION-ALL

333. UNION-ALL

334. UNION-ALL

335. UNION-ALL

336. UNION-ALL

337. UNION-ALL

338. UNION-ALL

339. UNION-ALL

340. UNION-ALL

341. UNION-ALL

342. UNION-ALL

343. UNION-ALL

344. UNION-ALL

345. UNION-ALL

346. UNION-ALL

347. UNION-ALL

348. UNION-ALL

349. UNION-ALL

350. UNION-ALL

351. UNION-ALL

352. UNION-ALL

353. UNION-ALL

354. UNION-ALL

355. UNION-ALL

356. UNION-ALL

357. UNION-ALL

358. UNION-ALL

359. UNION-ALL

360. UNION-ALL

361. UNION-ALL

362. UNION-ALL

363. UNION-ALL

364. UNION-ALL

365. UNION-ALL

366. UNION-ALL

367. UNION-ALL

368. UNION-ALL

369. UNION-ALL

370. UNION-ALL

371. UNION-ALL

372. UNION-ALL

373. UNION-ALL

374. UNION-ALL

375. UNION-ALL

376. UNION-ALL

377. UNION-ALL

378. UNION-ALL

379. UNION-ALL

380. UNION-ALL

381. UNION-ALL

382. UNION-ALL

383. UNION-ALL

384. UNION-ALL

385. UNION-ALL

386. UNION-ALL

387. UNION-ALL

388. UNION-ALL

389. UNION-ALL

390. UNION-ALL

391. UNION-ALL

392. UNION-ALL

393. UNION-ALL

394. UNION-ALL

395. UNION-ALL

396. UNION-ALL

397. UNION-ALL

398. UNION-ALL

399. UNION-ALL

400. UNION-ALL

401. UNION-ALL

402. UNION-ALL

403. UNION-ALL

404. UNION-ALL

405. UNION-ALL

406. UNION-ALL

407. UNION-ALL

408. UNION-ALL

409. UNION-ALL

410. UNION-ALL

411. UNION-ALL

412. UNION-ALL

413. UNION-ALL

414. UNION-ALL

415. UNION-ALL

416. UNION-ALL

417. UNION-ALL

418. UNION-ALL

419. UNION-ALL

420. UNION-ALL

421. UNION-ALL

422. UNION-ALL

423. UNION-ALL

424. UNION-ALL

425. UNION-ALL

426. UNION-ALL

427. UNION-ALL

428. UNION-ALL

429. UNION-ALL

430. UNION-ALL

431. UNION-ALL

432. UNION-ALL

433. UNION-ALL

434. UNION-ALL

435. UNION-ALL

436. UNION-ALL

437. UNION-ALL

438. UNION-ALL

439. UNION-ALL

440. UNION-ALL

441. UNION-ALL

442. UNION-ALL

443. UNION-ALL

444. UNION-ALL

445. UNION-ALL

446. UNION-ALL

447. UNION-ALL

448. UNION-ALL

449. UNION-ALL

450. UNION-ALL

451. UNION-ALL

452. UNION-ALL

453. UNION-ALL

454. UNION-ALL

455. UNION-ALL

456. UNION-ALL

457. UNION-ALL

458. UNION-ALL

459. UNION-ALL

460. UNION-ALL

461. UNION-ALL

462. UNION-ALL

463. UNION-ALL

464. UNION-ALL

465. UNION-ALL

466. UNION-ALL

467. UNION-ALL

468. UNION-ALL

469. UNION-ALL

470. UNION-ALL

471. UNION-ALL

472. UNION-ALL

473. UNION-ALL

474. UNION-ALL

475. UNION-ALL

476. UNION-ALL

477. UNION-ALL

478. UNION-ALL

479. UNION-ALL

480. UNION-ALL

481. UNION-ALL

482. UNION-ALL

483. UNION-ALL

484. UNION-ALL

485. UNION-ALL

486. UNION-ALL

487. UNION-ALL

488. UNION-ALL

489. UNION-ALL

490. UNION-ALL

491. UNION-ALL

492. UNION-ALL

493. UNION-ALL

494. UNION-ALL

495. UNION-ALL

496. UNION-ALL

497. UNION-ALL

498. UNION-ALL

499. UNION-ALL

500. UNION-ALL

501. UNION-ALL

502. UNION-ALL

503. UNION-ALL

504. UNION-ALL

505. UNION-ALL

506. UNION-ALL

507. UNION-ALL

508. UNION-ALL

509. UNION-ALL

510. UNION-ALL

511. UNION-ALL

512. UNION-ALL

513. UNION-ALL

514. UNION-ALL

515. UNION-ALL

516. UNION-ALL

517. UNION-ALL

518. UNION-ALL

519. UNION-ALL

520. UNION-ALL

521. UNION-ALL

522. UNION-ALL

523. UNION-ALL

524. UNION-ALL

525. UNION-ALL

526. UNION-ALL

527. UNION-ALL

528. UNION-ALL

529. UNION-ALL

530. UNION-ALL

531. UNION-ALL

532. UNION-ALL

533. UNION-ALL

534. UNION-ALL

535. UNION-ALL

536. UNION-ALL

537. UNION-ALL

538. UNION-ALL

539. UNION-ALL

540. UNION-ALL

541. UNION-ALL

542. UNION-ALL

543. UNION-ALL

544. UNION-ALL

545. UNION-ALL

546. UNION-ALL

547. UNION-ALL

548. UNION-ALL

549. UNION-ALL

550. UNION-ALL

551. UNION-ALL

552. UNION-ALL

553. UNION-ALL

554. UNION-ALL

555. UNION-ALL

556. UNION-ALL

557. UNION-ALL

558. UNION-ALL

559. UNION-ALL

560. UNION-ALL

561. UNION-ALL

562. UNION-ALL

563. UNION-ALL

564. UNION-ALL

565. UNION-ALL

566. UNION-ALL

567. UNION-ALL

568. UNION-ALL

569. UNION-ALL

570. UNION-ALL

571. UNION-ALL

572. UNION-ALL

573. UNION-ALL

574. UNION-ALL

575. UNION-ALL

576. UNION-ALL

577. UNION-ALL

578. UNION-ALL

579. UNION-ALL

580. UNION-ALL

581. UNION-ALL

582. UNION-ALL

583. UNION-ALL

584. UNION-ALL

585. UNION-ALL

586. UNION-ALL

587. UNION-ALL

588. UNION-ALL

589. UNION-ALL

590. UNION-ALL

591. UNION-ALL

592. UNION-ALL

593. UNION-ALL

594. UNION-ALL

595. UNION-ALL

596. UNION-ALL

597. UNION-ALL

598. UNION-ALL

599. UNION-ALL

600. UNION-ALL

601. UNION-ALL

602. UNION-ALL

603. UNION-ALL

604. UNION-ALL

605. UNION-ALL

606. UNION-ALL

607. UNION-ALL

608. UNION-ALL

609. UNION-ALL

610. UNION-ALL

611. UNION-ALL

612. UNION-ALL

613. UNION-ALL

614. UNION-ALL

615. UNION-ALL

616. UNION-ALL

617. UNION-ALL

618. UNION-ALL

619. UNION-ALL

620. UNION-ALL

621. UNION-ALL

622. UNION-ALL

623. UNION-ALL

624. UNION-ALL

625. UNION-ALL

626. UNION-ALL

627. UNION-ALL

628. UNION-ALL

629. UNION-ALL

630. UNION-ALL

631. UNION-ALL

632. UNION-ALL

633. UNION-ALL

634. UNION-ALL

635. UNION-ALL

636. UNION-ALL

637. UNION-ALL

638. UNION-ALL

639. UNION-ALL

640. UNION-ALL

641. UNION-ALL

642. UNION-ALL

643. UNION-ALL

644. UNION-ALL

645. UNION-ALL

646. UNION-ALL

647. UNION-ALL

648. UNION-ALL

649. UNION-ALL

650. UNION-ALL

651. UNION-ALL

652. UNION-ALL

653. UNION-ALL

654. UNION-ALL

655. UNION-ALL

656. UNION-ALL

657. UNION-ALL

658. UNION-ALL

659. UNION-ALL

660. UNION-ALL

661. UNION-ALL

662. UNION-ALL

663. UNION-ALL

664. UNION-ALL

665. UNION-ALL

666. UNION-ALL

667. UNION-ALL

668. UNION-ALL

669. UNION-ALL

670. UNION-ALL

671. UNION-ALL

672. UNION-ALL

673. UNION-ALL

674. UNION-ALL

675. UNION-ALL

676. UNION-ALL

677. UNION-ALL

678. UNION-ALL

679. UNION-ALL

680. UNION-ALL

681. UNION-ALL

682. UNION-ALL

683. UNION-ALL

684. UNION-ALL

685. UNION-ALL

686. UNION-ALL

687. UNION-ALL

688. UNION-ALL

689. UNION-ALL

690. UNION-ALL

691. UNION-ALL

692. UNION-ALL

693. UNION-ALL

694. UNION-ALL

695. UNION-ALL

696. UNION-ALL

697. UNION-ALL

698. UNION-ALL

699. UNION-ALL

700. UNION-ALL

701. UNION-ALL

702. UNION-ALL

703. UNION-ALL

704. UNION-ALL

705. UNION-ALL

706. UNION-ALL

707. UNION-ALL

708. UNION-ALL

709. UNION-ALL

710. UNION-ALL

711. UNION-ALL

712. UNION-ALL

713. UNION-ALL

714. UNION-ALL

715. UNION-ALL

716. UNION-ALL

717. UNION-ALL

718. UNION-ALL

719. UNION-ALL

720. UNION-ALL

721. UNION-ALL

722. UNION-ALL

723. UNION-ALL

724. UNION-ALL

725. UNION-ALL

726. UNION-ALL

727. UNION-ALL

728. UNION-ALL

729. UNION-ALL

730. UNION-ALL

731. UNION-ALL

732. UNION-ALL

733. UNION-ALL

734. UNION-ALL

735. UNION-ALL

736. UNION-ALL

737. UNION-ALL

738. UNION-ALL

739. UNION-ALL

740. UNION-ALL

741. UNION-ALL

742. UNION-ALL

743. UNION-ALL

744. UNION-ALL

745. UNION-ALL

746. UNION-ALL

747. UNION-ALL

748. UNION-ALL

749. UNION-ALL

750. UNION-ALL

751. UNION-ALL

752. UNION-ALL

753. UNION-ALL

754. UNION-ALL

755. UNION-ALL

756. UNION-ALL

757. UNION-ALL

758. UNION-ALL

759. UNION-ALL

760. UNION-ALL

761. UNION-ALL

762. UNION-ALL

763. UNION-ALL

764. UNION-ALL

765. UNION-ALL

766. UNION-ALL

767. UNION-ALL

768. UNION-ALL

769. UNION-ALL

770. UNION-ALL

771. UNION-ALL

772. UNION-ALL

773. UNION-ALL

774. UNION-ALL

775. UNION-ALL

776. UNION-ALL

777. UNION-ALL

778. UNION-ALL

779. UNION-ALL

780. UNION-ALL

781. UNION-ALL

782. UNION-ALL

783. UNION-ALL

784. UNION-ALL

785. UNION-ALL

786. UNION-ALL

787. UNION-ALL

788. UNION-ALL

789. UNION-ALL

790. UNION-ALL

791. UNION-ALL

792. UNION-ALL

793. UNION-ALL

794. UNION-ALL

795. UNION-ALL

796. UNION-ALL

797. UNION-ALL

798. UNION-ALL

799. UNION-ALL

800. UNION-ALL

801. UNION-ALL

802. UNION-ALL

803. UNION-ALL

804. UNION-ALL

805. UNION-ALL

806. UNION-ALL

807. UNION-ALL

808. UNION-ALL

809. UNION-ALL

810. UNION-ALL

811. UNION-ALL

812. UNION-ALL

813. UNION-ALL

814. UNION-ALL

815. UNION-ALL

816. UNION-ALL

817. UNION-ALL

818. UNION-ALL

819. UNION-ALL

820. UNION-ALL

821. UNION-ALL

822. UNION-ALL

823. UNION-ALL

824. UNION-ALL

825. UNION-ALL

826. UNION-ALL

827. UNION-ALL

828. UNION-ALL

829. UNION-ALL

830. UNION-ALL

831. UNION-ALL

832. UNION-ALL

833. UNION-ALL

834. UNION-ALL

835. UNION-ALL

836. UNION-ALL

837. UNION-ALL

838. UNION-ALL

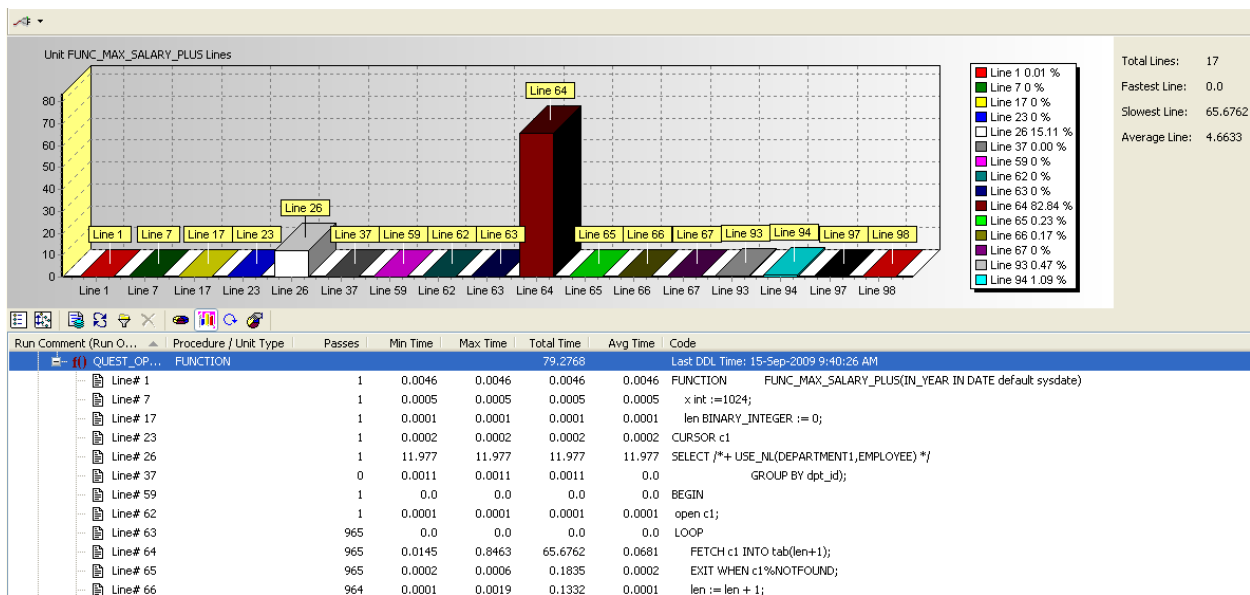
839. UNION-ALL

840. UNION-ALL

841. UNION-ALL

842. UNION-ALL

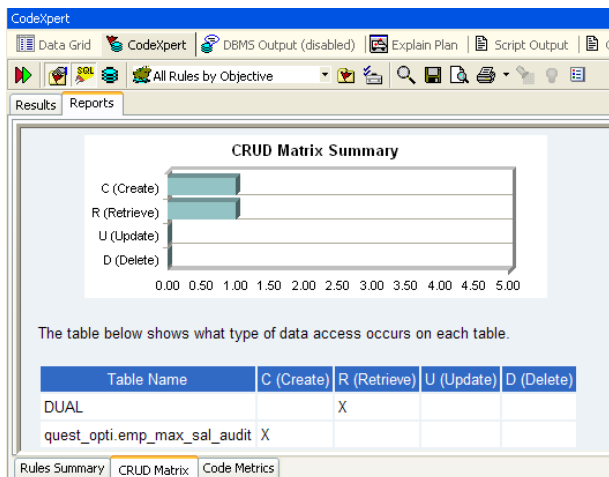
- Build a 'Code Road Map' which identifies any/all objects necessary for your PL/SQL code to compile. This can be used as a diagram, or can be used to generate a DDL script so you can re-create your program somewhere else without needing to migrate an entire application/schema.
- Generate a CRUD Matrix so you know what tables/views are being read and written to.
- Identify poor programming practices automatically, e.g. not closing cursors or declaring but never using variables.
- Evaluate execution plans and provide tuning guidance.
- Identify any Oracle version dependencies present in your programs.
- Automatically generate Unit Test programs based on your test cases and expected outcomes
- Automatically scale test your program for performance SLAs such as response time.
- Trace into Stored Java Procedures from your PL/SQL programs
- Debug DML triggers and TYPE BODY objects
- Develop/Debug from a file or directly to the database
- Integrate with your version control system including VSS, Star Team, CVS, Subversion, PVCS, and more
- Version control your database objects and tie into your file-based source control system (Team Coding)
- Provide a complete integrated PL/SQL knowledge base for PL/SQL from Oracle 7-11g



Clearly identify execution bottlenecks.

Type	Owner	Name	Status	Oracle User	OS User	Comment
f()	QUEST_OPTI	COUNTRIES_ROWS_...	Checked Out	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	FUNC_FDATE	Checked Out	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	FUNC_MAX_SALARY_...	Checked Out	QUEST_OPTI	JSMITH	need to fix
Package Body	QUEST_OPTI	QCTOD#TEST_RECO...	Checked Out	QUEST_OPTI	JSMITH	want to re-compile
p()	QUEST_OPTI	CURSOR_TEST	Checked Out	QUEST_OPTI	JSMITH	
p()	QUEST_OPTI	PRINT_EMP_BY_DEPT	Checked Out	QUEST_OPTI	JSMITH	
p()	QUEST_OPTI	RC_PROC	Checked Out	QUEST_OPTI	JSMITH	
Trigger	QUEST_OPTI	TRG_DELETE_EMP_D...	Checked Out	QUEST_OPTI	JSMITH	Need to show how to debug
f()	QUEST_OPTI	FUNC_MAX_SALARY	Available	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	FUNC_PSAVE	Available	QUEST_OPTI	JSMITH	fixed
f()	QUEST_OPTI	MY_FUNCTION	Available	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	PRINT_EMP_BY_DEPT1	Available	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	QCTOD#BETWNSTR	Available	SYS	JSMITH	Need to fix a bug, ref# 1234.5.A
f()	QUEST_OPTI	QCTOD#EMPLOYEE_...	Available	QUEST_OPTI	JSMITH	
f()	QUEST_OPTI	QCTOD#ROWS_FRO...	Available	QUEST_OPTI	JSMITH	
Package	QUEST_OPTI	CASE3_PKG	Available	QUEST_OPTI	JSMITH	

See who has what database objects checked out for development.



Properties [FUNC_MAX_SALARY_PLUS]

- Cursor Analysis
- Declaration Analysis
- DML Analysis
- Module Analysis
- Oracle Version Dependencies
 - v7.2 (1 Occurrence)
 - (17, 22) index-by table
 - v9.0.1 (1 Occurrence)
 - (8, 23) TIMESTAMP

Code Tester Results - QUEST_OPTI.FUNC_MAX_SALARY

Item Name	Result Description
QUEST_OPTI.FUNC_MAX_SALARY(22-Sep-2009 1...	Test failed at this level.
FUNC_MAX_SALARY	Test failed at this level.
Runs in under 2 seconds	Test failed at this level.
Elapsed time for the program is within ...	The program executed in 30 hundredths of seconds.
Program dataset contains the same ro...	Error executing "CREATE GLOBAL TEMPORARY TABLE
Specified exception was not raised by ...	Exception NO_DATA_FOUND was not raised.
IN_YEAR	2007-11-07 00:00:00
[Function return value]	999790.34

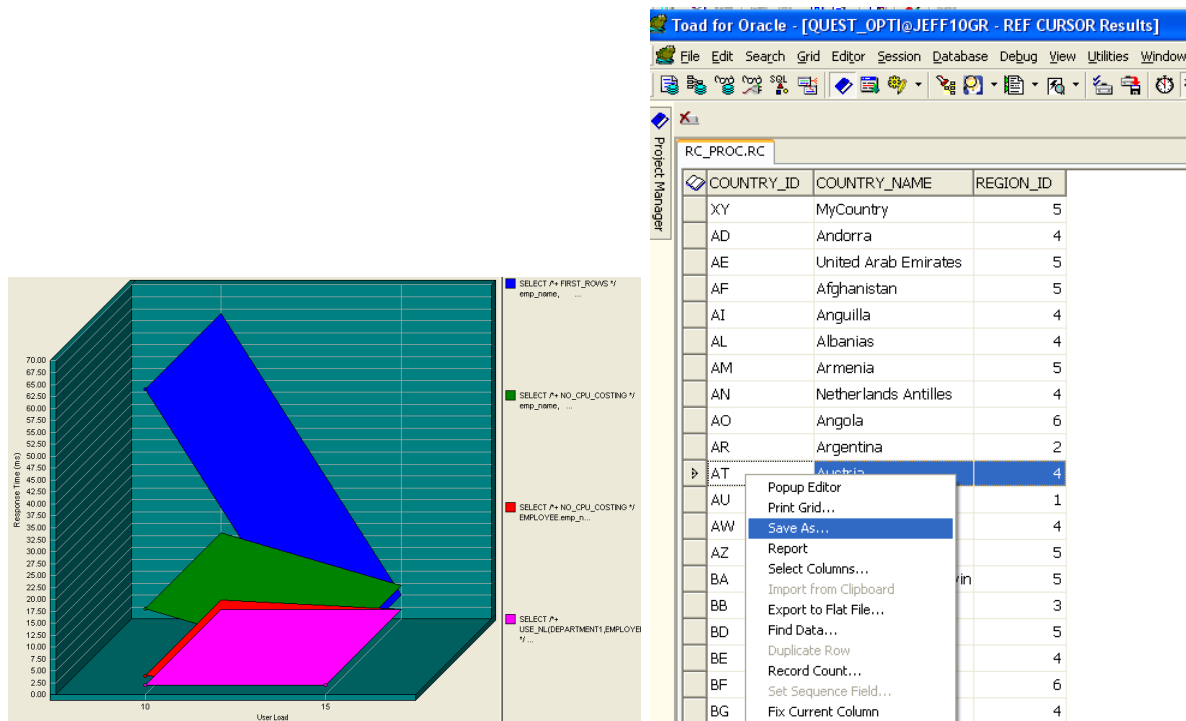
Completed testing FUNC_MAX_SALARY

Easily document and test your PL/SQL programs.

Testing

All Oracle IDE's will claim to facilitate testing. If you press them, most will end up demonstrating what are simple 'run it and look at the results' testing approach. Toad can of course facilitate this, but if you want to make your tests reliable and scalable to production levels of data and activity, then Toad can shine there as well. Here is a subset of what Toad has to offer in the testing space:

- Automatically build test sand boxes (Data Subset Wizard)
- Automatically populate tables with test data, including street addresses, names, etc
- Inspect REF CURSOR output
- Test performance of multiple versions of a SQL statement for 1..MANY users to see which one works best under load
- Record and replay Oracle session activity (optionally under load) to see if your system changes impact performance
- Integrated PL/SQL unit testing framework; additionally generates the test code for the developer with minimal interaction

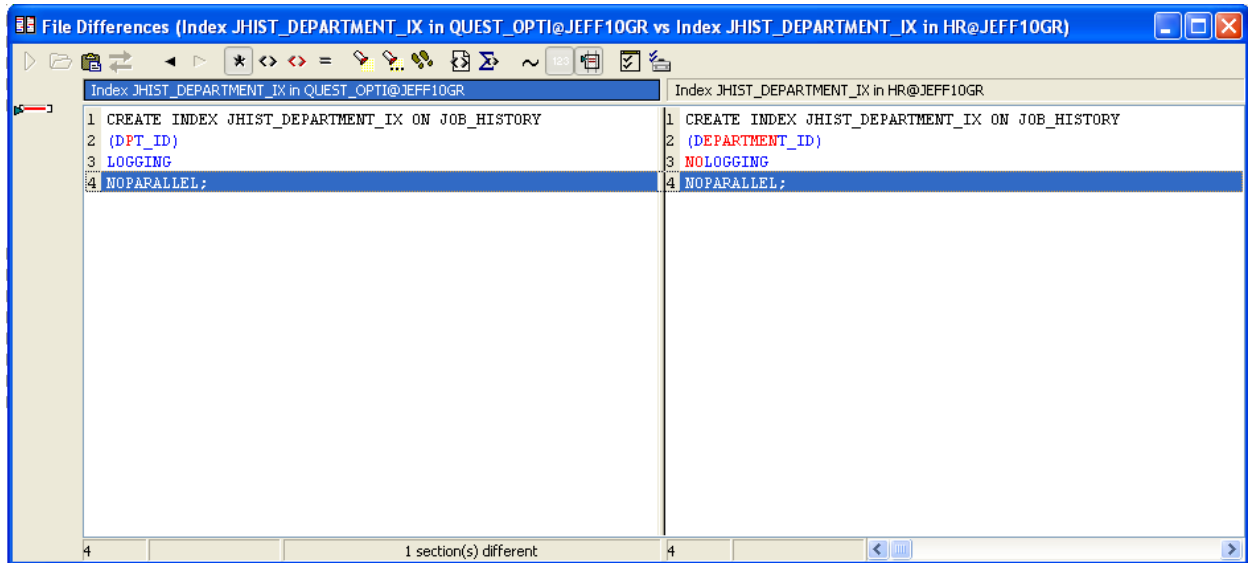


Change Management

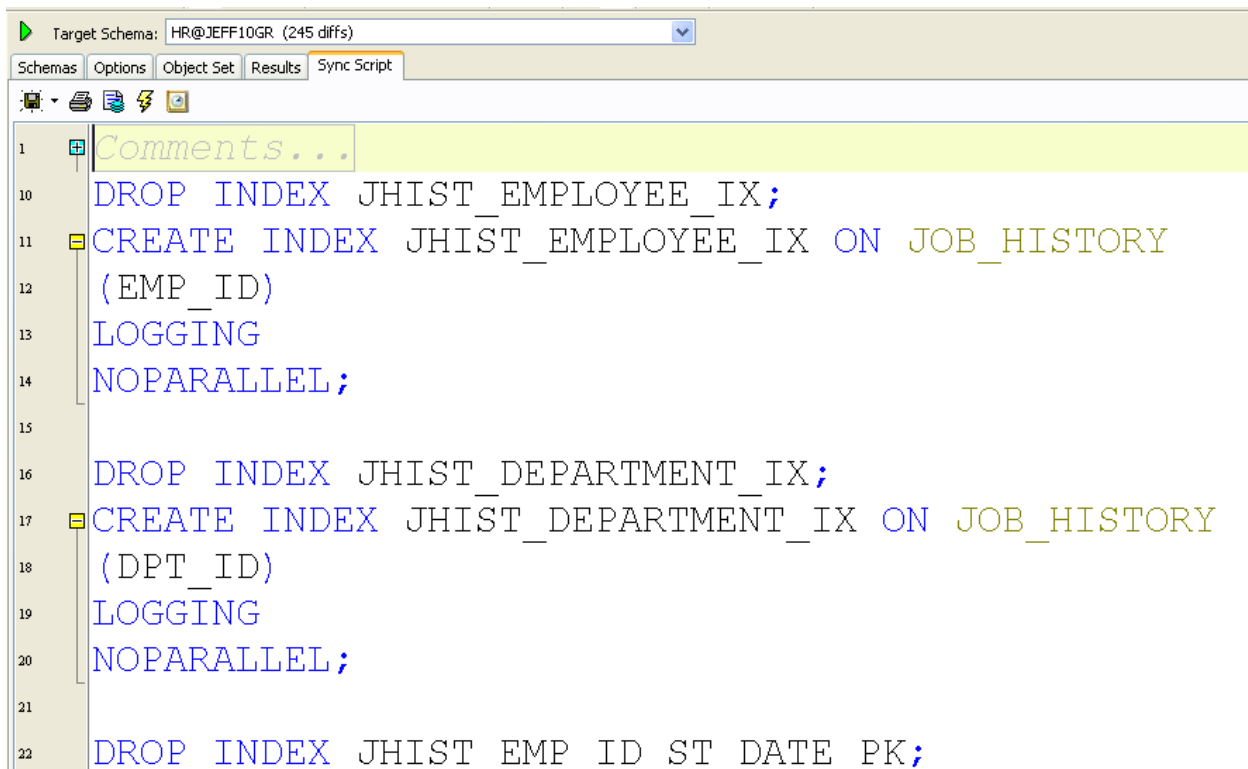
Are you curious to know how your application had changed, what is common between your development and product environments? Toad's "COMPARE" suite allows you to quickly see and synchronize the differences. Whether it is the object structure or the object's data, Toad makes compares easy.

Additionally, you can 'version' your schema and do file/script based compares to live database schemas. This allows you to easily report on what's changed in your development environment since v1.0 or v1.1.39.

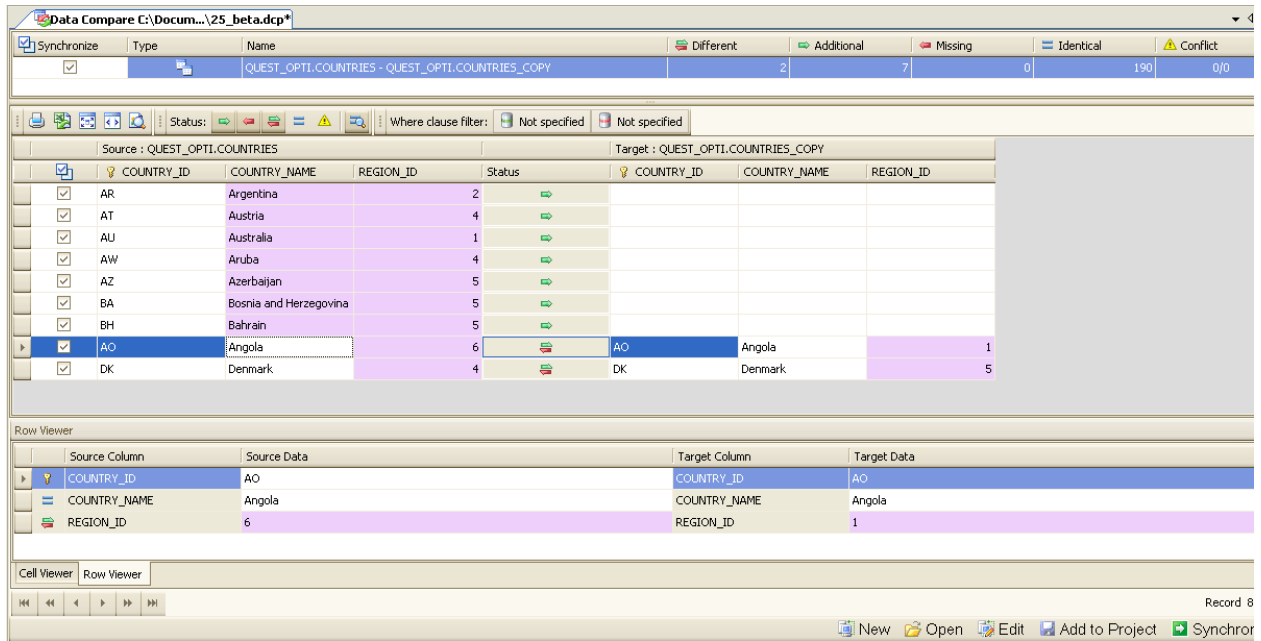
Even better, Toad can be setup to run a compare on demand, or to run on a scheduled basis with the results automatically emailed to your QA, R&D, and DBA team leads.



See object diff's side-by-side



Get schema Sync scripts

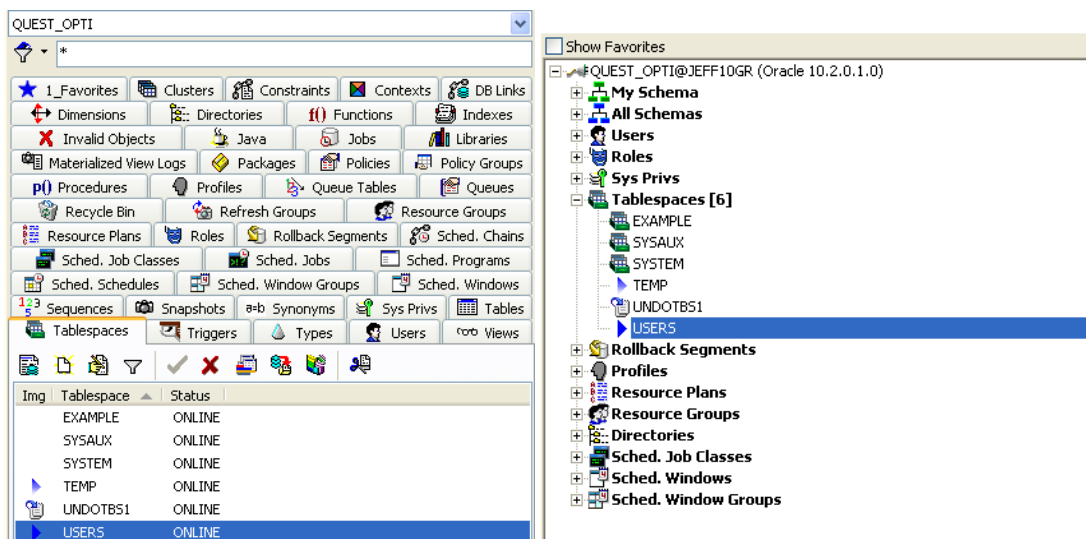


See data differences and synch them in either direction.

Database Administration

If you are already logged into the database in your favorite Oracle IDE, and you'd like to make a quick change to a tablespace or identify the most expensive running session in the database, wouldn't it be convenient if your IDE could do this? Most Oracle tools out there will leave this space for the database vendor or to the user to figure it out manually in SQL*Plus. If you want an alternative to the web/java-based Oracle Enterprise Manager, then Toad may be for you.

Toad's award-winning Schema Browser supports every type of object in the database from Oracle 7 to 11g. This includes Sys Privs, Tablespaces, Scheduled Programs, DB_LINKs, and so much more!



Easily extend Toad beyond Tables and Views, control everything from the Schema Browser.

Toad offers many compelling features for the DBA. Here are a few highlights:

- Health Checks – launch a full examination into your databases and get alerts if you have security vulnerabilities, critical alert log entries, segments with excessive fragmentation, etc. You can even plug in your own custom scripts and have Toad check for YOUR requirements, and have everything recorded back to you in an email.
- Interface to STATSPACK and optionally to AWR/ADDM (assuming you have the appropriate Diagnostic Pack license).
- Manage your ASM Instance.
- Browse the contents of your Oracle Export .DMP files
- A trace file browser (versus the confusing and hard to read TKprof reports)
- RMAN Scripting support, create and edit your RMAN scripts and run them directly from Toad

Support

With Toad, you get the full backing of Quest Software, Inc. As Toad has more than 2 million users worldwide, you can expect Quest to be fully invested in its success. All users get FREE access to our many user communities like ToadWorld.com. In addition, users who have valid support contracts get full access to new versions that are released and phone/web/email access to our Quest Support staff.

About the Author

Jeff Smith is a Solutions Architect at Quest Software. What does that mean exactly? He gets paid to talk about Toad and the other database products at Quest. He has been with Quest since 2001, working on the Toad R&D, Product Management, and Sales organizations. Jeff is the primary author of the *Toad Handbook, 2nd Edition*, published by O'Reilly and is currently working with Bert and Patrick on the next edition! He holds a bachelor's degree in Computer Science from West Virginia University. Jeff is a regular speaker at Toad User Groups and Oracle User Groups worldwide.

[Read Jeff's Toad World blog](#) or follow him daily for Toad news and user tips  **[@hillbillyToad](#)**